

IMPROVED ACADEMIC ACHIEVEMENT AND SELF-EFFICACY THROUGH THE
PARTICIPATION IN EXTRACURRICULAR ACTIVITIES OF UNIVERSITY STUDENTS
PREVIOUSLY DIAGNOSED WITH ADHD: A HERMENEUTIC PHENOMENOLOGICAL
STUDY

by

Digory Matthew Williams

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

Liberty University

2023

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APPROVED BY:

Patricia Ferrin, Ed.D., Committee Chair

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Abstract

Due to their transient nature of having short attention spans, causing disruptions in the classroom, and academic shortcomings, students diagnosed with ADHD need non-pharmacological methods to help them achieve academic success. The purpose of this hermeneutic phenomenological study was to describe the lived experiences of college undergraduate students at Arbiter University who have low senses of academic self-efficacy due to having been diagnosed with ADHD. A sample of 10 undergraduate students between the age range of 18 and 22 years old noted they all experienced academic difficulties due to their ADHD diagnosis, had low senses of self-efficacy, and participated in extracurricular activities. The theory that guided this study was Bandura's theory on self-efficacy as it pertains to students' belief in their ability to organize, execute, and accomplish tasks. A hermeneutic phenomenological study has been selected over a transcendental phenomenological study as the data collection methods for this study best fit a hermeneutic approach. To formulate triangulation, data were collected utilizing individual interviews, focus groups, and journal responses; and the data have been synthesized using the qualitative data analysis software (QDAS), Delve. Data analysis was conducted using the hermeneutic phenomenological approach described by van Manen. Themes of inferior educational experiences, coping strategies, and improved self-efficacy emerged among the participants. Participants also discussed their feelings of inadequacy when it came to achieving academic success. In separation, participants noted positive feelings when working out and having improved working memory when participating in extracurricular activities that attributed to achieving academic success.

Keywords: ADHD, working memory, executive function, self-efficacy, self-worth

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Dedication

First, I would like to dedicate this dissertation to God. Through Him, I was able to utilize my knowledge and past experiences to complete it. He knew that one day I would be able to put my life story in written form; this dissertation is a way that I can give glory back to God and honor Him through my life story.

Secondly, I would like to dedicate this dissertation to my parents, who gave their unconditional support throughout this process. This dissertation is a way for me to pay homage and thank them for the countless hours they have invested in my life. Furthermore, their consistent love for God has taught me to always follow Him, listen to His words and trust Him in everything that I do. This eternal lesson is a key aspect of my academic success. I could have not done this without your love, support, and the lessons – both spiritually and worldly – that you have taught me.

Thirdly, to all my friends who have supported me through this journey, I would like to dedicate this dissertation to you as well. It has been an honor to tell you my life story. The reception that I have received from each one of you is tremendous. I cannot thank each one of you enough for your overwhelming support in completing this dissertation.

Finally, to my wife, Gina. You were instrumental in my decision to go back and get my doctorate. Furthermore, your overwhelming support and love gave me the desire to see this degree through to completion. Additionally, your love and support pushed me to make myself a better as a husband, student, and human being. I cannot thank you enough for the countless number of hours you have given to keep the ship afloat and take care of our little one, Sunny, whilst I have been working on this degree.

Acknowledgments

First, I would like to acknowledge my Chair, Dr. Patricia Ferrin, who was there to help me conquer this dissertation. Without your help and guidance this journey would have taken much longer than expected.

Secondly, I would like to acknowledge my committee member, Dr. Rebecca Dilling, for your expertise in qualitative methodologies and helping me to stay on the correct path of this qualitative dissertation.

Thirdly, I would like to acknowledge my good friend and mentor, Dr. Samuel Smith. Before entering the dissertation portion of this doctoral journey, you were there for me whenever I had questions. Thank you for taking your time in reading/responding to my countless emails, taking time out of your afternoons/evenings to go over my dissertation with me to make it standard to what the School of Education wanted, and for always checking up on me. You were instrumental in my decision to go back and get this Ph.D.

Finally, I would like to acknowledge all my of friends who took time out of their days and busy schedules to help me test out my questionnaires and to give me feedback on what to change or keep it more interesting.

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List of Abbreviations

Attention Deficit Disorder (ADD)

Attention Deficit Hyperactivity Disorder (ADHD)

Attention Deficit Hyperactivity Disorder – Combined (ADHD-C)

Attention Deficit Hyperactivity Disorder – Hyperactive Impulsive (ADHD-HI)

Attention Deficit Hyperactivity Disorder – Inattentive (ADHD-I)

Auditory-Verbal Memory (AVM)

Diagnostic and Statistical Manual of Mental Disorders (DSM)

Executive Function (EF)

Extracurricular Activities (ECA)

Neurodevelopment Disorder (NDD)

Spatial-Visual Memory (SVM)

Specific Learning Disorder (SLD)

Social Cognitive Theory (SCT)

CHAPTER ONE: INTRODUCTION

Overview

Sitting still and remaining focused can be challenging for children of all ages. Take that difficulty and transpose it to students who have been diagnosed with ADHD and the challenge skyrockets. Vysniauske et al. (2020), discuss that ADHD is the most frequently diagnosed neurodevelopmental disorder among school-aged children. Research has shown that ADHD affects people of all ages and is discovered/diagnosed early on in an individual's life (Bunford et al., 2014). Furthermore, ADHD is linked to elevated levels of inattentiveness, inappropriate outbursts, mind-wandering, and low levels of academic achievement (Zendarski et al., 2017).

Those diagnosed with ADHD often have a challenging time performing well academically, as well as behaviorally (Bussing et al., 2016). Additionally, as these traits affect students mainly inside of the classroom, numerous interventions have been discussed amongst school administrators, teachers, parents, and medical professionals to help reduce ADHD symptoms with the hope of improving students' academic achievement (Pfiffner & DuPaul, 2018). Some interventional methods that have been examined to help one manage their ADHD tendencies are behavioral, academic, pharmacological, or a combination of all. It is not uncommon that the first interventional methods that are considered are pharmaceuticals (Pfiffner & DuPaul, 2018).

Chapter One begins with a brief background of attention deficit hyperactivity disorder, more commonly known as "ADHD" in historical, social, and theoretical contexts. Immediately following, the problem statement is presented with supporting empirical research from previous studies, along with the study's purpose statement and an explanation of why this study is significant. It is important to comprehend the theoretical, empirical, and practical applications

that are the underpinning of this phenomenological study. Finally, Chapter One will conclude with a description of the study's research questions and definitions of terms that are vital to understand for this study. A gap in the literature is identified.

Background

ADHD affects all aspects of a diagnosed individual's life including their social and personal pursuits. In addition, ADHD impacts their academic and non-academic interests. Even though the term "ADHD" is relatively new, the disorder has been around for quite some time. In this section, a historical context of the disorder has been provided along with a social context in describing how the disorder affects those who have been diagnosed. To conclude this section, the theoretical context sub-section will show evidence of how other studies in this area have progressed certain theories.

Historical Context

The knowledge of attention deficit hyperactivity disorder, more commonly known as ADHD, is not new to society. In fact, the acronym ADHD has evolved numerous times before settling on what society has currently come to know. Martinez-Badía (2015) discuss that the term "ADHD" was coined relatively recently with the 1987 publication of the DSM-III-R. Before settling on "ADHD," names of the disorder went through numerous changes beginning with "minimal brain damage" and progressively evolving into terms such as "minimal brain dysfunction," "minimal brain disorder," and "hyperactive child syndrome" (Martinez-Badía, 2015). While studies on this disorder have been conducted in the past, there has recently been a greater interest in conducting ADHD studies (Mahone & Denckla, 2017).

The study of ADHD has a long and rich history that dates to the mid-18th century, with the characteristics of ADHD being first described by a German physician, Heinrich Hoffman.

Hoffman (1845) began to describe the symptoms of ADHD when he noticed repeated patterns of restlessness and inattentive behaviors which led him to hypothesize that children who exhibited these characteristics were brain damaged (Hoffman, 1845; Wolraich et al., 2019). As time progressed and new information was discovered, ADHD would finally be classified as a neurodevelopmental disorder (Mahone & Denckla, 2017). These first conducted studies can be viewed as the pathfinders that set into motion studies that will span generations.

ADHD has become the most common behavioral disorder among children (Wolraich et al., 2019). ADHD can be described as “a developmental disorder characterized by impulsivity, hyperactivity and inattention” (Morsink, et al., 2017, p. 923). As studies of this disorder have heightened, it has been revealed that ADHD impacts around 8% of children and adolescents worldwide, and that males are more commonly diagnosed than females (Creelman, 2021; Orban et al., 2017; Vysniauske et al., 2020). In the United States, approximately 10% of children between the ages of 4 to 17 years are affected by ADHD (Mahone & Denckla, 2017). Including the studies that have been done from the mid-19th century to the present, ADHD continues to be one of the most heavily studied behavioral conditions (Wolraich et al., 2019).

Social Context

Throughout the school day, students are required to consistently remain focused on the curriculum being taught. It is not uncommon for students’ attention to drift away or for their minds to wander (Lanier et al., 2019), from concentrating on tasks at hand. When students’ minds begin to wander, it is relatively easy to redirect their attention back to tasks but, for students, diagnosed with ADHD, the requirement to consistently remain focused on subjects is harder and, no matter how many times they are redirected back to tasks, they revert to losing concentration.

As mentioned, studies have shown that ADHD impacts around 8% of children and adolescents worldwide (Creelman, 2021; Orban et al., 2017; Vysniauske et al., 2020) and the use of pharmacological interventions has historically been the first line of treatment (Piffner & DuPaul, 2018; Wesemann & Van Cleve, 2018). However, in the United States, the percentage of ADHD diagnosis is slightly higher (Wolraich et al., 2019). In the United States, ADHD is the most common behavioral disorder diagnosed among children and it comes with substantial economic impacts, both at the individual and societal level with an average annual cost of between \$143 and \$226 billion (Sayal et al., 2018) a tremendous amount of money to invest in treating ADHD. This estimated cost to treat ADHD includes, pharmacological interventions, behavioral interventions, combined methods, and other methods that teachers, school administration, physicians, and parents may conjure up to help manage and reduce ADHD symptoms.

Additionally, those impacted by ADHD are more likely to have lower scores on standardized tests than their counterparts, complete fewer assignments correctly, often display increased rates of disruptive behavior, and solicit increased negative attention from cohorts (DuPaul & Langberg, 2018; Orban et al., 2017). “ADHD is associated with poor grades, grade retention, and low academic achievement, compared to their peers without ADHD” (Colomer et al., 2017, p. 2). The constant search for effective interventions is always ongoing, and studies continue to prove that. Some of the interventions previously mentioned may or may not work for every student so the search for effective interventions is always ongoing, as studies continue to prove.

Theoretical Context

Social cognitive theory (SCT), postulated by Bandura (1986), involves self-regulation, motivating and regulating one's behavior from internal standards and self-evaluated reactions to produce personal actions. For example, learners who believe that they can succeed generate internal motivation which can result in higher academic achievement. Numerous studies on SCT have shown the importance of providing a framework for learning, modeling, instructional applications, and processing of academic concepts that result in students fully grasping ideas (Morris et al., 2017; Thoutenhoofd & Pirrie, 2015). This is especially true when it comes to academic achievement among those diagnosed with ADHD. Students diagnosed with ADHD are at a disadvantage compared to their peers and are often at risk for poor grades, low academic achievement, and grade retention (Colomer et al., 2017; Martin, 2020). Furthermore, SCT suggests that there are interpersonal factors, such as peer/teacher relations and the student's environment, that contribute to the thoughts, behaviors, and emotions of an individual (Martin, 2020). In a study conducted by Rimfeld et al. (2016), researchers concluded that in addition to a student's will to succeed, support from peers and teachers can result in academic achievement.

Problem Statement

The problem addressed in this study is that university undergraduate students who have previously been diagnosed with ADHD generally have a lower sense of academic self-efficacy compared to their peers. This includes having lower grades, inferior scores on standardized tests, being retained from one school year to the next, increased absenteeism rates, and having low sense of self-efficacy, all of which can cause loss of motivation to persist in their studies compared to their counterparts (Bandura, 1977; Chiang & Gau, 2014; Colomer et al., 2017; DuPaul & Langberg, 2018; Lax et al., 2020). As noted by Orban et al. (2017), "relative to their classmates, children with ADHD complete fewer assignments correctly, display higher rates of

disruptive behavior, solicit more negative attention from teachers and peers, and exhibit higher rates of gross motor activity” (pp. 713-714).

Students diagnosed with ADHD are often first pointed to pharmacological methods to reduce symptoms or heighten their attention span in the classroom that will theoretically improve their academics (Muris et al., 2018). If pharmacological methods do not work, then psychosocial methods are often considered either separately or in tandem with pharmaceuticals. With this hope of increased focus rates, symptom reduction, and improved academics by taking pharmaceuticals, it can be assumed that a student’s self-esteem would increase in tandem with expectations (Prince et al., 2018). Sayal et al. (2018) discuss that ADHD is the most commonly diagnosed behavior disorder among school-aged children and the methods most notably utilized to address this issue have a dramatic economic and social impact. Wesemann and Van Cleve (2018), discuss that the behavioral, pharmacological, and combined methods of treatment that are often discussed among parents of affected students and professionals, both in the educational and medical communities, can average in cost between \$100 to \$200 billion a year.

However, Lanier et al. (2019) discuss that there is little evidence to show that the use of pharmacological methods improves ADHD symptoms or tendencies. This, in turn, does not heighten students’ focus rates in the classroom nor improves their academic success. Likewise, with the minute number of positive results in using pharmaceuticals (Currie et al., 2014; Posner et al., 2020), there is no significant change in educational outcomes such as academic achievement for students diagnosed with ADHD (A. Moore & Ledbetter, 2019). In fact, according to Lanier et al. (2019), pharmacological methods often do more harm than good.

This qualitative study aims to bridge the research gap and to provide educational professionals and parents with a deeper understanding of a better and more effective alternative

method to help reduce a student's ADHD symptoms that will heighten focus rates in the classroom and increase their sense of self-efficacy. This alternative method is cost effective and can be implemented virtually anywhere, while providing students with a wide range of skills that can be transferred into a classroom setting (Hughes et al., 2016). This alternative method is that of extracurricular activities (ECA).

Purpose Statement

The purpose of this phenomenological study is to describe the lived experiences of college undergraduate students who have a low sense of academic self-efficacy due to having previously been diagnosed with ADHD at Arbiter University. This study is guided by Bandura's theory on self-efficacy, specifically as it pertains to students' belief in their ability to organize, execute, and accomplish a task (Bandura, 1977). At this stage of research, ADHD will generally be defined as the inability to maintain focus on academics and on cognitively demanding tasks that are required of students in the classroom. The research seeks to discover whether ECA have the same or better results than pharmacological and psychosocial interventions. The theories of self-efficacy and self-worth have framed this research and are relevant because they emphasize a comprehensive focus on the social, cognitive, and emotional influences.

Significance of the Study

This section provides readers with an opportunity to understand the theoretical, empirical, and practical applications that are the underpinning of this phenomenological study. The researcher discusses the theoretical significance of the problem being studied, explains how this study fills a gap within the literature empirically, and provides a justification of the practical significance to this hermeneutical phenomenological study. Furthermore, this study will seek to offer a contribution to academic institutions, parents, students, and physicians through the

experiences of college undergraduate students who have been diagnosed with ADHD and who have struggled with academics yet have found ways to reduce their ADHD symptoms whilst improving their academics.

Through exploring the lived experiences of university undergraduate students who have been diagnosed with ADHD and who have struggled academically, academic institutions, parents, and physicians will be able to strategically plan and identify areas of for change. These changes can happen within institutions and individuals by fostering a more inclusive environment for the students, having more patience with the struggling student, and finding methods that help the student not only survive in the academic realm, but thrive. Each student's personal experience and perception of that experience can provide an understanding of the importance of this study within academic institutions.

Theoretical Perspective

The theoretical significance of this study is based primarily on Bandura's self-efficacy theory. Students who have a high sense of self-efficacy can bounce back when encountering setbacks and obstacles (Bandura, 1977). But those who have a low sense of self-efficacy tend to not bounce back when encountering setbacks (Bandura, 1977). Having a high sense of self-efficacy is crucial for students to succeed in the classroom because, according to Schunk and DiBenedetto (2020), self-efficacy affects various related outcomes such as one's "choices, effort, persistence, motivation, learning, and self-regulation" (p. 243). By boosting a student's self-efficacy, a student with ADHD may then believe that they are able achieve much more than they had previously realized despite their disorder.

Empirical Perspective

This study adds to the literature by adding awareness to factors that affect students diagnosed with ADHD and which can improve their academic achievement without having to partake in pharmacological or psychosocial interventions. This can be seen in research from Balaguer et al. (2020). Balaguer et al. (2020) set out to discover how students participating in ECA can improve their academic achievement and determined that varying conditions such as type of activity, duration in activity, breadth of activities, activity engagement, and differences in sex also contributed to academic achievement (Balaguer et al., 2020). My research aims to add to the literature that ECA not only improves academic achievement among students in the general population but also for those students diagnosed with ADHD.

Practical Perspective

The practical perspective of this study led to a better understanding for school administrators, teachers, and parents of students who have been diagnosed with ADHD and may give them the necessary tools to understand what their students are struggling with. Wiener and Daniels (2016) conducted a study where they sought to understand the schooling experiences of those diagnosed with ADHD. Wiener and Daniels (2016) discovered that students diagnosed with ADHD had differing messages for their teachers, peers, and parents, the underlying theme which was that students are trying their best to deal with ADHD symptoms and cognitively demanding tasks. The research of Eccleston et al. (2019) showed that students with ADHD just want to be treated the same as their cohorts, seen as a student rather than a problem, and given some leniency when they do not pick up on material as quickly as their counterparts.

Research Questions

Research questions for a phenomenological study are not random they are born out of experience by the researcher (Dibley et al., 2020; Peoples, 2021). This study seeks to answer a

central research question, and two sub-questions regarding the lived experiences of its participants, college undergraduate students who have previously been diagnosed with ADHD. These questions are intended to understand how students' participation in extracurricular activities can improve their academics. The central research question has been designed to support a hermeneutic phenomenological study. Creswell and Poth (2018) discuss that a phenomenology seeks to show the lived experiences of individuals who experiences a similar phenomenon.

Central Research Question

What are the lived experiences of college undergraduate students previously diagnosed with ADHD, that have influenced the development of their academic self-efficacy?

Sub-Question One

What are the perceptions of academic challenges encountered by college undergraduate students previously diagnosed with ADHD, that have influenced the development of their academic self-efficacy?

Sub-Question Two

What are the perceptions of college undergraduate students previously diagnosed with ADHD and participating in extracurricular activities, that have influenced the development of their academic self-efficacy?

Sub-Question Three

How do college undergraduate students previously diagnosed with ADHD, describe the benefits of participating in extracurricular activities that have influenced the development of their academic self-efficacy?

Definitions

1. *Attention Deficit Hyperactivity Disorder* – refers to the most diagnosed behavioral condition amongst children who show symptoms of inattentiveness, fidgeting, impulsivity, and short attention span (Wolraich et al., 2019).
2. *Executive Function* – refers to a group of cognitive skills that are necessary to complete goal-directed activities (Fried et al., 2019).
3. *Extracurricular Activities* – refers to activities like sports, music, painting, theatre, literature, etc. which can be participated inside and outside of school parameters (Acar & Gündüz, 2017).
4. *Self-efficacy* – refers to an individual's belief in their capabilities and capacity to perform certain behaviors necessary to reach specific performance goals (Bandura, 1977).
5. *Working Memory* – refers to one's ability to gather, store, and recall information whilst doing other cognitively demanding tasks (Alloway & Carpenter, 2020).

Summary

Those diagnosed with ADHD often have difficulty performing well academically, as well as behaviorally (Bussing et al., 2016). The purpose of this phenomenological study was to understand the lived experiences of undergraduate college students who have been previously diagnosed with ADHD at Arbiter University. At this stage of research, ADHD was generally defined as the inability to maintain focus on cognitively demanding tasks required of students in the classroom and on academics. Sadly, undergraduate students who were previously diagnosed with ADHD have often been directed towards pharmacological and psychosocial interventions at the direction of educational and medical professionals. These methods are implemented to reduce ADHD symptoms with hopes of heightening focus rates in the classroom and of

improved academics. Unfortunately, according to Lanier et al. (2019), there is little to no evidence to support that those pharmacological methods, combined with other behavioral interventions, work. In fact, Lanier et al. (2019), further discuss that introducing pharmacological methods to help reduce ADHD symptoms often does more harm than good.

CHAPTER TWO: LITERATURE REVIEW

Overview

Chapter Two examines the current literature and research involving attention deficit-hyperactivity disorder (ADHD) among university undergraduate students and how it has affected them personally, socially, and academically. A systemic review of the literature has been conducted to explore the problem of low academic achievement as well as methods to help reverse this outcome among college freshmen and sophomores who have previously been diagnosed with ADHD. In the first section, theories relevant to ADHD and self-efficacy theory are discussed, followed by a synthesis of recent literature regarding ADHD, academic achievement, and the experiences of college undergraduate students participating in physical extracurricular activities (ECA). In the end, a gap in the literature is identified, presenting a viable need for the current study.

Theoretical Framework

This study's theoretical framework is based upon the theory of self-efficacy, which is a subsection of social cognitive theory postulated by Bandura (1977, 1986). This framework provides an insight into how factors, internal and external, can impact those who have been diagnosed with ADHD regarding their beliefs and abilities concerning educational productivity. A student's perceptions of their own academic abilities are incumbent upon their productivity beliefs. This concept of their own productivity impacts students' academic goals, motivation, interest, persistence, and academic achievements.

Bandura's (1977) theory of self-efficacy serves as the theoretical framework for this study. Additionally, within the study, the constructs of perceived self-efficacy, efficacy expectations, and self-worth have been incorporated. Self-efficacy can be described as how one

feels, thinks, and believes in their abilities to accomplish a desired goal (Bandura, 1977; Major et al., 2013; Schunk & DiBenedetto, 2020; Tabassam & Grainger, 2002), whereas self-worth can be described as the motivation by an individual who wishes to protect themselves from their fear of failure (Covington, 1984; Martin, 2020).

An individual's sense of self-efficacy will determine the amount of effort that they will put into a task. Furthermore, it will also determine if the individual will be motivated to persist and overcome when faced with obstacles and when cognitively challenging tasks arise. The stronger the sense of self-efficacy, the greater are the chances that an individual will overcome difficulties and setbacks. Oppositely, if one's self-efficacy is lacking, the likelihood that an individual will overcome difficulties and setbacks decreases, while the probability of becoming frustrated, not completing the task, or quitting increases (Schunk & DiBenedetto, 2020; Tabassam & Grainger, 2002).

As students progress in their academics, so will the workload and demands placed on them by scholastic institutions increase. DuPaul and Langberg (2018) discuss that self-worth comes into play early in an adolescent's life when they enter the academic halls because early academic experiences shape their perceptions of academic competence. If students struggle early on in their studies, then their struggles will continue as they progress further in their academics; "Students with ADHD experience more task-relevant frustration and do not invest the effort needed to complete difficult tasks" (Martin, 2020, p. 369). If one's self-efficacy is lacking, students can lose motivation to complete difficult tasks and then they will try to preserve their sense of self-worth by redirecting or blaming their struggles on something other than ADHD (Covington, 1984; Martin, 2020; Tabassam & Grainger, 2002).

Bandura (1977) furthered the concept of self-efficacy expectations by stating that self-efficacy can be present in four forms. These expectations vary in magnitude, generality, and strength. Elements of self-efficacy expectations include performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal (Bandura, 1977; Schunk & DiBenedetto, 2020). Of all the of efficacy expectations hypothesized by Bandura (1977), performance accomplishments are deemed the best self-efficacy source. Through performance accomplishments, individuals can see how their mastery of a certain experience or subject plays out. For example, a martial arts student cannot progress to the next belt rank until they have mastered/grasped the basic concepts of the moves and skills that are required at the previous belt rank. Moreover, one cannot progress to Algebra 2 until they have successfully grasped concepts learned in Algebra 1.

Another component of self-efficacy expectations are vicarious experiences. This occurs through the observation of how others succeed or fail (Bandura, 1977; Schunk & DiBenedetto, 2020). Whether inside or outside of the classroom, students frequently experience this type of self-efficacy expectation. Whether diagnosed with ADHD or not, students of all ages repeatedly see their peers succeeding or failing in their academics. For example, when a teacher hands out graded homework assignments to the class, students can tell from the body language of their peers who has done well or not. It can be assumed that, if students see their cohorts succeed then their self-efficacy can be raised to succeed as well or vice versa (Bandura, 1977; Schunk & DiBenedetto, 2020).

Thirdly, verbal persuasion are acts or words of affirmation that can also improve one's sense of self-efficacy (Bandura, 1977; Schunk & DiBenedetto, 2020). Having someone say, "Good job!" or, "You can do it!" or, "Keep up the good work!" can be excellent morale boosters.

With this act of verbal persuasion, individuals who are struggling get the sense that someone truly believes in their abilities to complete tasks (Bandura, 1977; Schunk & DiBenedetto, 2020). For example, when teachers are instructing students in the classroom and calls upon a student to answer a question and the student gets the answer correct, the teacher can insert one of these phrases of praise for the student. While verbal persuasion is a good form of self-efficacy, it must be in tandem with performance accomplishments. If students receive words or acts of affirmation but continue to see bad grades or inadequate improvement, then verbal persuasion has not done the job to improve the self-efficacy of students (Schunk & DiBenedetto, 2020).

Finally, emotional arousal occurs when an individual's environment influences their self-efficacy (Bandura, 1977; Schunk & DiBenedetto, 2020). For example, those who struggle with math may start to sweat or have anxiety during exams (Bandura, 1977; Schunk & DiBenedetto, 2020). However, the opposite can be true as well. Those who are confident in a subject may, instead of feeling anxiety or sweaty during an exam, are calm, cool, and collected because their self-efficacy is high (Bandura, 1977; Schunk & DiBenedetto, 2020).

Related Literature

I have presented related literature detailing the history of ADHD and describing what the disorder is and what the symptoms of the disorder are. Additionally, the related literature looks at how ADHD affects students' sense of self-efficacy, self-worth, grit, and academic achievement via diminishing executive function and working memory skills. Experiences of university undergraduate students who have been previously diagnosed with ADHD are examined to determine how the students themselves, school administrators, teachers and parents have been able to help in managing their ADHD symptoms and tendencies with the hope of increasing executive function and working memory skills. One solution that can be considered in helping

students to cope with their ADHD tendencies while increasing their sense of self-efficacy, self-worth, executive function and working memory skills is being physically active and participating in ECA.

Attention Deficit-Hyperactivity Disorder

The term ADHD is relatively new and was coined with the publication of the revised third edition of the *Diagnostic and Statistical Manual of Mental Disorders* or DSM-III-R (American Psychiatric Association, 1987; Martinez-Badía, 2015; Wolraich et al., 2019). The term for ADHD has evolved over time before settling on what society has come to know today. Even the names of the disorder have gone through numerous variations because understanding of the disorder has progressed (Lange et al., 2010; Magnus et al., 2022; Martinez-Badía, 2015; Posner et al., 2020; Romeo, 2021). It began with the term “minimal brain damage”, and progressively evolved into the following names: “minimal brain dysfunction”, “minimal brain disorder”, “hyperactive child syndrome”, and “attention deficit disorder (ADD)” (American Psychiatric Association, 2013; Lange et al., 2010; Magnus et al., 2022; Martinez-Badía, 2015; Posner et al., 2020; Romeo, 2021).

Uniquely, the predecessor term for ADHD, ADD, introduced the concept of subtypes or presentations (American Psychiatric Association, 1980; Lange et al., 2010; Magnus et al., 2022; Mahone & Denckla, 2017). With the publication of the DSM-III, ADD was defined to have two different subtypes – ADD with hyperactivity and ADD without hyperactivity (American Psychiatric Association, 1980; Lange et al., 2010; Magnus et al., 2022; Mahone & Denckla, 2017; Romeo, 2021). However, with the publication of the DSM-III-R in 1987, ADD and its subtypes were consolidated under the terms and conditions of ADHD (American Psychiatric

Association, 1987; Lange et al., 2010; Magnus et al., 2022; Mahone & Denckla, 2017; Romeo, 2021).

ADHD can be described as “a developmental disorder characterized by impulsivity, hyperactivity and inattention” (Morsink et al., 2017, p. 923). Symptoms of ADHD can be repeated patterns of restlessness, inattentiveness, and overarousal behaviors (American Psychiatric Association, 2013; Wolraich et al., 2019). As studies on the disorder progressed and new information was discovered, ADHD would finally be classified as a neurodevelopmental disorder (NDD) (Mahone & Denckla, 2017; Martinez-Badía, 2015).

NDDs can be described as a group of conditions that are prevalent in the developmental period of a child (American Psychiatric Association, 2013; Ismail & Shapiro, 2019; Morris-Rosendahl & Crocq, 2020; Parenti et al., 2020). These disorders typically manifest themselves early in an individual’s development, usually before they reach elementary school and can be characterized by deficits in the developmental period that bring about impairments of personal, social, academic, or occupational functioning. (American Psychiatric Association, 2013; Ismail & Shapiro, 2019). ADHD has become the most common behavioral disorder among children and that is why studies on ADHD have undergone a sharp increase in the past couple of decades (Kohn & Griffiths, 2021; Mahone & Denckla, 2017; Wolraich et al., 2019).

To be diagnosed with ADHD, the fifth edition of the DSM sets clear guidelines and criteria that must be met to receive a valid diagnosis (American Psychiatric Association, 2013; Posner et al., 2020). These criteria are often first seen by teachers, parents, and school administrators and are further confirmed by physicians, psychologists, and/or pediatricians (Cabral et al., 2020; McCoach et al., 2020). In fact, academic establishments are often the primary recognizers of ADHD symptoms (Jarque Fernández et al., 2021; Lauth et al., 2006). In

addition to these guidelines and criteria being met, the DSM-V dictates that individuals must display certain ADHD behavioral patterns in multiple contextual settings, such as at home or at school. Furthermore, there must be substantial evidence that these symptoms/patterns are interfering or reducing the individual's academic and social functioning (American Psychiatric Association, 2013; Mahone & Denckla, 2017). A comparison of ADHD diagnosis guidelines between the DSM-IV and DSM-V is shown in Table 1.

Table 1

DSM-IV to DSM-5 ADHD Comparison

DSM-IV	DSM-V
<p><i>Inattention</i></p> <ul style="list-style-type: none"> • Often fails to give close attention to details or makes careless mistakes in schoolwork. • Often does not seem to listen when spoken to directly. • Often does not follow through on instructions and fails to finish schoolwork. • Often has difficulty organizing tasks and activities. • Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework) • Is often easily distracted by extraneous stimuli 	<p><i>Inattention</i></p> <ul style="list-style-type: none"> • Same as DSM-IV
<p><i>Hyperactivity/Impulsivity</i></p> <ul style="list-style-type: none"> • Often fidgets with hands or feet or squirms in seat. • Often leaves seat in classroom or in other situations in which remaining seated is expected. • Often “on the go” • Often talks excessively • Often blurts out answers before questions have been completed. • Often has difficulty awaiting turn 	<p><i>Hyperactivity/Impulsivity</i></p> <ul style="list-style-type: none"> • Same as DSM-IV

Some impairment from the symptoms is present in at least two settings (e.g., at school [or work] and at home).	Several inattentive or hyperactive-impulsive symptoms are present in at least two settings or more (e.g., at home, school, or work; with friends or relatives; in other activities).
There must be clear evidence of clinically significant impairment in social, academic or occupations functioning.	There is clear evidence that symptoms interfere with, or reduce the quality of, social or school.

Note. Adapted from *Substance abuse and mental health services administration.* (2016). *DSM-5 Changes: Implications for Child Serious Emotional Disturbance.* Substance Abuse and Mental Health Services Administration (US). <https://www.ncbi.nlm.nih.gov/books/NBK519708/>

ADHD Subsets

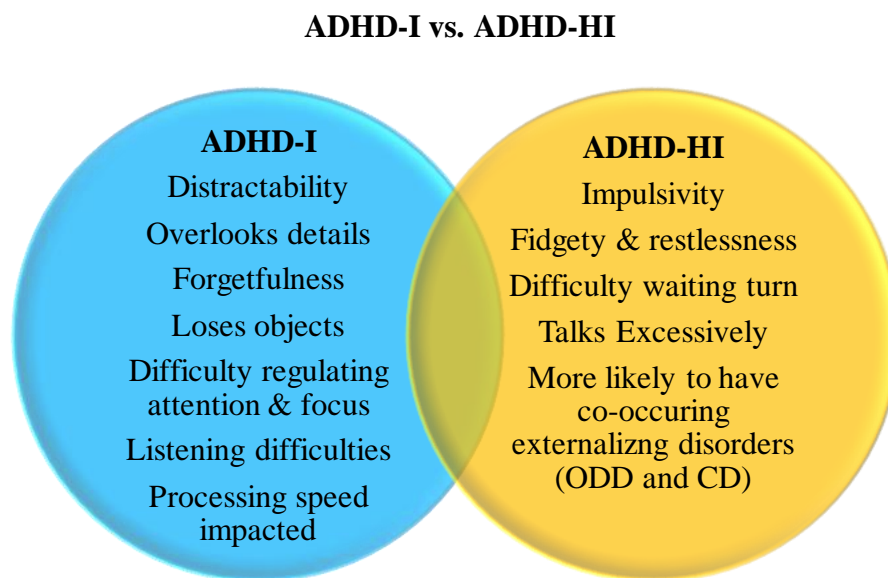
Conversely, a diagnosis of ADHD alone can be insufficient to identify specific behavioral problems. Those who receive an ADHD diagnosis can be identified under three different subtypes; inattentive (ADHD-I), hyperactivity impulses (ADHD-HI) or a combination (ADHD-C) of the first two classifications (American Psychiatric Association, 2013; DuPaul & Langberg, 2018; Lange et al., 2010; Gibbs et al., 2016; Mahone & Denckla, 2017; Martin, 2020). Each type of subset has its own unique set of symptoms.

It is more likely that males are diagnosed more frequently than females (Creelman, 2021; Mahone & Denckla, 2017; R. Martinussen & Major, 2011) “with a sex ratio from 2:1 to 10:1” (Mowlem et al., 2018, p. 481). Each subtype has a different rate of frequency and prevalence within individuals who are diagnosed. For example, the ADHD-I subtype is diagnosed more frequently within females versus males and it is prevalent in 18.3% of total cases (Magnus et al., 2022; Skalski & Dobrakowski, 2020). Moreover, it has been discovered that ADHD-C is the most diagnosed of the subtypes representing roughly 70% of all identified cases (Magnus et al., 2022; Skalski & Dobrakowski, 2020).

A few of the symptoms correlating with the first subset, ADHD-I, are inattentiveness, wandering off task, making careless mistakes, and failing to give full attention to details. Additionally, those who have been classified in the second subset, ADHD-HI, often exhibit signs of shuffling hands or feet, difficulty remaining in a seated position or being restless. Those who are classified under ADHD-C may exhibit many of the signs described in the first two subsets. The subsets of ADHD and their symptoms are further detailed and explained in Figure 1.

Figure 1

ADHD Subsets and Symptoms



Note. Adapted from *Neurodivergent insights*, by Megan Neff, 2022 (<https://neurodivergentinsights.com/misdiagnosis-monday/adhd-vs-adhd>).

Comorbidity

It is not uncommon for those who are diagnosed with ADHD to have comorbidity with other disorders such as oppositional defiance disorder, depression, anxiety, and specific learning disorder (SLD) (Bélanger et al., 2018; Dekkers et al., 2017; Katzman et al., 2017). SLD is a disorder that affects one's ability to do basic academic tasks such as reading, writing or math (Crisci et al., 2021; Faedda et al., 2019). Each of these disorders can inhibit students' ability to

achieve their full academic potential but SLD is widely studied by researchers as ADHD and SLD have high prevalence rates and often overlap (Crisci et al., 2021; Faedda et al., 2019; Mattingly et al., 2021). In fact, students diagnosed with ADHD are three times more likely to exhibit signs of having a learning disability compared to those who have not been diagnosed with ADHD (Mulholland, 2016; Radmanović & Burgić, 2021).

Because ADHD already makes it increasingly difficult for students to solely focus on their studies or lectures, having a comorbid disorder such as SLD exacerbates this difficulty (Mattingly et al., 2021; Radmanović & Burgić, 2021). Two different types of interventions or remedies are often deployed to help reduce symptoms of each ADHD subtype and its parallel disorders: pharmacological and psychosocial. Pharmacological methods are the implementation of medications (Mattingly et al., 2021; Nazarova et al., 2022; Pagani et al., 2020; Pozzi et al., 2020; Vysniauske et al., 2020; Zang, 2019) whereas psychosocial methods do not implement medications but utilize other types of interventions (DuPaul et al., 2020; Schatz et al., 2020).

Pharmacological Interventions

There have been numerous theories, methods, and treatments discussed on how to better help students, following a valid diagnosis, cope with their ADHD symptoms inside the classroom. Some treatments include medicinal, parental, behavioral, and academic interventions (Pffner & DuPaul, 2018; Vysniauske et al., 2020). While teachers, school administrators, and parents deliberate to find which method is best to help the individual student, it is not uncommon that the first suggestion to resolve or reduce ADHD symptoms is that of pharmacological methods – stimulants and non-stimulants (Creelman, 2021; Gibbs et al., 2016; Mahone & Denckla, 2017; Pagani et al., 2020; Pozzi et al., 2020; Vysniauske et al., 2020; Zang, 2019).

Granted, there are benefits of using different types of medications to help students subdue their ADHD tendencies. As stated, pharmaceutical treatments for ADHD are split into two categories: stimulants and non-stimulants (Newcorn et al., 2022; Posner et al., 2020; Pozzi et al., 2020). Stimulant medications are usually employed as the first line of pharmacological treatment because they have shown wide success rates to reduce ADHD symptoms versus non-stimulants (Hai et al., 2022; Kuntsi, 2021; Pozzi et al., 2020). Furthermore, stimulant drugs – for example, methylphenidate are designed to target poor classroom behavior symptoms of ADHD such as carelessness, hyperactivity, impulsiveness and increased poor behavior in the classroom (J. C. Chang et al., 2021; Hawk et al., 2018; Roh & Kim, 2021). In addition, depending on the individual and the type of prescribed medication, stimulant drugs can provide a substantial coverage period of 12-13 hours per dose (Briars & Todd, 2016; Pozzi et al., 2020).

However, the implementation of stimulant drugs may not be the consistent answer to reducing ADHD symptoms. Not all who take stimulant drugs have the same response or success rate. In fact, medical literature has documented that some patients who take stimulant medications for ADHD, such as methylphenidate, either do not react positively to the drugs or build up a tolerance to them (Handelman & Sumiya, 2022; Keilow et al., 2018). Those who react positively to stimulant drugs are described as “responders” versus those who do not exhibit successful signs known as “non-responders” (Altszuler et al., 2019; Keilow et al., 2018). Because of this, non-stimulant drugs are considered as a backup to stimulant drugs (Posner et al., 2020; Roh & Kim, 2021).

The use of medications is often considered as the first line of treatment (Martinez-Raga et al., 2017; Nazarova et al., 2022; Wesemann & Van Cleve, 2018). Notably, medications such as amphetamine derivatives, methylphenidate formulations and atomoxetine have been deemed

appropriate medications for treating ADHD. While there is some evidence that medication has helped some adolescents to reduce their ADHD symptoms, the FDA has approved administration of these medications to adolescents as young as six years old (Connor, 2018; Martinez-Raga et al., 2017; Wesemann & Van Cleve, 2018). Along with the use of pharmacological treatments other types of interventions have also been discussed to be used in tandem with medications (Martinez-Raga et al., 2017; Wesemann & Van Cleve, 2018).

The implementation of pharmacological treatment methods for ADHD students, with the hope that reduction in symptoms and increased attention span may result in better academic achievement gives comfort to teachers, administrators, and parents. However, there is little evidence that suggests medication improves a student's academic grades (Creelman, 2021; Gibbs et al., 2016; Lanier et al., 2019; R. Martinussen & Major, 2011) and unfortunately, ADHD medication does come with some adverse side-effects.

Just like any other medication, there are drawbacks to ADHD medications of which patients and parents have the right to know. It is not uncommon for those who take these pharmaceuticals to find that the negative side effects sometimes outweigh the benefits. Vysniauske et al. (2020) discuss that the use of pharmacological methods could have severe side effects on adolescents such as “insomnia, appetite suppression, growth retardation and headaches” (p. 644). As amphetamine derivatives, methylphenidate formulations, atomoxetine, and many others have all been deemed appropriate pharmaceuticals for treating ADHD, but each individual medication has differing side effects that cause parents and patients to oppose this method (Keilow et al., 2018; Martinez-Raga et al., 2017). Side-effects of amphetamine derivatives include difficulty falling asleep, decreased appetite, and dizziness (Martinez-Raga et al., 2017; Pozzi et al., 2020). Similarly, the medication, atomoxetine, includes the additional

effects of dry mouth and gastrointestinal tract issues like constipation and vomiting (Z. Chang et al., 2019; Martinez-Raga et al., 2017; Mirzahosseini et al., 2019).

In addition to these side-effects, the risk of cardiovascular difficulties also come into question. Severe forms of arrhythmias, increased heart rate, and high blood pressures and at worst, sudden cardiac death may turn parents off to either taking the pharmaceutical route or discontinuing with treatment (Nasser et al., 2021; Pozzi et al., 2020). With the risks and side effects being known, pharmacological methods should only be used as a last resort and never as an alternative to other methods (Altszuler et al., 2019; Mahone & Denckla, 2017). Other types of medications and their side-effects are depicted in Figure 2.

Figure 2

ADHD Medication and their Side-Effects

Atomoxetine (Strattera)

- Side-Effects
- Sleep Problems
- Anxiety
- Dizziness
- Liver Damage (Rare)

Methylphenidate (Ritalin)

- Side-Effects
- Loss of Appetite
- Weight Loss
- Crankiness

Imipramine (Tofranil)

- Side-Effects
- Dry Mouth
- Higher Heart Rate
- Risk of Heart Arrhythmias

Note. Adapted from *WebMD*, by Hansa Bhargava, 2021 (<https://www.webmd.com/add-adhd/adhd-medication-chart>).

Behavioral Interventions

Often, pharmacological interventions are not enough to help students reduce their ADHD symptoms or tendencies which is why psychosocial interventions are required as well (DuPaul et al., 2020; Sibley et al., 2022). Psychosocial interventions can be described as any other method that targets ADHD symptoms and is not pharmacological; these can vary from academic accommodations to parental involvement to behavioral interventions (DuPaul et al., 2020; Schatz et al., 2020). The most common psychosocial intercession is behavioral interventions. A common behavioral intervention is classroom management, which can be quickly implemented by teachers (DuPaul et al., 2020; Green & Langberg, 2022; Schatz et al., 2020). For example, if a student is acting out in such a way that others are unable to learn, and the teacher cannot teach effectively, a teacher can employ classroom management strategies such as changing the seating location of the disruptive student to give students an equal shot at attaining academic achievement (Strelow et al., 2021; Szép et al., 2021).

Another method of behavioral interventions is to enlist the help of parents (DuPaul et al., 2020; Schatz et al., 2020; Tresco et al., 2010). Since students spend most of their time with either their teachers or their parents, it is important to have good communication between both parties. Working together, both parties may be able to implement a plan that will help reduce the student's outbursts. Parents and teachers can employ a response-cost consequence technique (Ciesielski et al., 2020; Pfiffner & DuPaul, 2018) which represents the loss of privileges and activities for the student. An example of the response-cost consequence technique is parents giving teachers a list of home activities that the student enjoys (e.g., video games, playing with friends, etc.) and allowing them to mark which leisure time can be forfeited when the student

misbehaves during class time (Ciesielski et al., 2020; Pfiffner & DuPaul, 2018; Tresco et al., 2010).

With this method of response-cost consequence technique, teachers can mark down which luxury can be forfeited, unknown to the student and the rest of the class, instead of embarrassing the student with a public consequence like a time-out period (Ciesielski, et al., 2020; Pfiffner & DuPaul, 2018). Teachers who criticize students in a public fashion can “increase the likelihood of rejection from the student’s classmates and further damage the student’s reputation among his or her peers” (Pfiffner & DuPaul, 2018, p. 612). Administering punishments privately will deal less of a blow to a student’s sense of self-worth (Ciesielski, et al., 2020; Pfiffner & DuPaul, 2018).

Impact of ADHD on Adolescent Students

One place that ADHD impacts students significantly is in the classroom . Sitting still and remaining focused for long durations of time can be notably challenging for children of all ages. For students who have a diagnosis of ADHD, that challenge skyrockets. In fact, due to the extreme demand for student attention, learning, and self-control, academic establishments are usually the primary recognizers of ADHD (Jarque Fernández et al., 2021; Lauth et al., 2006; Mezzanotte, 2020). While individuals will encounter many of these demanding contexts throughout their lifetime, the classroom setting is one of the first and most difficult encounters that they will face. The expectations of being focused, silent, and sitting still for long periods of time in the classroom is a must, but ADHD stands in the way of fulfilling those expectations (DuPaul & Langberg, 2018; Owens, 2020). ADHD not only affects the student’s surroundings, at school and elsewhere, but it also affects their academics by diminishing skills that are necessary

to succeed in school (DuPaul & Langberg, 2018; Mezzanotte, 2020; Wiener & Daniels, 2016; Zendarski et al., 2017).

Executive Function Impairments. ADHD not only impacts individuals interpersonally, but it also affects them on an intrapersonal level. Specifically, ADHD impairs students via their EF abilities such as working memory, motivation, and being able to retain information (Bunford et al., 2014; Chiang & Gau, 2014; Colomer et al., 2017; Fried et al., 2019; Martinussen & Major, 2011; Morsink et al., 2017). Additionally, these impairments are often linked with deficits in a student's skills and performances when completing assignments (DuPaul & Langberg, 2018; Hai et al., 2022). Deficits in both skill and performance refer to the lack or absence of the ability to demonstrate acquired knowledge or attained skills in subjects where mastery of these skills are expected. All of these characteristics can decrease one's sense of self-efficacy and reduce students' ability to achieve academic success.

Under these circumstances, EF can be depicted as a sequence of higher order, self-regulatory, cognitive processes that are necessary to direct behavior for the purpose of attaining a goal (Colomer et al., 2017; Hai et al., 2022; Vysniauske et al., 2020). Executive function skills can include traits such as organizational skills, planning, goal setting, and persistence (Creelman, 2021; Hai et al., 2022; Vysniauske et al., 2020). ADHD impairs these functions among those who have been diagnosed (Colomer et al., 2017; Creelman, 2021; Fried et al., 2019; Martinussen & Major, 2011; Vysniauske et al., 2020; Wiener & Daniels, 2016). Having strong executive function skills is not only necessary to succeed in school, but in life.

Working Memory Impairment. Underneath the umbrella of executive function skills falls working memory. Working memory can be defined as the ability to retain large sums of memory while concentrating on tasks at hand (Alloway & Carpenter, 2020; Creelman, 2021;

Fried et al., 2019; Martinussen & Major, 2011). Those who have not been diagnosed with ADHD are usually able to store vast amounts of information and can recall this information when doing a task. This gives them a significant advantage over peers with ADHD.

As ADHD impairs working memory, those diagnosed are able to store one small amounts of information at a single time (Alloway & Carpenter, 2020; Fried et al., 2019; Martinussen & Major, 2011). Working memory can be illustrated as storage capacity on a computer. Certain computers have large amounts of storage where others have limited amounts. When a computer's memory is full, it often becomes sluggish, slow-working, and not able to process tasks quick enough. But, if a computer's memory is not at full capacity, it tends to work with minimal mistakes. The same concept can be applied to the differences in working memory between ADHD and non-ADHD students.

Working memory is divided into two subcategories which are crucial for students to succeed in their academics (Alloway & Carpenter, 2020; Bunford et al., 2014; Creelman, 2021; Fried et al., 2019; Martinussen et al., 2005; Martinussen & Major, 2011): auditory-verbal memory (AVM) and spatial-visual memory (SVM) AVM “refers to the manipulation of read or heard information involving language,” and SVM “refers to the manipulation of visual items locations or the relationship between visual items” (Fried et al., 2019, p. 1594). Once ADHD students exceed the storage capacity of their brains, then their working memory fails to take on more information; this is especially true when it comes to difficult subjects or tasks (Martinussen & Major, 2011; Superbia-Guimarães et al., 2022). With the failure of both SVM and AVM, then characteristics of ADHD such as inattention, inability to focus, and inappropriate outbursts (Creelman, 2021; Martinussen & Major, 2011; Zendarski et al., 2017) begin to surface.

One characteristic of ADHD that often shows when both aspects of working memory fail is mind wandering (Bozhilova et al., 2018; Lanier et al., 2019). “Mind wandering refers to an unintended shifting of attention from a task at hand toward internal thoughts” (Lanier et al., 2019, p. 885). Whether it is intentional or unintentional, mind wandering happens frequently with all students but more intensely for those with ADHD. Because of increased mind wandering tendencies among those with ADHD, it can have detrimental effects to their daily activities or academics.

Academic Achievement. Because of having executive function and working memory impairments, adolescent students with ADHD are often likely to have lower grades and lower scores on standardized tests than their counterparts (DuPaul & Langberg, 2018; Martinussen & Major, 2011; Wiener & Daniels, 2016; Zendarski et al., 2017). In addition to lower grades and scores on standardized tests, the impact of ADHD on adolescent students can be of concern for teachers with regards to students being retained in grades, losing motivation to persist in their studies, and having high absenteeism rates (Chiang & Gau, 2014; Colomer et al., 2017; DuPaul & Langberg, 2018; Lax et al., 2020). Orban et al. (2017) noted that “Relative to their classmates, children with ADHD complete fewer assignments correctly, display higher rates of disruptive behavior, solicit more negative attention from teachers and peers, and exhibit higher rates of gross motor activity” (pp. 713-714). Equally important, Chiang and Gau (2014) and Szép et al. (2021) agree that students who are diagnosed with ADHD are at a disadvantage compared to their peers in all aspects of the classroom setting.

Social Impairment. It is not uncommon for individuals with ADHD to have social impairments and face high levels of peer rejection along with their academic struggles (Mahone & Denckla, 2017; Morris et al., 2017; Ros & Graziano, 2018). Students with ADHD not only

have difficulty putting complete focus on cognitively demanding tasks, but the disorder causes them to display high levels of inattention, have inappropriate outbursts of hyperactivity, and have low levels of social skills that often happen in more than one setting (Creelman, 2021; Martin, 2020; Martinussen & Major, 2011; Orban et al., 2017; Zendarski et al., 2017). Social skills often include behaviors such as sharing, helping, and engaging in reciprocity during interactions (Faradilla, 2020; Ros & Graziano, 2018).

Students, diagnosed with ADHD have low levels of social skills which often causes them to misread social cues (Faradilla, 2020; Harkins et al., 2022). Because of their lack of understanding social cues, students diagnosed with ADHD tend to insert themselves at improper times or have unacceptable outbursts of hyperactivity (Creelman, 2021; Orban et al., 2017; Zendarski et al., 2017). These unacceptable behaviors can either cause awkward interactions between the individual and others, or cause frustration between the parties (Harkins et al., 2022; Ros & Graziano, 2018). In fact, such displays can often lead to the individual being socially rejected by friends and being seen as lost causes by teachers and school administration (Bunford et al., 2014; Chiang & Gau, 2014; Mahone & Denckla, 2017; Martin, 2020; Wiener & Daniels, 2016).

Extracurricular Activity Participation

Conversely, with there being little to no evidence suggesting that pharmacological methods improve academic performance among students with ADHD (Creelman, 2021; Gibbs et al., 2016; Lanier et al., 2019; Martinussen & Major, 2011), alternative methods should be considered. Psychosocial interventions can be considered as a backup to or in tandem with pharmacological methods but can still place a financial burden on families (DuPaul et al., 2020; Sayal et al., 2018; Schatz et al., 2020).

Instead of implementing pharmacological and behavioral interventions, a cost efficient and easy method, apart from other methods discussed by medical professionals, to help students cope with their ADHD symptoms and achieve more in their academics is that of extracurricular activities (Acar & Gündüz, 2017; Bakoban & Aljarallah, 2015; Covay & Carbonaro, 2010; Lax et al., 2020; Pagani et al., 2020). ECA often include activities like sports, music, painting, theatre, and literature which are outside of the predetermined lessons and compulsory curriculum of the classroom (Acar & Gündüz, 2017; Denault et al., 2019).

Particularly, ECA are often split into two branches: sport and non-sport. The most common non-sport ECA are drama, orchestra, band, art, and many more which can exist inside or outside of a scholastic setting (Acar & Gündüz, 2017; Hughes et al., 2016). On the other hand, sport ECA are activities in which students participate in athletic competition both inside and outside of the school setting (Acar & Gündüz, 2017; Hughes et al., 2016). Other benefits of participating in ECA include the development of leadership skills, communication skills and social skills (Denault et al., 2019; Hughes et al., 2016). Both sport and non-sport ECA may help ADHD students release stress, burn excessive energy, and maintain increased focus rates while boosting their sense of self-efficacy and self-worth. (Acar & Gündüz, 2017; Taylor et al., 2019).

By participating in ECA, students are not only having fun and expending stored amounts of energy but are learning valuable lessons. The lessons learned through ECA can have lasting effects on students inside and outside of the classroom. ECA are designed to focus on the student's emotional, intellectual, and inter-personal abilities and are formatted to help students cultivate and develop critical thinking skills (Bakoban & Aljarallah, 2015; Covay & Carbonaro, 2010; Lax et al., 2020). One lesson that is learned through participation in extracurricular activities and which can be transposed to the classroom is that of grit, while exposing students to

the four self-efficacy expectations laid out by Bandura. Angela Duckworth (2018) discusses that ECA have numerous important features that are difficult to reproduce in any other setting.

Due to the unique nature of ECA, Duckworth (2018) discovered that those who participate in ECA thrive when they spend a significant amount of time throughout the week doing difficult tasks that also stimulates their interest. Duckworth (2018) additionally states, “kids who are more involved in extracurriculars fare better on just about every conceivable metric – they earn better grades, have higher self-esteem, are less likely to get into trouble and so forth” (p. 225).

Additionally, extracurricular activities often resemble classroom settings in many ways while promoting and inculcating similar values among students such as decision making (Covay & Carbonaro, 2010; Garrecht et al., 2018). Through the participation in ECA, participants deal regularly with the concepts of success and failure just as they do in the classroom (Covay & Carbonaro, 2010; Garrecht et al., 2018). What students experience and learn through their selected ECA instills in them lessons that can be transferred to the classroom setting.

Therefore, the longer a student participates in ECA, the more their sense of self-efficacy will increase as well (Agrawal & Borkar, 2021; Cho et al., 2017; Lakes & Hoyt, 2004). No matter which ECA a student decides to participate in, they should encounter Bandura’s four forms of self-efficacy expectations of performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal (Agrawal & Borkar, 2021; Bekomson et al., 2020).

Physical Extracurricular Activity Participation

Participating in physical ECA could be another alternative to pharmacological methods for ADHD students. Expending energy via physical activity is an excellent component in manifesting cognitive function (Vysniauske et al., 2020; Zhang et al., 2019). By participating in

physical activity, this could have impactful benefits for students with ADHD such as reducing ADHD symptoms, increasing focus rates, and improving academic progress (Lax et al., 2020; Pagani et al., 2020). Another benefit of participating in a physically active ECA is that according to Vysniauske et al., 2020, it is cost efficient as well as relatively easy to implement and follow, because they can be offered almost anywhere at any time. Additionally, these interventions have essentially no side effects, and are cost effective in comparison with other behavioral and pharmacological interventions (LaForge-MacKenzie et al., 2022; Vysniauske et al., 2020).

Physical Exercise Reducing Symptoms of ADHD

ADHD students not only have a difficult time focusing on “cognitively demanding contexts” (Orban et al., 2017, p. 713); but they also display high levels of inattention, inability to focus, and inappropriate outbursts of hyperactivity that often happen in more than one setting (Creelman, 2021; Martinussen & Major, 2011; Orban et al., 2017; Zendarski et al., 2017).

Whether diagnosed with ADHD or not, it is likely that adolescent students will participate in some form of physical exercise during their time in school; either via required physical education classes or physical ECA inside or outside of school (Hughes et al., 2016; Lax et al., 2020; Pagani et al., 2020). However, there is evidence that participating in after school programs and physical activities can reduce the symptoms of ADHD in students (Lax et al., 2020; Mezzanotte, 2020; Zhang et al., 2019)

In a study conducted by Zang (2019), around 600 participants all diagnosed with ADHD were split into two groups, those who got to participate in physical exercise and those who did not. At the end of the study, it was determined that there was significant improvement in the areas of cognitive functions and social competency for those who took part in physical exercises.

Therefore, Zang (2019) concluded that students diagnosed with ADHD should incorporate physical exercise into their daily routines.

The Center of Disease Control and Prevention (CDC) recommends that, adolescents should get a minimum of 60 minutes of moderate to vigorous activity three times a week (Furr et al., 2021; Zhang et al., 2019). Among the numerous health benefits that participating in any form of physical activity provides, there is evidence that physical activity is an effective method of improving executive function, working memory, cognitive attention rates and problem-solving in those who are diagnosed with ADHD (Mezzanotte, 2020; Taylor et al., 2019; Vysniauske et al., 2020; Zang, 2019; Zhang et al., 2019).

While participating in ECA is an excellent non-pharmacological method to reduce symptoms of ADHD in an individual, having some sort of structure to the ECA is equally important for individuals, not only for their academics but also for their senses of self-efficacy and self-worth (Ludyga et al., 2021; Pagani et al., 2020). Structured ECA has proven to be more beneficial in decreasing ADHD symptoms and improving executive function skills than letting the students be unconstrained (Ludyga et al., 2021; Pagani et al., 2020). In general, letting students simply run to deplete their excess energy is not necessarily opposed, but these students are not benefitting from what structured ECA have to offer. According to both Ludyga et al. (2021) and Pagani et al. (2020), structured ECA allow students to burn off excessive energy while receiving some sort of reward. For example, a student participating in martial arts burn off excessive energy while being rewarded both physically and mentally with the promotion to a new belt level and the ability to expand on their base knowledge of what they had previously learned.

Sport Participation Improving Working Memory

Because students with ADHD display symptoms of high levels of inattention, inability to focus, and have inappropriate outbursts of hyperactivity in multiple settings (Taylor et al., 2019; Zang, 2019; Zhang et al., 2019), participating in physical activity that involves sports can help in the reduction of such tendencies (Taylor et al., 2019; Vysniauske et al., 2020). Physical activities such as soccer, football, basketball, and martial arts are just a few examples that can help reduce symptoms in ADHD students while improving executive function, working memory, cognitive attention rates and problem-solving skills (Taylor et al., 2019; Vysniauske et al., 2020; Zang, 2019; Zhang et al., 2019).

Adolescents can specifically expand executive function skills such as working memory by participating in a sport (Giordano et al., 2021; Phung & Goldberg, 2019). No matter the sport participants must learn the basics of that sport; after mastering these techniques, practitioners can take on more complex and demanding skills. For example, in the sport of tennis, practitioners must learn a plethora of skills such as the forehand swing, backhand swing, and serve placement to become a good player. These foundational skills are needed by all players. By practicing those skills repeatedly, they not only help to expand their working memory, but also helps to increase cognitive attention rates (Taylor et al., 2019; Zang, 2019).

Furthermore, a study conducted by Giordano et al. (2021) sought to determine if participating in a sport can enhance EF and academic performance. Giordano et al. (2021) examined team sports and martial arts to see which activities better enhances EF and academic performance. The researchers discovered that those who participated in martial arts exhibited better performance rates in EF and academic performance versus those who participated in team sports (Giordano et al., 2021).

Martial Arts

Notably, the physical ECA of martial arts can be used as an excellent non-pharmacological and non-psychosocial alternative option for ADHD students to participate in. Martial arts not only provide the students with the ability to defend themselves, but also provide them with direct behavioral expectations that can be translated to the classroom. Martial arts is a general term encompassing varying styles of physical combat and defense training that practitioners partake in, including Shotokan, taekwondo, karate, judo, jiu-jitsu, Taichi, aikido, and many more (Agrawal & Borkar, 2021; B. Moore et al., 2020). Furthermore, martial arts lessons can help to expand working memory and executive function skills with a bonus of improving sense of self-efficacy and self-worth, all of which can also be transposed to the academic realm (Agrawal & Borkar, 2021; Cho et al., 2017; Lakes & Hoyt, 2004).

As mentioned, the working memory skills of those with ADHD can be illustrated as the hard drive on a computer with some computers having vast amounts of memory storage whereas others have lesser amounts. Individuals diagnosed with ADHD have the storage capacity of the latter. In keeping with the computer analogy, participating in martial arts can help expand an individuals' working memory (Giordano et al., 2021; Phung & Goldberg, 2019). Martial arts lessons provide students with instructional periods that are short and to the point; the lessons are then followed by opportunities for students' to demonstrate the movements that were demonstrated by their instructor (Cooper, 2020; Kadri & Nasri, 2022; Kadri et al., 2019), and continue until the lesson(s) are concluded.

This type of teaching is extremely beneficial to students with ADHD because lessons are given in short stints and the students working memory will not become overloaded with information. These short periods are very successful for ADHD students because they can take snapshots of certain movements being performed and are able to remain focused. The longer the

student participates in martial arts, the more that their ability to focus for extended periods of time and working memory increases (Agrawal & Borkar, 2021; Giordano et al., 2021).

Additionally, the longer a student participates in martial arts, so their self-efficacy may increase as well (Agrawal & Borkar, 2021; Cho et al., 2017; Lakes & Hoyt, 2004). If a student chooses to participate in martial arts, they will encounter Bandura's four forms of self-efficacy expectations (Agrawal & Borkar, 2021): performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal (Bandura, 1977; Schunk & DiBenedetto, 2020).

Performance accomplishments is the best form of self-efficacy source because individuals can see how their mastery of certain skills will play out (Bandura, 1977; Schunk & DiBenedetto, 2020). This is especially true for all martial artists. A student cannot progress to the next belt rank until they have demonstrated sufficient mastery of skills and moves of the previous rank. Furthermore, students must demonstrate their mastery in front of experienced instructors and be receptive to feedback to correct mistakes and be willing to improve (Lakes & Hoyt, 2004). With improvement, advancing to the next rank is probable.

Secondly, as vicarious experiences occur through observation of how others succeed or fail (Bandura, 1977; Schunk & DiBenedetto, 2020), martial art students are exposed to this type of self-efficacy expectation frequently. Martial art students are taught by the same rank when they are practicing, as in academic classrooms. At times, there will be students who will grasp and comprehend the skill set necessary to progress to the next rank quicker than others, much like some students grasping mathematical concepts more quickly than others. This constant exposure to seeing how some progress more quickly than others is great motivational and self-efficacy booster. It can be postulated that, if students see others succeed, then their self-efficacy can be raised to succeed as well (Bandura, 1977; Schunk & DiBenedetto, 2020).

Thirdly, verbal persuasion is a term for acts of affirmation that can improve one's sense of self-efficacy (Bandura, 1977; Schunk & DiBenedetto, 2020). Having someone say, "Good Job!" or, "You can do it!" can be an excellent morale booster for an individual who is struggling and who gets the sense that someone truly believes in their abilities to complete the task at hand (Bandura, 1977; Schunk & DiBenedetto, 2020). Martial arts students encounter and experience verbal persuasion throughout their tenure. Each student is encouraged by instructors to do their absolute best and must accept feedback so that they can quickly progress. This form of self-efficacy expectation must be in tandem with performance accomplishments (Bandura, 1977; Schunk & DiBenedetto, 2020). If students receive words of affirmation and continue to see bad grades or inadequate improvement, then verbal persuasion has not done the job to improve self-efficacy (Schunk & DiBenedetto, 2020).

Finally, emotional arousal is an individual's reaction to their environment which can influence their self-efficacy (Bandura, 1977; Schunk & DiBenedetto, 2020). For example, those who struggle with math may start to sweat or have anxiety during exams (Bandura, 1977; Schunk & DiBenedetto, 2020). However, the opposite can be true as well. Those who are good at math feel confident in a subject may not get anxiety or feel sweaty during an exam because their self-efficacy is high (Bandura, 1977; Schunk & DiBenedetto, 2020). All these self-efficacy components and expectations can influence an individual's feeling of self-worth.

Inside the classroom, students with ADHD do not have much self-control and often display high levels of inattention, inability to focus, and inappropriate outbursts of hyperactivity (Creelman, 2021; Martinussen & Major, 2011; Zendarski et al., 2017). However, one of the foundational lessons that is taught from day one in martial arts is that of self-control (Lakes & Hoyt, 2004; Xu et al., 2022). Inside the dojo (martial arts school), excessive chatter and

distracting of other classmates are strongly discouraged. The lesson of self-control can be taken from the dojo and implemented into the classroom.

Another benefit that martial arts provide to students with ADHD is improvement of the goal setting portion of their executive function skills (Cho et al., 2017; Kadri et al., 2019). Martial arts have a ranking structure divided into four divisions at the core of their curriculum. Each student can advance themselves through the specific martial arts belt ranking system. If students were to walk into a martial arts school, they would see, displayed on a wall that school's specific ranking structure and the requirements to earn each rank. By showing the student the different belt ranks and giving them specific goals to set toward achieving those ranks, the student can translate their ambition of achieving a specific goal in martial arts to the classroom. Such goals could be that of the student wanting to earn better grades, remembering one specific item from a lesson, or other personal academic achievements set forth by the student.

Summary

ADHD has gone through numerous evolutions with frequent renaming of the disorder, adding/dropping subtypes, and continuing to be the one of the most heavily studied behavioral conditions to date (American Psychiatric Association, 2013; Lange et al., 2010; Magnus et al., 2022; Martinez-Badía, 2015; Wolraich et al., 2019). Furthermore, ADHD is a common disorder that is prevalent in about 5% of children worldwide (Camilleri & Makhoul, 2013; Creelman, 2021; Mahone & Denckla, 2017). While ADHD affects an individual's life in numerous ways, Mezzanotte (2020), Lauth et al. (2006) and Jarque Fernández et al. (2021) report that school institutions are often the first identifiers of ADHD behaviors in students. Students who have been diagnosed with ADHD-I, ADHD-HI, or ADHD-C are often labeled by peers, teachers, and school administrators as different and sometimes a lost cause, and do not get the adequate

attention to improve themselves. Additionally, it is not uncommon for those diagnosed with ADHD to have comorbidity with other disorders like anxiety and SLD (Bélanger et al., 2018; Dekkers et al., 2017; Katzman et al., 2017). Because of this, students diagnosed with ADHD tend to have lower standardized test scores, lower focus rates, and are at risk for grade retention or worse dropping out of school.

Once the condition is verified, school administrators, teachers, and parents of students try their best to remedy or improve the disorder and symptoms. Frequently, pharmacological treatments and remedies are first considered to help a student manage their ADHD diagnosis (Martinez-Raga et al., 2017; Nazarova et al., 2022; Wesemann & Van Cleve, 2018). If pharmacological methods do not help, psychosocial interventions, such as behavioral interventions are employed, either in tandem or separate from medicinal approaches. With the implementation of pharmacological methods, there is a chance that the side-effects of the medicine such as decreased appetite, drowsiness, dizziness, and cardiovascular complications could do more harm than good.

Furthermore, being seen as a lost cause, different, and knowing that pharmacological therapies may or may not work may cause some ADHD students to have a low sense of self-worth and self-efficacy in achieving academic success. This mindset will determine the amount of effort that they put into a task (Schunk & DiBenedetto, 2020; Tabassam & Grainger, 2002) and, if the student's sense of self-efficacy or self-worth is low, they will put in little effort. Fortunately, there is an excellent, cost-effective, non-pharmacological and non-psychosocial method that can help to reduce ADHD symptoms and tendencies whilst boosting executive function, working memory, self-efficacy and self-worth. That method is the participation in ECA.

ECA, whether classified as sport or non-sport, are perceived to be one of the best non-pharmacological and psychosocial methods in helping students with ADHD to manage their symptoms (Acar & Gündüz, 2017; Bakoban & Aljarallah, 2015; Covay & Carbonaro, 2010; Lax et al., 2020; Pagani et al., 2020). ECA are cost-efficient, fun, and an innovative way to help students with ADHD cope with their disorder. Additionally, participation in ECA, especially martial arts, often resemble classroom settings in many ways, promoting and inculcating similar values that are expected of students in a classroom (Agrawal & Borkar, 2021; Cho et al., 2017; Covay & Carbonaro, 2010; Garrecht et al., 2018; Lakes & Hoyt, 2004). Students participating in ECA will be continuously exposed to performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal, the four elements of self-efficacy expectations postulated by Bandura (1977). Through constant participation in ECA, a student's sense of self-efficacy can be improved due to frequent exposure to one or a combination of the four elements of self-efficacy. The more an individual's self-efficacy improves, the more effort they will put into a task.

In addition to improving a student's sense of self-efficacy, ECA have helped students to increase their sense of self-worth as well. As students continuously participate in their specific chosen ECA, the more skills they master. For example, the longer one participates in martial arts, the more techniques are mastered. As proficiency in ECA skills increase, skills learned can be converted to the classroom. This can help them to perform better both in their academics and in their personal lives. Thus, it will increase their sense of self-worth.

Recent literature supports the vital role of physical activity in helping ADHD students to cope and succeed in the classroom. There is little known about using extracurricular activities to help ADHD students increase their sense of self-worth, self-efficacy and achieve academic

success. A gap exists in the literature pertaining to the lessons learned through ECA and how they can be applied to improve academic performance for university students previously diagnosed with ADHD.

CHAPTER THREE: METHODS

Overview

The purpose of this hermeneutic phenomenological study was to explore and describe the lived experiences of college undergraduate students who have previously been diagnosed with ADHD and who have participated in extracurricular activities to improve their academic achievement. A hermeneutic phenomenological framework was deemed the best option to explore the central problem of the study. Chapter Three will discuss the role of the researcher and details of the design study, which include the setting of the study; participants, procedures, data collection and analysis, trustworthiness, ethical considerations; and the summary.

Research Design

A qualitative methodology was selected for this study. According to Creswell and Poth (2018), qualitative research seeks to address problems that focus on the meaning of human issues experienced by individuals or groups. This type of research methodology was best suited to describe the lived experiences of college undergraduate students who had previously been diagnosed with ADHD and how extracurricular activities had improved their academic achievement. Furthermore, qualitative research was chosen over quantitative research because quantitative research would not have been able to properly convey these lived experiences. Out of the five qualitative designs postulated by Creswell and Poth (2018): phenomenology, case study, grounded theory, narrative, and ethnography, phenomenology was the better option.

Phenomenology according to van Manen (2018), is the study of the world as people experience it and aims to provide an understanding of our daily experiences. A phenomenological design was best suited for this study because it sought to understand the lived experiences of individuals (Creswell & Poth, 2018; Peoples, 2021) and can best describe the

human experience of the phenomenon being studied. Phenomenology is divided into two separate levels: transcendental and hermeneutic. Transcendental phenomenology, founded by Edmund Husserl, is a philosophical approach through which researchers seek to understand a phenomenon through research by setting aside preconceived notions and allowing the themes to naturally surface (Moustakas, 1994; Sheehan, 2014). Hermeneutic phenomenology was founded by Martin Heidegger with the idea that researchers should not aim to re-experience another's experience but to use the researcher's own experience as a foundation (van Manen, 2018). According to van Manen (2018), using personal experience as a starting point is an excellent way to conduct this type of study. Additionally, the life experiences of the researcher, are readily and easily accessible that can help the researcher establish foundation with the participants (van Manen, 2018). For this study, it was decided that a hermeneutic approach would be better than applying a transcendental approach as it is very likely that many others have experienced this phenomenon as well. The experience of others as part of this phenomenon is incredibly important and the best way to understand and interpret the lived experiences of others is to use my own lived experiences as a starting point.

Three methods of data collection have been employed for this study: individual interviews, journaling, and a focus group. After identifying participants for the study, I conducted semi-structured interviews with them, allowing them to respond to the open-ended questions and sparing no detail that they felt comfortable providing. The second data collection method involved journaling; the researcher gave participants six journal prompts to write about, allowing the participants to think deeply about their experiences and to write down any details that may have been missed during the interviews. The third method of data collection was a

focus group. The focus group expanded upon the first two data collection methods, giving participants a further opportunity to compare and discuss their experiences with others.

Research Questions

Research questions for a phenomenological study are not random, they are born out of experience by the researcher (Dibley et al., 2020; Peoples, 2021). Creswell and Poth (2018), describe that a phenomenology seeks to show the lived experiences of individuals who experience a similar phenomenon. This study seeks to answer a central research question, and three sub-questions regarding the lived experiences of participants who have previously been diagnosed with ADHD. Furthermore, these questions seek to understand how participants' participation in extracurricular activities improved their academics. The central research question has been designed to support a hermeneutic phenomenological study.

Central Research Question

What are the lived experiences of college undergraduate students previously diagnosed with ADHD, that have influenced the development of their academic self-efficacy?

Sub-Question One

What are the perceptions of academic challenges encountered by college undergraduate students previously diagnosed with ADHD, that have influenced the development of their academic self-efficacy?

Sub-Question Two

What are the perceptions of college undergraduate students previously diagnosed with ADHD and participating in extracurricular activities, that have influenced the development of their academic self-efficacy?

Sub-Question Three

How do college undergraduate students previously diagnosed with ADHD, describe the benefits of participating in extracurricular activities that have influenced the development of their academic self-efficacy?

Setting and Participants

The purpose of this section is twofold: first, to paint a picture in sufficient detail for readers to visualize the setting and, secondly, to describe the profile of the study participants by articulating the criteria for their participation.

Setting

The goal of this study was to describe the experiences of college undergraduate students, their experiences with ADHD, and how their academics were affected. Furthermore, this study also sought to describe how participation in extracurricular activities, sport or non-sport, helped to improve their academics. It was decided that the most suitable setting for this study would be a Virginia higher education institution. The setting for this study took place at Arbiter University (pseudonym), a private four-year university in Virginia. The combined student profile of Arbiter University, residential and online, is 39% male and 61% female. The residential demographic for this university is 53% female and 47% male. Total enrollment numbers for Arbiter University exceeds 100,000 students. All 50 of the United States, Washington, D.C., and more than 70 countries are represented in the total student body. Furthermore, Arbiter University has over 7,000 acres of land which houses more than 177 buildings and structures that serve the residential student population. The university offers more than 700 academic programs, both residentially and online, at the undergraduate, graduate, and doctoral level.

The leadership of Arbiter University is split into two different divisions: executive leadership and senior leadership. The executive leadership branch includes the positions of

president, director of athletics, chief financial officer, and the chief academic officer more commonly titled as the provost. Those positioned in the echelon of senior leadership are called vice presidents. At Arbiter University, there are over a dozen individuals boasting the title vice president, serving various areas of the university such as security/public safety, equity compliance, marketing, and student affairs. Likewise, within the individual schools, leadership follows a similar structure. Deans can be viewed as the president of their individual school while chairpersons can be seen as the vice presidents of their specific departments.

All study participants have been selected from the student population of university as this is an excellent means of bringing participants from varying backgrounds, who fit the criteria for this study, to discuss their similar or differing experiences of the phenomenon. Due to the nature of the study, and the selection of multiple participants from this one setting, numerous sites are represented by the participants' various home states and high schools. Pseudonyms have been provided to respect the privacy of participants and the research site(s) in the study.

Participants

Participants in this study were required to be individuals who have experienced firsthand the phenomenon that is being studied so that they could supply information-rich data about their experiences (Neubauer et al., 2019; Patton, 2015). Participants for this study were those who had been diagnosed with one of the three types of ADHD. This study had 10 participants who were a minimum of 18 years of age and classified as undergraduate students (e.g., freshman, sophomore, junior, or senior). Furthermore, participants must have taken part in a sport and a non-sport extracurricular activity while they were in high school.

As mentioned previously, this study took place at Arbiter University. With such a diverse student population at the university, the 10 participants for this study ranged between 18 and 22

years of age, graduated high school within the last four academic school years (2019-2023), male and female, were of varying ethnicities and came from differing states. The unifying feature of this study was that all participants had experienced the same phenomenon in question. The criteria for selecting individuals to be a part of the study are further discussed in the recruitment section of the procedures.

Researcher Positionality

According to van Manen (2018), using personal experience as a starting point is an excellent way to conduct this type of study. Additionally, the life experiences of the researcher, were readily and easily accessible that can help the researcher establish a foundation with the participants (van Manen, 2018). The reason I chose to conduct this hermeneutic phenomenological study is because I have a personal history with ADHD and the participation in extracurricular activities. Being told that I had ADHD changed my life, – academically and socially.

When I was in elementary and middle school, I was not the best student. I was the class clown and had a short attention span which was reflected in my homework and test scores. I was constantly in the principal's office due to my sudden outbursts in class that would distract my classmates from learning the academic material. Additionally, my attention span could not last for more than a couple of minutes and spending prolonged periods of time focusing on cognitively demanding tasks did not help my situation. The longer that I spent focusing on tasks, the more I became disinterested since my mind became overloaded with information. My grades suffered and my parents, teachers, and school administrators noticed.

Two suggestions were made at that time to help reduce my symptoms. The first method to help reduce my sudden outbursts was to enforce more punishments such as taking away TV

time at home, no video games, no sugary treats, and other punitive measures so that I would learn that misbehavior in class would result in consequences. The second approach was to employ pharmacological methods. Both options were explored, discussed, and implemented. These methods did help in some ways, however, it was deemed that pharmacological methods did more harm than good. Though the medications did suppress the ADHD symptoms and the sudden outbursts decreased, I was still not paying attention in class and still missing key concepts of course material. This was due to one of the main side-effects of the medication that I was taking, drowsiness. My grades and attention span still suffered because I was sleepy during class.

My academics started to slowly improve when I participated in non-physical and physical extracurricular activities but it was not until I specifically became a student of Japanese Shotokan that my academics and attention span began to make a turn for the better. As I spent time in martial arts and progressed through the ranks, my attention span started to increase which, in turn, allowed my grades to improve. This transformation in my attention span took effect as I transitioned from middle school to high school.

I am sure that others who have been diagnosed with ADHD have experienced the same struggles that I did. I was also aware that every individual's situation is different and that certain methods that did not work for me may have worked for them. Furthermore, I understood that each individual might have participated in a different extracurricular activity which helped them the most. Ultimately, what I hope to learn from this study is, what the lived experiences of college undergraduate students who have been diagnosed with ADHD are and how they were able to overcome their academic struggles by participating in extracurricular activities.

As the researcher, I seek to examine and describe the lived experiences of 12 to 15 college freshman and sophomore students who have previously been diagnosed with ADHD and how their participation in extracurricular activities helped to improve their academic achievement. Additionally, this section takes an in-depth look at methods, data collection and analysis techniques for the qualitative study.

Interpretive Framework

The interpretive framework for this study is social constructivism. Creswell and Poth (2018) discuss that social constructivism relies as much as possible, on the individual's views of the phenomenon being studied. Since this research examines the experiences of college undergraduate students and their experiences with ADHD and their participation in ECA to improve academic achievement; can assume that these participants may have similar, or different perceptions of the phenomenon being studied. Additionally, I believe that participants may have very similar or very different experiences than my own. Social constructivism best explained this study as I obtained multiple accounts of everyone's lived experiences via open-ended questions.

Philosophical Assumptions

Within this section, the concept of philosophical assumptions will be discussed and how those assumptions have played a role in how the researcher views the world. The three philosophical assumptions addressed are ontological, epistemological, and axiological. Individuals have varying experiences when it comes to these philosophical assumptions but, for me, each one intertwined with another as each assumption dealt with a different aspect of my life. Furthermore, this section will allow readers a more concise understanding of how these three philosophical assumptions played a role in the position I have taken in conducting this study.

Ontological Assumption

An ontological assumption involves one's beliefs on the nature of reality. "Different researchers embrace different realities, as do the individuals being studied and the readers of a qualitative study" (Creswell & Poth, 2018, p. 20). As a Christian, I believe that there is only one reality: God is the beginning and end, the Lord of all creations. This is depicted via the scripture verse, "In the beginning God created the heavens and the earth" (*New International Version Bible*, 1978/2011, Genesis 1:1). That belief in this singular reality is further based in scripture: "By faith, we understand that the universe was formed at God's command, so that what is seen was not made out of what was visible" (*New International Version Bible*, 1978/2011, Hebrews 11:3). These verses constantly remind me that God is the ultimate Being of the universe who has my path – and that of others – already planned out for us even though we are unable to see it.

Epistemological Assumption

An epistemological assumption addresses what is understood as knowledge, how claims of knowledge are justified, and, the relationship between what is being researched and the researcher (Creswell & Poth, 2018). My epistemological assumptions are based on my experiences as an individual who was diagnosed with ADHD and who struggled with academics for an extended period of time due to the disorder. I believe that knowledge is obtained from experience and that those experiences shape one's reality. As an individual who has struggled with academics because of ADHD, I know it is hard to remain focused on cognitively demanding tasks for sustained periods of time. However, I still have the capabilities to achieve success in whatever I am doing despite my disorder, though that success may take longer compared to others.

My experiences have made me aware that those diagnosed with ADHD will have a

harder time achieving academic success because, in addition to limits that the disorder places on an individual mentally and physically, negative perceptions about individuals with ADHD and lack of support in helping them manage their symptoms also play a role in underachievement. Because of this knowledge that I have gained through these experiences, the relationship between myself and what is being researched requires me to set aside any preconceived notions or prejudices to authentically acquire knowledge of participants' experiences.

Axiological Assumption

Axiological assumption describes the extent to which researchers' values are known and brought into a study. Creswell and Poth (2018) state, "all researchers bring values to a study, but qualitative researchers make their values known in a study" (p. 21). I was diagnosed with ADHD at an early age, and I had tremendous difficulties navigating the educational realm due to my disorder. I was constantly in the principal's office for uncontrollable outbursts during lectures, distracting my classmates, mind wandering, and failing in my academics.

Before realizing that I had ADHD, school administrators and faculty members thought my struggles were just a behavioral issue that could be easily resolved with punishments such as silent lunches, less recreation time, and writing sentences among others. In their minds, the more that I was punished, the more likely that I would realize the errors of my behavior that resulted in these punishments.

My teachers and school administration realized that the corrective methods that they employed were not working and recommended that I be tested by a physician. When I was officially diagnosed with ADHD, they gained a clearer picture as to why I behaved the way that I did. However, the corrective methods did not change. In fact, they kept getting worse or more extensive. Teachers were able to take a recreational activity that I enjoyed at home away from

me if I continued to misbehave in their class. All they had to do was to select an activity on a list provided to them by my parents and tell them which one they had taken away. During this time, services were not offered to me at any point to help manage my symptoms or to help improve my academics.

According to Creswell and Poth (2018), bracketing is the process where researchers set aside their experiences to take a fresh perspective towards the phenomenon being studied. I believe it is an injustice to an individual diagnosed with ADHD when they are not given the necessary support elements to be successful in the educational realm. Often, ADHD students receive little to no support in their educational odyssey and are seen as a lost cause by faculty, administration, and peers. ADHD students can thrive and succeed if given the chance. Those who are charged with caring for them must take the time to figure out what will help these students succeed. I foresee that some of the experiences that participants in my study have encountered will similarly represent my experiences in my own educational odyssey that was intertwined with an ADHD diagnosis. Therefore, it is imperative for me to bracket my biases to conduct this research effectively and authentically.

Researcher's Role

To successfully conduct qualitative research Creswell and Poth (2018) discuss that researchers must comprehend the gravity of their role as a human instrument. In this phenomenological study, I played a tremendous active role in this study, since I was human instrument conducting the interviews and focus groups. Furthermore, these activities entailed me directly interacting with the participants since I conducted a qualitative study. I am employed at the research site in a non-faculty position and, thus, had no power over the selected participants.

Additionally, working at the site has benefits as it allowed me to easily meet the participants at any location on site.

Though I did not know the participants personally, I am very familiar with the process of struggling socially and academically because of ADHD, the process of finding different remedies, and selecting the right method of treatment. Because of my own experiences, I was aware that participants may have similar or differing experiences than mine. Thus, I must ensure through bracketing that any biases or unfavorable experiences did not alter the study's themes. Creswell and Poth (2018) describe bracketing as an essential component of phenomenological reduction that requires setting aside any previous experiences and judgments to focus solely on analysis of the data.

Procedures

There were several chronological steps that were necessary to complete to conduct this study. Creswell and Poth (2018) state that “qualitative research involves the study of a research site(s) and gaining permission to study the site in a way that will enable the easy collection of data” (p. 154). After the successfully defending the research proposal, a request to perform the mentioned investigation was submitted to the Institutional Review Board (IRB) of Liberty University. No participants were contacted prior to securing IRB approval.

Permissions

Prior to conducting this hermeneutic phenomenological study, permissions needed to be obtained before any research could begin. The first step in this process was to obtain IRB approval (Appendix A) through Liberty University and the research site (Creswell & Poth, 2018). Following the approval of IRB, I utilized personal and professional networking to aid in identifying participants. Permission letters were sent to two site administrators to aid with

recruitment (see Appendices D & E). In addition to the permission letters, recruitment flyers were posted around the site campus (see Appendix B). Once all permissions were acquired, I sent out either a Google Form link or a picture of a QR code linking to an electronic survey that screened participants. Each participant was screened via a survey in Google Forms (see Appendix G) and given a consent form to sign (see Appendix F).

Recruitment Plan

I believed that selecting Arbiter University as a research site was an excellent way to bring together participants from varying backgrounds to discuss their similar or differing experiences of the phenomenon being studied. Since Arbiter University is a higher education institution, the sample pool is relatively large. Arbiter University has a sample pool of a residential student population of around 16,000 students. Creswell and Poth (2018), and Patton (2015), discuss that having a sample size of 12-15 participants is the right number of contributors to convey quality information that will help the researcher understand the lived experiences.

Creswell and Poth suggest that researchers use purposeful sampling because it calls for individuals who can best inform the researcher about the phenomenon being studied (2018). Creswell and Poth (2018) describe purposeful sampling as seeking out participants that can “purposefully inform an understanding of the research problem and central phenomenon in the study” (p. 158). Creswell and Poth (2018) also discuss that utilizing snowball sampling may be appropriate when it becomes hard to find and identify participants. In addition to purposeful sampling, snowball sampling was utilized. With a large sample pool, it is almost impossible for the researcher to connect with every student. For this hermeneutical phenomenological study, I employed purposeful sampling to find participants.

Using the university's announcement system, recruiting participants for this study began with a flyer posted throughout Arbiter University to identify participant prospects (see Appendix B). This flyer has the researcher's e-mail address for interested people to reach out to me; furthermore, I utilized my personal and professional networks to identify participants. Participants in this study needed to be individuals who have experienced the phenomenon that is being studied. Neubauer et al. (2019), and Patton (2015), discuss that participants who have experienced the phenomenon can supply information-rich data about their experiences. These particular participants are those who have been diagnosed with one of the three types of ADHD. The goal was to have between 12-15 participants who were a minimum of 18 years of age, male or female, and be a current undergraduate student. Ultimately, 10 participants were selected for this study. Furthermore, participants must have taken part in a sport and a non-sport extracurricular activity while they were in high school.

Data Collection Plan

According to van Manen (2018) "traditionally, techniques used to obtain 'data' from 'subjects' are by way of interviewing, eliciting written responses, participant observations, and so forth" (p. 62). This section of the chapter employed and expounds upon three data collection methods for this hermeneutic phenomenological study of the lived experiences of students with ADHD: interviews, journaling, and focus groups.

Individual Interviews Data Collection Approach

According to van Manen (2018), conducting interviews serves multiple purposes for a hermeneutic phenomenological study. One such purpose is that interviewing gives study participants the ability to help the researcher gain a richer and deeper understanding of the phenomenon being studied (Creswell & Poth, 2018; van Manen, 2018). Brinkmann and Kvale

(2015) discuss that the interview process is where knowledge and interaction between the researcher and the participant are developed.

Being interviewed about one's personal life can be a little intimidating at first because participants might be unsure of how the researcher will conduct the interview. The researcher must approach participants with empathy and explain expectations to help establish trust and rapport. Keeping that in mind, the researcher needed to break the ice with participants to help establish rapport for a good interview. An effective way to achieve this was using what Marshall and Rossman (2015) refer to as a *grand tour* question. This question invites participants to take the researcher along on their journey of whatever aspect of the social dynamic requires inquiry and also sets a tone for subsequent directions.

For this study, the researcher has interviewed 10 university undergraduate students attending Arbiter University (pseudonym) and who had previously been diagnosed with ADHD. The researcher asked them to spare no detail in their answers about their experiences unless they did not feel comfortable disclosing information. In the wake of the global Covid-19 pandemic, it was understandable that some participants may not feel comfortable meeting at the site location to conduct face-to-face interviews. Keeping this in mind, options to interview over ZOOM, Microsoft Teams, or another visual recording platform was available to the participants. If individuals chose either to meet face-to-face or over ZOOM or Microsoft Teams, participants were notified that they would be audio recorded and needed to give consent before data collection could proceed. Each interview lasted no longer than 60 minutes.

The ten selected participants in this study were asked to answer the following open-ended questions:

Individual Interview Questions

1. Please tell me a little about yourself as if we were meeting for the first time?
2. How long have you known that you have had ADHD?
3. How did you find out?
4. Please describe your academic experiences living with ADHD. (CRQ)
5. How did ADHD affect your sense of self-efficacy inside the classroom? (CRQ)
6. Please describe any academic challenges you faced because of your ADHD diagnosis.
(SQ1)
7. What coping strategies or organizational methods did you consider, attempt, or utilize to aid you in overcoming said academic challenges due to ADHD? (SQ1)
8. Please describe any successful self-practices you have implemented to aid you in overcoming said academic challenges because of your diagnosis. (SQ1)
9. What else would you like to add to our discussion concerning your academic experiences/challenges that we haven't discussed? (SQ1)
10. How would you describe your experiences with participating in extracurricular activities?
(SQ2)
11. What extracurricular activities either physical or non-physical did you participate in?
(SQ2)
12. What were the extracurricular activities you participated in? (SQ2)
13. What were some unexpected experiences that you encountered while participating in extracurricular activities? (SQ2)
14. What else would you like to add to our discussion concerning your participation in extracurricular activities that we haven't discussed? (SQ2)

15. What were the benefits of participating in extracurricular activities in relation to the development of your academic self-efficacy? (SQ3)
16. While participating in extracurricular activities, did you find any successful strategies that could help achieve more in your academics? What were they? (SQ3)
17. What else would you like to add to our discussion concerning your experiences participating in extracurricular activities that we haven't discussed? (SQ3)
18. If asked to participate in a focus group later, what else would you have to add?

Individual Interview Data Analysis Plan

Lester et al. (2020) discuss that conducting qualitative data analysis can be quite challenging because there are numerous ways to analyze data. It was up to the researcher to decide which method would yield the most accurate results. Van Manen (2018) discusses that themes in a phenomenological study can be seen as “structures of experience” (p. 79). As I analyzed the data, the point was to find common themes from participants' answers that helped bring to light an understanding of their lived experiences. Van Manen (2018) describes this process as a holistic approach that seeks to answer the question of what phrases of the collected data can capture the “fundamental meaning or main significance of the text as a whole” (p. 93). I utilized a thematic analysis approach to analyze the data collected from the interview questions.

After collecting answers to the individual interview questions via audio recording, I prepared and organized the data for analysis by taking the audio recordings of the participants and sorting each interview response by earliest date and time. If answers were audio recorded by a recording software (Microsoft Teams, ZOOM, etc.) I made sure that there was a transcript of the interview. This allowed me to fully immerse myself into the data so that I could fully

understand the phenomenon as described by the participants (Creswell & Poth, 2018; Lester et al., 2020; Peoples, 2021).

Once data preparation was completed, I transcribed each interview verbatim, deleting irrelevant information (Peoples, 2021). Lester et al. (2020) discuss that transcribing the data verbatim is common for a thematic analysis approach and that transcripts should aim to capture “every utterance from the participant and serve as an accurate record of the conversation” (p. 99). I listened to the audio recordings of the interviews and made sure that the participants answers were accurately transcribed verbatim to a Microsoft Word document, aside from unnecessary information such as verbal pauses (ex: um, you know, etc.) (Lester et al., 2020; Peoples, 2021).

After transcribing the data, I utilized a qualitative data analysis software (QDAS) system. The QDAS system “Delve” assisted me with organizing and finding themes embedded in the interviews. Furthermore, putting the data into “Delve” also helped me to generate a prepared list of codes that helped with focus group data analysis. Cypress (2019) discusses that using QDAS helps researchers with “transcription analysis, coding and text interpretation” (p. 214).

Journaling Data Collection Approach

Van Manen (2018) discusses that if researchers wish to explore the nature of a certain phenomenological experience, one of the best ways to conduct research is to ask the selected individuals to write about their experiences. Journaling is an excellent complement to the individual interview data collection method (van Manen, 2018). Journaling has the potential to enrich the participants perspectives because there is typically much more time for participants to draft, edit, and submit responses to the prompts.

I provided each participant with six journal prompts and each participant was required to write a minimum of six journal entries of a minimum of one page per response. Participants were asked to consider each prompt carefully and to conduct an in-depth journaling session for each. This gave participants the chance to write down any important concepts that may not have been mentioned or covered during the interview. Knowing that many participants will not be able to drop everything in their lives to complete journal entries on a weekly basis, the researcher asked participants to submit their journal entries via email every other week.

Journal Prompts

1. Describe the process of how ADHD was detected within you.
2. Describe any other academic challenges you faced that were not mentioned in the interview.
3. Describe any other social challenges that you faced that were not mentioned in the interview.
4. If medicated for ADHD, describe the pros and cons, academically and socially, of taking medication. Did the pros of medications outweigh the cons or vice versa?
5. Describe the moment when you realized that participating in extracurricular activities improved your academics. What was that feeling like?
6. Describe any other academic self-efficacy benefits of participating in extracurricular activities that were not mentioned in the interview.

Journaling Data Analysis Plan (Data Analysis Plan #2)

Participants' journal submissions were collected on a bi-weekly basis and data analysis began with the first submissions. A highlighting technique was used to help identify certain phrases and words that were common throughout each journal entry. A specific color of

highlighter was designated for each word or phrase to help with easy recall of the information.

After the final journal submissions and data analysis were complete, the researcher combined the codes to generate specific themes and subthemes that addressed the central research question and sub-questions.

Focus Groups Data Collection Approach

Krueger and Casey (2014), discuss that a focus group is a way for researchers to gain a better understanding of an idea, issues, a product, or, in this case, a phenomenon through the viewpoint of multiple people. Focus groups provided an opportunity for researcher to interact with multiple participants at the same time while encouraging dialogue amongst participants about the area being researched. Focus groups are an excellent way to create triangulation using an array of sources. Additionally, focus groups allowed me the opportunity to ask any follow up questions in a large setting versus conducting individual interviews with the same follow up questions.

In this hermeneutic phenomenological study, participation in the focus group was not mandatory for all 10 individuals, only 5 (Creswell & Poth, 2018; Peoples, 2021; van Manen, 2018). After the face-to-face interviews, each participant was invited to join in a focus group later. In the focus group, I asked participants to spare no detail in their answers and experiences. Again, due to the lingering nature of the global Covid-19 pandemic, some participants may not have felt comfortable meeting at the site to conduct the focus group. Keeping this in mind, the option to meet over ZOOM, Microsoft Teams, or another visual recording platform was available to the participants. If participants chose to either meet face-to-face or over ZOOM or Microsoft Teams, they were notified that they would be audio recorded and needed to give consent before the data collection could proceed. The focus group lasted anywhere from 60 to 70

minutes in length.

Focus Group Questions

1. How did you feel when you were diagnosed with ADHD? (CRQ)
2. How did ADHD affect your life inside and outside of school? (CRQ)
3. How did you feel about your teachers' understanding of why you had such a hard time focusing on cognitively demanding tasks before your diagnosis? (SQ1)
4. How did you feel about school administrators' understanding of why you had such a hard time focusing on cognitively demanding tasks before your diagnosis? (SQ1)
5. Which extracurricular activity do you believe helped you to focus more on cognitively demanding tasks and why? (SQ2)
6. How did you notice a change in your attention rates within the classroom whilst participating in an extracurricular activity? (SQ3)
7. How did you notice a change in your grades whilst participating in an extracurricular activity? (SQ3)

Focus Group Data Analysis Plan (Data Analysis Plan #3)

The same two-step method that was implemented to analyze data for the individual interview questions was used for the focus groups. However, there were slight differences to this data analysis approach, partly due to the nature of examining and analyzing multiple points of views on the phenomenon versus an individual point of view. Finding a common theme among the focus group answers was at the forefront just as it was for the interview questions, but a heavier emphasis was placed on coding.

Coding is a way to label certain words or phrases in a data set which can help with sorting, structuring, easy recollection, transparency, and acquiring deep and meaningful insights

into the data (Linneberg & Korsgaard, 2019). There are two different types of coding according to Linneberg and Korsgaard (2019): inductive and deductive. For this analysis, deductive coding was utilized, a set list of codes having already been generated via the data analysis of the individual interview questions.

After collecting participants' answers to the focus group questions via audio recording, the researcher prepared and organized the data for analysis. The focus group session took place on an audio-recorded software (Microsoft Teams), the researcher made sure there was a generated transcription of the focus group. This allowed me to immerse myself into the data so that I could fully understand the phenomenon described by the participants (Creswell & Poth, 2018; Lester et al., 2020; Peoples, 2021).

The second step of analyzing the focus group data was just the same as the first data collection method. The researcher transcribed the focus group answers word for word, removing unnecessary information (Lester et al., 2020; Peoples, 2021) and assigned predetermined codes to words or phrases of the focus group transcripts. After all responses were written down verbatim, the researcher uploaded the documents into the QDAS, Delve, with the intent of discovering newer themes.

Data Synthesis

Vagle (2014) discusses that phenomenological research is focused on conjecture of how things are revealed in the world. Furthermore, Vagle (2014) postulated that studying a phenomenon through a phenomenological lens is seeing how individuals are meaningfully connected through a shared experience. A hermeneutic phenomenological design allowed me to leverage personal experiences as an interpreter of participant's statements to enhance the data collection. The data synthesis incorporated several areas, including describing personal

experiences with the phenomenon; developing significant statement lists, grouping statements into themes, creating textural descriptions of what the participants experienced, and constructing a description that incorporates textural and structural components to identify the essence of the phenomenon (Creswell & Poth, 2018).

Once the data analysis was complete, findings were synthesized into a coherent body of evidence that addressed the central research question and the sub-questions. This synthesis was accomplished through writing the narrative that incorporated and summarized the storylines of identified themes related by each of the participants. Additionally, bracketing was utilized to ensure that any personal biases or assumptions of the researcher did not obscure or influence responses from participants for this study. Bracketing is a term that finds its roots in mathematics where the use of brackets is used to separate operations from one another (van Manen, 2018). Throughout the study, prior experiences or personal familiarity needed to be bracketed from the study so that the researcher could explore new information and attain new knowledge (Moustakas, 1994).

Trustworthiness

The response to criticism from positivists about perceived lack of rigor, reliability, and objectivity by conceptualizing parallel terms for characteristics of qualitative research, specifically, credibility, transferability, dependability, and confirmability is a step toward ensuring trustworthiness for one's study (Lincoln & Guba, 1985; Shenton, 2004). This section describes in detail the measures taken to assure a rigorous study through the lens prescribed by Lincoln and Guba. While these terms are, in many cases, synonyms for terms used in quantitative scholarship, these have different meanings and implications for the quality and rigor of a qualitative study.

As the researcher, it was vital that I pondered the importance of trustworthiness for this study's design and analysis. After careful consideration, I followed Lincoln and Guba's (1985) formula for achieving trustworthiness through credibility, transferability, dependability, and confirmability. The following sections address how the researcher establishes and maintain trustworthiness throughout this study.

Credibility

Credibility refers to the extent to which the study's findings accurately describe reality, at least according to the perceptions of participants, as approximation of the truth of the phenomenon in question (Lincoln & Guba, 1985). Furthermore, Shenton (2004) describes that making sure a study is credible is the first step to establishing trustworthiness. The researcher achieved credibility through three methods: (a) member checking, (b) triangulation, and (c) peer review.

Member Checking

The first and most important method of ensuring credibility is via member checking; this can be accomplished any time during the data collection and analysis process (Creswell & Poth, 2018; Peoples, 2021; Shenton, 2004). This method required the transcribed data be returned back to the participants to check for accuracy. Shenton (2004) states that member checking is a way for participants to "consider that their words match what they actually intended" (p. 68).

I enlisted help from each participant for member checking. Per IRB requirements, I provided participants with a statement that informed them that I would give them the chance to review, edit, and approve their transcripts for accuracy before the researcher input their responses into the study data. After the interview and focus group question answers were collected and transcribed, I sent the completed transcripts back to the participant(s) via email to

ensure the accuracy of their statements. If any participant's words or articulations were misinterpreted, I would collaborate with the individual to ensure that their views were accurately reflected before finalizing the data.

Triangulation

In this study, I commenced a triangulation of qualitative methods approach. Triangulation is used in research to strengthen a researcher's design and to increase the ability to interpret findings (Renz et al., 2018). Triangulation was achieved through using individual interviews of college undergraduate students diagnosed with ADHD, their journal entries, and focus groups of the same students. This method was employed to gain a complete understanding of the phenomenon being studied (Creswell & Poth, 2018).

Peer Review

The final way through which credibility was achieved was through peer review (Creswell & Poth, 2018; Shenton, 2004). Peer review sessions were a way to find an individual who is familiar with the phenomenon being explored or with the research methods (Creswell & Poth, 2018; Peoples, 2021). My committee and I came together to closely examine the research that has been conducted and fixed any apparent flaws. Throughout data collection and analysis, I was in constant contact with my chair and committee member to see that all parameters were being satisfied. Along with making sure that all research parameters were being met, having peer reviewers "keep the researcher honest; asks hard questions about methods, meanings, and interpretations" (Creswell & Poth, 2018, p. 263).

Transferability

Transferability shows that study findings be applicable in other contexts (Lincoln & Guba, 1985) and, is achieved using thick descriptions when describing research findings (Geertz,

2008). The descriptions that the researcher had used to describe the experiences of ADHD students being able to improve their academic achievement through participation in ECA has painted a robust picture of what participating in ECA has meant for the participants' academic achievement.

The participants for this study – representing public, private, and home schools – were involved in the data collection through a questionnaire that filtered the selection of participants to those that met the parameters of my study. Intentional purposeful sampling included hand-picking participants based on their diagnosis of one of the three main types of ADHD; their participation in a sport and non-sport extracurricular activity increased the diversity of the sample. The alignment of participant testimony across these institutions was similar and suggested that the specific context of a high school setting may not be the primary factor in what contributes to academic achievement for ADHD students.

Dependability

Dependability shows that study findings are consistent and can be replicated (Lincoln & Guba, 1985). Descriptions of my procedures – specifically, descriptions of the method(s) I developed to undertake this study – were straightforward and supported by the literature. In addition to being simple enough to repeat, this study can be replicated for any population. An inquiry or external audit was utilized to ensure the dependability of my study (Creswell & Poth, 2018; Peoples, 2021). My committee has thoroughly reviewed the procedures and deemed them sufficient to demonstrate mastery of the method as designed.

Confirmability

Confirmability is a degree of neutrality or the extent to which the findings of a study are shaped by the respondents and not researcher bias, motivation, or interest (Lincoln & Guba,

1985). I employed two techniques to ensure confirmability of this study. First, I created a detailed audit trail through which my procedures, raw data, analyzed data, and the final report could be transparently tracked if necessary. In addition to a detailed audit trail, the researcher utilized member checks to ensure confirmability. This method required me to returning the transcribed data to the participants to check for accuracy. Shenton (2004) states that member checking is a way for participants to “consider that their words match what they actually intended” (p. 68).

Ethical Considerations

As with any research project, ethical considerations must be considered. Researchers should address any ethical concerns to their participants when recruiting and collecting data (Peoples, 2021). For this study, numerous steps have been taken to address any ethical considerations. First, approval from the IRB was obtained before collecting any data. After approval, each participant who had agreed to be a part of my study was given a consent form to sign and return which informed them that during the study they would be audio recorded. Additionally, within the consent form, each participant was informed that they had the option to back out of the study at any time without any repercussions. Furthermore, each participant was assigned a pseudonym with which they were referred to throughout the individual interviews, focus groups, and data analysis. This provided the participants with a sense of anonymity throughout the study. In addition to the participants being assigned a pseudonym, the site or setting from which participants were recruited was also given a pseudonym which was referred to throughout the study.

All parties that participated in the study were provided with a consent form that had to be signed and returned to me. Furthermore, an additional form provided participants with sufficient

information about the study such as its purpose and the extent of its data collection methods (e.g., amount of time needed for interviews, focus groups, amount of time needed to complete data collection, etc.) Due to the nature of the study, there could have been moments where certain interview or focus-group questions could conjure up negative memories or experiences for participants. If such questions caused the participant any mental harm, I provided them with either contact information to a local counselor or followed up with the individual to ensure that the participant was safe.

Data collected from the individual interviews, focus groups, and follow-up interviews were properly credited to avoid plagiarism. Additionally, responses were saved on an external hard drive. This external hard drive was password-protected and locked away in a filing cabinet in the researcher's office. Any hard copies of documents obtained, were also locked in the cabinet in the researcher's office and scheduled to be shredded or deleted after a period of three years.

Summary

Chapter Three described the purpose of the research study as well as the research study's setting, selection of participants, and research procedures. Undergraduate students in a higher education setting were recruited via purposeful sampling. The researcher provided further information regarding the methods of this hermeneutic phenomenological study to describe and interpret the lived experiences of college freshman and sophomore students who had been diagnosed with ADHD and had participated in ECA to improve their academic achievement. Data collection was completed via interviews, focus groups, and journaling. Furthermore, this chapter provided an explanation of the areas of trustworthiness (credibility, dependability,

confirmability, transferability) used to validate the study. Ethical considerations were also discussed in detail to ensure the protection, safety, and confidentiality of the study's participants.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this phenomenological study was to describe the lived experiences of college undergraduate students who have low senses of academic self-efficacy due to having been previously diagnosed with ADHD at Arbiter University. This study examined participants who had increased their academic self-efficacy through means of participating in extracurricular activities, physical and non-physical, by collecting the voices of undergraduate students who have previously been diagnosed with ADHD. This chapter presents the results of the data analysis for this study. In addition, this chapter provides participant information, developed themes, and sub themes. Furthermore, this chapter presents outlier findings while answering the central research question and the three sub-questions before concluding with a summary of findings.

Participants

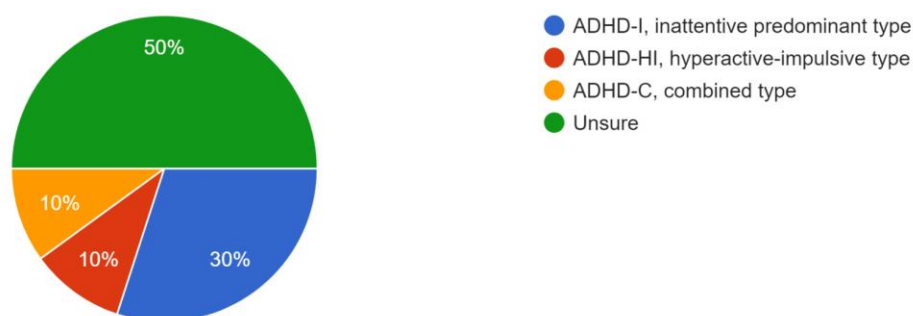
Gathering 10 final participants from Arbiter University to contribute to this study was accomplished by means of distributing IRB approved flyers, consent forms, and utilizing the aid of faculty members of the research site to aid in recruiting. This study sought to describe the lived experiences of college undergraduate students who have a low sense of academic self-efficacy due to having been previously diagnosed with ADHD. All but one of the study participants had been medically diagnosed with ADHD. Participants ranged in age between 18 and 22 years and were all classified as undergraduate students (e.g., Freshman, Sophomore, Junior, and Senior). To collect recent and relevant data, it was important to stay within an age range of students who would have graduated from high school within the previous four academic years (2019-2023). Participants' high school background varied from public to homeschool with

the majority of participants having attended public schools. Furthermore, participants hailed from across the United States with the majority of individuals coming from east coast states. All participants depicted that they had struggled academically and participated in extracurricular activities during their high school career. Only about half of the participants knew with what specific subtype or presentation of ADHD they had been diagnosed. This is depicted in Figure 3.

Figure 3

ADHD Subtype Diagnosis

Which type of ADHD were you diagnosed with?
10 responses



The purpose of the study was to describe a “common meaning for several individuals of their lived experiences” (Creswell & Poth, 2018, p. 75); this was achieved by having a final sample size of 10 participants. Participants for this study include five males and five females who self-reported varying ethnicities including White, Hispanic, and Caucasian/African American with White describing the majority of participants. Creswell and Poth (2018) discuss that, when conducting a phenomenological study, participant numbers can vary, and they recommend only enough participants to reach saturation of data. Saturation demonstrates the lived experiences of participants that are represented via the data and the phenomenon being studied (Saunders et al., 2017).

Table 2*Participants Demographics*

Name	Gender	Race	Classification	Diagnosed
Evan	Male	White	Junior	Yes
Sarah	Female	Caucasian/African American	Junior	Yes
Lindsey	Female	White	Freshman	Yes
Molly	Female	White	Senior	No
Charles	Male	White	Junior	Yes
Francine	Female	White	Senior	Yes
James	Male	White	Sophomore	Yes
Winston	Male	White	Sophomore	Yes
Tom	Male	Hispanic	Senior	Yes
Esther	Female	White	Senior	Yes

Results

This section focuses on three main themes resulting from the research. It is organized by theme with participant quotes which reinforce the narrative of the result. After careful transcription, evaluation, and analysis, the themes of inferior educational experiences, coping strategies, and improved self-efficacy were. These common themes were used to create textual descriptions of the lived experiences of the participants (Moustakas, 1994). All themes and sub-themes are explained in narrative form throughout this section.

Inferior Educational Experiences

Multiple participants noted that they experienced inferior educational experiences because of their ADHD diagnosis. Literature supports that those diagnosed with ADHD tend to

have completely different academic experiences than their peers (Keilow et al., 2018). Winston stated:

Growing up in my school and education experiences, they never really separated ADHD from other mental disorders. I was put into like different classes growing up. At my school they grouped all people with more mental disabilities than just ADHD into different classrooms. I would [be grouped] with people who had autism and people who struggle with other stuff like that, we'd be all grouped together. And it would never be acknowledged that there's a reason for the separation.

Feelings of Inadequacy

Those diagnosed with ADHD tend to have more social impairments along with academic struggles which can lead to feelings of inadequacy. Sarah stated, "When I was younger, I definitely knew I had to just work harder to pay attention, and normally [I] did. But sometimes I just didn't really think I was going to be as smart as people. I just never really thought I could be like smart. But I've just had to work a lot harder."

Feelings of Uncertainty

With an ADHD diagnosis comes a feeling of uncertainty that befalls each individual and what they can accomplish in school (DuPaul & Langberg, 2018; Wiener & Daniels, 2016; Zendarski et al., 2017). Francine said, "I remember this one time I was in fifth grade and the teacher came to my parent and said "Hey, we need to hold her back another year. Like something is wrong with her." At the time they thought I had a serious disability. They thought I was dyslexic, and I was on the spectrum a little bit."

Coping Strategies

Several coping strategies were noted throughout the interviews and journaling sessions with participants. Al-Yagon et al. (2020) discusses that “coping refers to the complex set of self-regulatory mechanisms by which individuals adapt to stress” (p. 2). Evan stated “but sometimes, like normally like softer, more classical music would help me out kind of focus. Just have something in the vicinity. I find I studied really well.”

To-Do Lists

Kreider et al. (2019) explains that those with ADHD have difficulty in planning and performing stages, especially when it comes to academics. An excellent coping strategy that can help those diagnosed with ADHD better plan and perform is making “to-do lists.” Sarah stated, “I would say that I’ve always had [a] To Do List going since probably like middle school. Like I’m just very like list oriented and I have to be. Like I said, if something isn’t get[ting] written down, I’m very likely to forget.”

Working Out

Participants noted that working out also helped them with their ADHD symptoms. Mehren et al. (2020) discusses that physical exercise has been known to provide positive effects to the general health and well-being of individuals, especially those diagnosed with ADHD. Lindsey discussed “I think working out helped me calm down a lot. Like whether it was like a sport or just a plain workout, kind of putting all my energy somewhere kind of took the extra energy that I have in other places and kind of directed it in a good way.”

Improved Self-Efficacy

Participants noted that after participating in extracurricular activities, their sense of self-efficacy improved. Literature states that the longer a student participates in an extracurricular activity, the more their sense of self-efficacy increases (Agrawal & Borkar, 2021; Cho et al.,

2017; Lakes & Hoyt, 2004). Francine said, “In the classroom, sports did help me because they pushed me academically because the first part of being an athlete in high school is student athlete. So, like if my grades started slipping a little bit, my teachers and coaches would call me out and tell me that I need to do better in class or else I can’t participate in sports.”

Improved Working Memory

Participants noted that they were able to expand their working memory skills by participating in sport (Giordano et al., 2021; Phung & Goldberg, 2019). Most notably, Charles solidified this by stating:

One of the attributes of a martial artists is being disciplined. One of the disciplines, of course, is listening and visual. With those two learning, listening and visual, helped me to listen better because I had to pay attention. In aspects of visual, it helped me if the teacher being able to put [information] on the board and show diagrams, and I was able to pay attention more to that because I had learned that from martial arts.

Improved Focus Rates

Participants noted that participating in extracurricular activities, either physical or non-physical, helped improve focus rates (Taylor et al., 2019; Vysniauske et al., 2020; Zang, 2019; Zhang et al., 2019). Evan discussed how participating in a non-physical ECA helped improve his focus rates by stating, “Chess was really helpful actually, because it would help me focus, think ahead.” Charles further added how participating in sport extracurricular activities improved his focus rates by stating, “They also helped with the academics, by being disciplined because karate, Boy Scouts, and Football, you have to be disciplined on what you’re doing. When doing all these things combined, it helped to make it where I was able to focus a little bit.”

Outlier Data and Findings

While conducting this study, two outliers presented themselves during the data collection process. One outlier, noted by two participants, was that their diet played an important role in managing their ADHD symptoms and tendencies. One participant also noted that she could not get an ADHD diagnosis via a medical professional because of the Covid-19 global pandemic.

Outlier Finding #1

Surprisingly two participants in the study shared that he discovered that his diet played a major contribution to controlling his ADHD symptoms and tendencies. When answering the question about what successful strategies that he had discovered to help him focus more in the classroom, Evan – along with most participants – discussed that creating to-do lists helped them to stay focused on tasks at hand. However, when answering this question, Evan also threw in the concept of his diet. Evan stated, “My diet is huge for my ADHD. It’s really affected me is when I’m eating right and I’m eating the right amount of calories that I need to. Not just stuffing myself with Chick-fil-A or Panda Express.”

Outlier Finding #2

One participant in the study, Molly, has not been officially diagnosed with ADHD by a medical professional. Because of the global Covid-19 pandemic, Molly was unable to see a medical professional to receive an official ADHD diagnosed. Molly states:

I had all the signs of ADHD, I knew it, my parents knew it, even the counselor at my school suggested that I get an official diagnosis after I took over 60 questionnaires. But how was I supposed to know that pandemic would shut down the entire world? I was banking on the fact that after the two-week “shutdown” of the state and businesses, I could go get my diagnosis.

Molly experienced much frustration trying to get her diagnosis because of the pandemic. She expressed, that with medical practices closing or only allowing limited numbers of people inside their offices and along with having a backlog of patients who already had appointments, it would take her a long time to get an official ADHD diagnosis.

Research Question Responses

This section offers answers to the research questions of the study supported by responses of the participants. I compared each of the themes to the research questions to determine their relationships. Responses were acquired directly from the three data collection methods. Additional to the emergent themes, the central research question and the three sub-questions were answered with respondent support.

Central Research Question

What are the lived experiences of college undergraduate students previously diagnosed with ADHD, that have influenced the development of their academic self-efficacy? The participants' overall perspectives on and experiences with ADHD and the influence that it had on the development of their academic self-efficacy was negative. Lindsey said, "I definitely felt like everyone had a leg up on me. And it was kind of hard because I felt like schools don't really know how to deal with people whose brains kind of work maybe a little differently. So, I guess, yeah, kind of just made me feel like I was stupid."

Sub-Question One

What are the perceptions of academic challenges encountered by college undergraduate students previously diagnosed with ADHD, that have influenced the development of their academic self-efficacy? Each participants' perceptions of their academic challenges because of their ADHD diagnosis and how it had affected their academic self-efficacy was described in a

negative connotation. Esther said, “My ultimate issue is I can’t ever fixate quick enough and long enough to get a bunch of work done. So, I do a handful of the assignments and I’m clocked out for three or four hours.”

Sub-Question Two

What are the perceptions of college undergraduate students previously diagnosed with ADHD and participating in extracurricular activities, that have influenced the development of their academic self-efficacy? The participants’ overall perceptions of their participation in extracurricular activities and the influence that it had on the development of their academic self-efficacy was extremely positive. Winston said:

I would say it gives you a certain type of confidence that a lot of people with ADHD lack. Because from, like, a peer standpoint, everyone usually, like, discusses with you or talk[s] to you in a downward sense. Because they feel like they’re on a higher level. But in this situation where you are the playing field is leveled. Like we’re all competing at the same rate. It gives you that confidence to go back into class and be like, alright, I’m on the same level as these guys either way. So, I’m going to try as hard.

Sub-Question Three

How do college undergraduate students previously diagnosed with ADHD, describe the benefits of participating in extracurricular activities that have influenced the development of their academic self-efficacy? The participants’ descriptions of the benefits of extracurricular activities that had an influence on their academic self-efficacy was informative. Charles said, “They helped with the academics, by being disciplined because karate, Boy Scouts, and football, you have to be disciplined on what you’re doing. So, when doing all these things combined, it helped

to make it where I was able to focus longer on instruction whether that be inside or outside of the classroom.”

Summary

After careful transcription, evaluation, and analysis of participant data, the dominant themes of inferior educational experiences, coping strategies, and improved self-efficacy and their sub-themes were noted. These shared themes were used to create textual descriptions of participant lived experiences (Moustakas, 1994). The textural and structural descriptions of participants were developed, and the essence of the studied phenomenon was noted in the composite description of each theme and research question response (Creswell & Poth, 2018). Participants were able to share their negative experiences of ADHD and how it had affected them on an interpersonal and intrapersonal levels. Additionally, participants shared positive experiences of participating in extracurricular activities and how those had improved not only interpersonal and intrapersonal relations, but their academic self-efficacy. Tom summed up his feelings about his ADHD and his participation in extracurricular, “I think one thing is hearing it and the other thing is seeing it affect your life so strongly. I mean, I guess, I would want to add to the choir saying that everyone should at least try an extracurricular activity. You should try both and see what works.” This statement was echoed by the other study participants.

CHAPTER FIVE: CONCLUSION

Overview

The purpose of this hermeneutic phenomenological study was to describe the lived experiences of college undergraduate students who have low senses of academic self-efficacy due to having been previously diagnosed with ADHD. In this chapter, I have utilized the interpretations and ideas of the conducted study to refine the findings of the study and interpret them through five discussion subsections: (a) interpretation of findings, (b) implications for policy and practice, (c) theoretical and empirical implications, (d) limitations and delimitations, and (e) recommendations for future research.

Discussion

The purpose of this section is to discuss the study's findings in light of the developed themes of inferior educational experiences, coping strategies, and improved self-efficacy for students diagnosed with ADHD. Through the lived experiences of study participants, I was able to collect an understanding of the inferior educational experiences, coping strategies, and the improved self-efficacy among each participant. This chapter will discuss interpretation of these findings in addition to implications for policy and practice, theoretical and methodological implications, limitations and delimitations of the study, as well as recommendations for future research.

Interpretation of Findings

This section begins with a brief Summary of Thematic Findings as discussed in Chapter Four, specifically, the themes of inferior educational experiences, coping strategies, and improved self-efficacy. The discussion of emergent themes is followed by a series of

interpretations deemed significant and rooted in interviews, focus groups, and other data collection methods from participants' lived experiences.

Summary of Thematic Findings

Participants freely their feelings about their ADHD diagnosis and how it had affected them on an interpersonal and intrapersonal level resulting in themes of inferior educational experiences, coping strategies and improved self-efficacy. Inferior educational experiences presented in each of the participants' lived experiences, often coinciding with feelings of inadequacy and feelings of uncertainty. Coping strategies included having to-do lists and physical exercise. The feeling of improved self-efficacy presented in each of the participants' lived experiences of as they participated in extracurricular activities.

Unfairly Treated. All participants felt that they were unfairly treated while in school, not just academically, but socially as well. Students who are diagnosed with ADHD are at a further disadvantage compared to their peers in all aspects of the classroom setting (Chiang & Gau, 2014; Szép et al., 2021). James discussed the frustration he experienced from his teachers and peers towards him. Because it would take James longer to grasp a concept or longer to answer a question and he seemed to be not paying attention, people around him would get annoyed and frustrated with him. Because of this, James felt as if his teachers and peers had written him off as a lost cause. In fact, James was doing his best to pay attention, but even his best would not suffice for his teachers and school.

It is not uncommon for individuals with ADHD to have social impairments and face high levels of peer rejection along with their academic struggles (Mahone & Denckla, 2017; Morris et al., 2017; Ros & Graziano, 2018). Lindsey mentioned that, because of her ADHD diagnosis, she was seen differently by her teachers and peers. She could notice the social shift around her. She

went on to say, “It was hard because I feel like schools don’t really know how to deal with people whose brains kind of work maybe a little differently...that also includes socially.”

Coping Strategies. All participants described how they discovered, developed, or were guided toward coping strategies to deal with their ADHD symptoms in addition to pharmacological and/or behavioral interventions. There have been a number of theories, methods, and treatments discussed on how to better help students cope with ADHD symptoms inside the classroom (Pffifner & DuPaul, 2018; Vysniauske et al., 2020). About half of the participants discussed that they were medicated to help with their symptoms but realized that they were building up a tolerance to the medication and needed a higher dosage, or that the side-effects of the medications were worse than the benefits. With that realization, all participants discussed numerous coping strategies that helped them to subdue their ADHD symptoms and achieve academic success. All mentioned that having “to-do” lists kept them on track and organized. Most mentioned that having an exercise routine helped them to expel their excess energy that usually caused distractions within the classroom. Molly discussed that exercising helped to reduce her ADHD symptoms and she was able to focus more on the curriculum being taught. Furthermore, she discussed that she believes that her exercise routine provided all the benefits of pharmaceuticals without the detrimental side-effects.

Academic Success. All participants were able to achieve academic success while participating in ECA. Covay and Carbonaro (2010) and Garrecht et al. (2018) discuss that ECA often resemble classroom settings, and inculcate similar values to those expected of students in a classroom. Furthermore, while participating in ECA, students are continuously exposed to performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal which are the four elements to Bandura’s (1977) self-efficacy expectations. Lindsey mentioned

that participating in dance as ECA helped her to achieve academic success. Charles resonated with Lindsey with his participation in martial arts. Both Lindsey and Charles, as well as other participants, were able to transfer skills learned while participating in ECA and to implement them into the classroom setting and achieve academic success.

Implications for Policy or Practice

The findings of this phenomenological study have yielded policy and practical implications in relation to self-efficacy and academic achievement for those diagnosed with ADHD. Students diagnosed with ADHD can benefit from participating in ECA, whether it be physical or non-physical (Acar & Gündüz, 2017; Taylor et al., 2019). These recommendations are intended to support parents, teachers, school administrators, school districts, local and federal government agencies, and medical professionals. Additionally, these implications for policy and practice can influence the application of policies and practices that will guide individuals diagnosed with ADHD toward improving their academic achievement and self-efficacy.

Implications for Policy

This research study has several implications for policies, laws, and regulations. One implication for policy that this study yielded is for medical professionals. About half of the participants in this study indicated that they were simply diagnosed with “ADHD”. They did not know with which type of ADHD that they had been diagnosed with. When diagnosing ADHD, medical professionals should implement a more rigorous criteria that will specifically delineate with which type of ADHD an individual has been diagnosed. A more rigorous and detailed diagnosis process can help individuals, parents, and school administrators understand how to help an individual achieve academic success and improved self-efficacy depending on their specific ADHD diagnosis.

The second policy implication is for school administration with regards to how they treat students diagnosed with ADHD. Due to their inability to sit still and remain focused on lecture material, many participants experienced separation from their classmates. Often participants were placed in “special” classes along with people who were diagnosed with other NDDs. Because of this, they were subjected to the instructions for those with more severe NDDs such as autism. School administrators should place people diagnosed with ADHD in classes that are strictly tailored to helping students with ADHD.

Implications for Practice

This research study provides practical implications for this research site and potentially others as well. These practical implications aim to promote measures to increase self-efficacy and academic achievement within the classroom for students who have been diagnosed with ADHD. This study discovered that students diagnosed with ADHD tend to take longer to complete assignments, projects, and exams than their cohorts. When faced with time restrictions to complete assignments, projects, and exams, having services available to students diagnosed with ADHD to allow them extra completion time may be effective in other school settings for increasing their self-efficacy and academic achievement.

Additionally, students with ADHD are easily distracted and can not focus for long periods of time (DuPaul & Langberg, 2018; Owens, 2020). Another practical implication that could boost academic achievement and self-efficacy among these students is for schools and institutions to allow students to record classroom lectures either aurally or visually. This would allow students to go back, after the conclusion of the lecture, and review the lecture to firmly grasp its content at their pace. While use of technology or recording devices can be a great aid

for these students at this particular research site, it may also be effective for other school settings and students.

Theoretical and Empirical Implications

This phenomenological study describes the lived experiences of college undergraduate students who have low senses of academic self-efficacy due to having been previously diagnosed with ADHD. Ten participants described their experiences with fluctuating self-efficacy through their classroom experiences and ECA experiences. This study utilized Bandura's (1977) theory of self-efficacy, which is a subset of Bandura's social cognitive theory, to investigate the impact of feelings of inadequacy and uncertainty among students diagnosed with ADHD. Due to a gap in the literature, it is important to acknowledge and research the impact of ADHD and how ECA has helped to reduce ADHD symptoms among those who have been diagnosed and who have improved their academic achievement and self-efficacy.

Theoretical Implication

The theoretical framework that guided this hermeneutic phenomenological study was Bandura's (1977) self-efficacy theory. Self-efficacy can be defined as an individual's belief in their abilities to perform necessary behaviors to succeed in a situation and is achieved based on performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal (Bandura, 1977). The findings of this study confirm Bandura's (1977) self-efficacy theory and support previous research on self-efficacy among students with disabilities, specifically ADHD. The study found that those who had been diagnosed with ADHD and had participated in ECA experienced increased self-efficacy as defined by Bandura's four sources of self-efficacy: performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal.

Having a high sense of self-efficacy is crucial for students to succeed in the classroom because according to Schunk and DiBenedetto (2020), self-efficacy affects various related outcomes such as one's "choices, effort, persistence, motivation, learning, and self-regulation" (p. 243). By boosting a student's self-efficacy, that student may believe that they are able to achieve much more than they had previously realized, despite their disorder. This study corroborates with Agrawal and Borkar's (2021) study on the influence that martial arts have on self-efficacy and attention span. They discovered that martial arts played a tremendous role in expanding and increasing attention span and self-efficacy among practitioners, especially those diagnosed with ADHD. Additionally, practitioners experienced Bandura's four sources of self-efficacy.

Empirical Implication

The empirical implication of this study adds to the literature of phenomenological research by giving a voice to those diagnosed with ADHD with regards to improving their academic achievement by participating in ECA. Due to a gap in the literature, it is important to acknowledge and research the impact of ADHD and how participating in ECA, either physical or non-physical, help to reduce ADHD symptoms and to improve academic achievement and self-efficacy among those diagnosed. The hermeneutic phenomenological research used in this study collected the lived experiences of a heterogeneous group by way of in depth and expressive interviews, detailed journal prompts, and descriptive focus groups to explore the studied phenomenon (Creswell & Poth, 2018).

This study corroborates with Zang's study (2019) which determined that there was significant improvement in the areas of cognitive functions and social competency for those diagnosed with ADHD who took part in physical exercises. Additionally, this study confirms a

study that Giordano et al. (2021) conducted which sought to see if participating in a sport can enhance EF skills and academic performance among those diagnosed with ADHD. Moreover, this study confirms a study conducted by Pagani et al. (2020) which suggested that extracurricular sport diminished symptoms of ADHD. My study has achieved similar results to the previous studies conducted by Giordano et al. (2021), Pagani et al. (2020) and Zang (2019), since all participants at the time of the study depicted that, they had struggled socially and academically due to ADHD. They also described how they were able to improve areas of cognitive functioning, social competency, EF skills, and academic performance by participating in ECA.

Limitations and Delimitations

No research study is flawless; studies will contain some limitations and delimitations (Peoples, 2021). Limitations are potential weaknesses of the study that cannot be controlled, and limitations may be related to world or weather events, the sample (e.g., gender, age, ethnicity, geographical location, etc.), technology failures, participants who refused to participate, etc. One limitation to this study is that one participant refused to participate. After receiving the participants' initial screening survey answers, I emailed the participants to see if they would like to participate further. Given no reply, I waited two weeks before contacting them again via email. After multiple contact attempts, it was clear that this person was not going to participate in my study. Another limitation to my study was that it had a small sample size of 10 participants, which may not be generalizable to the ever-increasing population of students diagnosed with ADHD.

Delimitations are the purposeful decisions that the researcher makes to limit or define the boundaries of the study (e.g., only including participants over the age of 18, selecting an

ethnographic over a phenomenological study, choosing a hermeneutic phenomenology over a transcendental phenomenology, etc.). The first purposeful decision that I made to define the boundaries of the study was to choose a qualitative study over a quantitative study. According to Creswell and Poth (2018), qualitative research seeks to address problems that focus on the meaning of human issues experienced by individuals or groups. Qualitative research was chosen over quantitative because I believe that conducting quantitative research would not have been able to properly convey the lived experiences of the study's participants.

Out of the five qualitative designs postulated by Creswell and Poth (2018), a phenomenology was the best option to choose. Phenomenology, according to van Manen (2018), is the study of the world as people experience it and aims to provide an understanding of their daily experiences. A phenomenological design was best suited for this study because it seeks to understand the lived experiences of individuals (Creswell & Poth, 2018; Peoples, 2021) and could best describe the human experience of the phenomenon being studied. For this study, I decided that a hermeneutic approach would be better than applying a transcendental approach. Hermeneutic phenomenology was founded by Martin Heidegger with the idea that researchers should not aim to re-experience another's experience but to use one's own experience as a foundation (van Manen, 2018).

I chose this design because it is very likely that many others have experienced the studied phenomenon, which has had a lot of literature written on it as well. The experience of others who have experienced this phenomenon is incredibly important and the best way to understand and interpret the lived experience of others is to use my own lived and personal experiences as a starting point. According to van Manen (2018), using personal experience as a starting point is an excellent way to conduct this type of study.

The second delimitation of the study was selecting participants who were the minimum age of 18 years old and who were college undergraduate students. The rationale behind this decision was because those who are 18 years of age or older can make their own decisions (i.e., signing consent forms) without parental involvement. Selecting participants who were younger than 18 years old would make it difficult for me to procure IRB approval without navigating the rough terrain that IRB has set in place to ensure protection of minors. Furthermore, selecting undergraduate students was an excellent way to bring people from varying backgrounds together to discuss their experiences with the studied phenomenon.

Finally, with higher education readily available to anyone, everyone can be an undergraduate student no matter the individual's age, though it was necessary to collect recent and relevant data. To collect this type of data, it was important to select undergraduate students who had graduated high school within the last four academic years (2019-2023).

Recommendations for Future Research

I find that more targeted research should continue for the specific population of undergraduate students, especially as it pertains to their diet. For many undergraduate students, college is genuinely the first time that they are living on their own. While at college, there are many eating establishments that students can choose and the options for sustenance can be endless, many of which are high in sugars and carbohydrates. Most students typically do not worry about what they are ingesting as long as it tastes good and can provide enough energy and sustenance to get through the day. I recommend an in-depth case study into the diets of students' who have been diagnosed with ADHD and how their eating habits affect their ADHD symptoms, either positively or negatively.

Another recommendation for future research is a case study into why so many people diagnosed with ADHD do not know the specific type or presentation (e.g., ADHD-I, ADHD-HI, ADHD-C). This recommendation comes from the discovery in my study that half of my participants did not know the specific presentation of ADHD with which they were diagnosed. Knowing which type of ADHD that, one is diagnosed with can better aid teachers, school administrators, counselors, parents, and others to better understand these individuals and come up with distinct ways to help them better cope with their specific diagnosis.

The final recommendation for future research can either be a case study or a phenomenology study into how the global Covid-19 pandemic squashed the number of ADHD diagnoses that could have been made. With the world effectively shutting down due to the pandemic, many people had to put their lives on hold and experienced extended waiting periods to be seen by medical professionals. This recommendation is, again, birthed out of my study in which I discovered that one participant could not get an official medical diagnosis due to the extreme waiting times to see a medical professional.

Conclusion

The purpose of this hermeneutic phenomenological study was to describe the lived experiences of college undergraduate students who have low senses of academic self-efficacy due to having previously been diagnosed with ADHD. Bandura's theory of self-efficacy acted as the theory that guided this study. This study sought to answer the following central research question: What are the lived experiences of college undergraduate students previously diagnosed with ADHD, that have influenced the development of their academic self-efficacy? Using a hermeneutic phenomenological approach, I collected the lived experiences of participants to discover emerging themes of inferior educational experiences, coping strategies and improved

self-efficacy. A total sample of 10 undergraduate students who, except for one, had been medically diagnosed with ADHD and had graduated high school during the 2019-2023 academic years. This resulted in a participant age range of 18-22 years old. To facilitate triangulation, data collection included individual interviews, journal sessions, and focus groups. The themes of inferior educational experiences, coping strategies and improved self-efficacy for these participants coincided with a sense of being unfairly treated, developing coping strategies, and achieving academic success. Future research into students' diets, specific types of ADHD diagnoses and how the global Covid-19 pandemic affected the number of diagnoses may highlight how to support the future academic success of students diagnosed with ADHD.

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Appendix A

IRB Approval

LIBERTY UNIVERSITY

INSTITUTIONAL REVIEW BOARD

March 10, 2023

Digory Williams
Patricia Ferrin

Re: IRB Exemption - IRB-FY22-23-758 IMPROVED ACADEMIC ACHIEVEMENT AND SELF-EFFICACY THROUGH THE PARTICIPATION IN EXTRACURRICULAR ACTIVITIES OF UNIVERSITY STUDENTS PREVIOUSLY DIAGNOSED WITH ADHD: A HERMENEUTIC PHENOMENOLOGICAL STUDY

Dear Digory Williams, Patricia Ferrin,

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under the following exemption category, which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:104(d):

Category 2.(iii). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:

The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by §46.111(a)(7).

Your stamped consent form(s) and final versions of your study documents can be found under the Attachments tab within the Submission Details section of your study on Cayuse IRB. Your stamped consent form(s) should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document(s) should be made available without alteration.

Please note that this exemption only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued exemption status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this exemption or need assistance in determining whether possible modifications to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
Research Ethics Office

Appendix B

Recruitment Flyer

Research Participants Needed

Improved Academic Achievement and Self-Efficacy through the Participation in Extracurricular Activities of University Students Previously Diagnosed with ADHD: A Hermeneutic Phenomenological Study

- Are you 18 years of age or older?
- Are you an undergraduate student?
- Have you been diagnosed with ADHD?
- Did you struggle academically while in high school?
- Did you participate in any extracurricular activities (Sport or Non-Sport) in high school?

If you answered **YES** to all of the questions listed above, you may be eligible to participate in a research study.

The purpose of this research study is to describe the lived experiences of college freshmen and sophomore students who academically have low sense of self-efficacy on account of previously being diagnosed with ADHD.

Participants will be asked to participate in audio-recorded interviews that will last no more than an hour and focus groups that will last no more than 75 minutes. Additionally, participants will be asked to reflect on their experiences in high school via six journaling sessions. Participants will also be asked to review their interview transcripts to ensure accuracy.

Participants will be entered in a raffle for a \$15 gift card to Starbucks.

If you would like to participate, scan this QR code and complete the screening survey.

If selected to participate, a consent document will be given to you one week before the interviews.

Digory Williams, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Please contact Digory Williams at [REDACTED] or [REDACTED] for more information.

Appendix C

Recruitment Letter

Dear [Recipient]:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is to understand the lived experiences of college undergraduate students who have been diagnosed with attention deficit hyperactivity disorder (ADHD) and their participation in extracurricular activities to improve their academic achievement, and I am writing to invite eligible participants to join my study.

Participants must be a minimum of 18 years of age, have an ADHD diagnosis and be an undergraduate student. Participants must have struggled academically while in high school. Additionally, participants must have participated in an extracurricular activity during their high school career. The extracurricular activity could be outside of school as well. It would be better if applicants participated in a sport and a non-sport extracurricular activity but not required. For this study, I will be selecting between 12-15 participants based off the answers provided via the screening survey. Please click the link [REDACTED] to proceed to the screening survey.

If selected to be a part of the study, participants, if willing, will be asked to

- Participate in a 1:1 audio-recorded interview either in person or via web video. This process should take no more than an hour long.
- Participate in 6 journaling sessions that will take place over 12 weeks.
- Participate in an audio-recorded focus group interview with other study participants either in person or via web video. This process should take no more than 75 minutes long.

Names and other identifying information will be requested as part of this study, but the information will remain confidential.

A consent document is attached to this letter. The consent document contains additional information about my research. To participate, you will need to sign and return the consent document via email at [REDACTED], or you may take a picture of the signed consent form and send it via text message at [REDACTED].

Once I receive your signed consent form, I will contact you to schedule your interview and email you the instructions to complete the journal prompts.

Participants who complete the study will receive a \$15.00 US dollar Starbucks gift card. To receive your visa gift card please provide me with your Email address.

Sincerely,

Digory M. Williams

Ph.D. Candidate

Department of Education

Appendix D

Allied Health Professions Recruitment Permission Letter

[Insert Date]

██████████,

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a Doctor of Philosophy degree. The title of my research project is Improved Academic Achievement and Self-Efficacy through the Participation in Extracurricular Activities of University Students Previously Diagnosed with ADHD: A Hermeneutic Phenomenological Study and the purpose of my study is to describe the lived experiences of college undergraduate students who academically have low sense of self-efficacy on account of previously being diagnosed with ADHD.

I am writing to request your permission to utilize your membership list to recruit participants for my research.

Participants will be asked to complete the screening survey (see QR Code below). Participants will be presented with informed consent information prior to participating. If selected, participants will be asked to take part in an in-person, audio-recorded interview and focus group that will take no more than 1 hour each. Additionally, participants will be asked to take part in journaling sessions. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please provide a signed statement on official letterhead indicating your approval or respond by email to ██████████. A permission letter document is attached for your convenience.

Sincerely,

Digory M. Williams, M.S.
Doctoral Candidate, School of Education

Appendix E

Biology & Chemistry Recruitment Permission Letter

[Insert Date]

██████████,

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a Doctor of Philosophy degree. The title of my research project is Improved Academic Achievement and Self-Efficacy through the Participation in Extracurricular Activities of University Students Previously Diagnosed with ADHD: A Hermeneutic Phenomenological Study and the purpose of my study is to describe the lived experiences of college undergraduate students who academically have low sense of self-efficacy on account of previously being diagnosed with ADHD.

I am writing to request your permission to utilize your membership list to recruit participants for my research.

Participants will be asked to complete the screening survey (see QR Code below). Participants will be presented with informed consent information prior to participating. If selected, participants will be asked to take part in an in-person, audio-recorded interview and focus group that will take no more than 1 hour each. Additionally, participants will be asked to take part in journaling sessions. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please provide a signed statement on official letterhead indicating your approval or respond by email to ██████████. A permission letter document is attached for your convenience.

Sincerely,

Digory M. Williams, M.S.
Doctoral Candidate, School of Education

Appendix F

Consent Form

Title of the Project: Improved Academic Achievement and Self-Efficacy through the Participation in Extracurricular Activities of University Students Previously Diagnosed with ADHD: A Hermeneutic Phenomenological Study

Principal Investigator: Digory Williams, Doctoral Candidate, School of Education, Liberty University.

Invitation to be Part of a Research Study

You are invited to participate in a research study. To participate, you must be 18 years of age or older, have an ADHD diagnosis, struggled academically while in high school, a college undergraduate student and participated in at least one extracurricular activity in high school. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research.

What is the study about and why is it being done?

The purpose of this hermeneutic phenomenological study is to describe the lived experiences of undergraduate students who academically have low sense of self-efficacy on account of previously being diagnosed with ADHD.

What will happen if you take part in this study?

If you agree to be in this study, I will ask you to do the following:

1. Participate in an in-person or virtual, audio-recorded interview that will take no more than 1 hour.
Interview can be conducted over Microsoft Teams or Zoom if you prefer.
2. Participate in 6 journaling sessions. These 6 journaling sessions will take place over the place of 16 weeks, and each participant will be given journal prompts.
3. Participate in an in-person or virtual, audio-recorded focus group that will take no more than 75 minutes.
4. Take part in member checking which will require the participants to review their interview transcripts to ensure accuracy of transcription. This process should not take more than 2 hours.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study.

This study seeks to offer a contribution to society by providing informing to academic institutions, parents, students, physicians, psychiatrists, and psychologists with the experiences

of college undergraduate students previously diagnosed with ADHD who struggled with academics and found ways to reduce symptoms while increasing their academics without partaking in pharmacological and psychosocial methods.

What risks might you experience from being in this study?

The expected risks from participating in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Published reports will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be kept confidential by replacing names with pseudonyms.
- Interviews will be conducted in a location where others will not easily overhear the conversation.
- Confidentiality cannot be guaranteed in focus group settings. While discouraged, other members of the focus group may share what was discussed with persons outside of the group.
- Data will be stored on a password-locked external hard drive and in a locked file cabinet. After three years, all electronic records will be deleted, and all hardcopy records will be shredded.
- Recordings will be stored on a password-locked external hard drive for three years and then deleted/erased. The researcher and members of his doctoral committee will have access to these recordings.

How will you be compensated for being part of the study?

Participants will be compensated for participating in this study. At the conclusion of the interviews, participants will receive a \$15 Starbucks gift card.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please contact the researcher at the email address included in the next paragraph. Should you choose to withdraw, data collected from you apart from focus group data, will be destroyed immediately and will not be included in this study.

Focus group data will not be destroyed, but your contributions to the focus group will not be included in the study if you choose to withdraw.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Digory Williams. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact him at

██████████ You may also contact the researcher's faculty sponsor, Dr. Patricia Ferrin, at ██████████

Whom do you contact if you have questions about your rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the IRB. Our physical address is Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA, 24515; our phone number is 434-592-5530, and our email address is irb@liberty.edu.

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

Your Consent

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

The researcher has my permission to audio-record me as part of my participation in this study.

Printed Subject Name

Signature & Date

Appendix G**Recruitment Screening Survey**

1. Name: _____
2. Email Address: _____
3. Were you ever diagnosed with ADHD?
 - a. Yes
 - b. No
4. Gender
 - a. Select only one option.
 - i. Male
 - ii. Female
 - iii. Other
5. Race
 - a. Select only one option.
 - i. White
 - ii. Black or African American
 - iii. American Indian or Alaska Native
 - iv. Asian
 - v. Native Hawaiian or Other Pacific Islander
 - vi. Other
6. Name of High School Attended: _____
7. The State where you attended High School: _____
8. Status of High School
 - a. Select only one option.
 - i. Public
 - ii. Private
 - iii. Charter
 - iv. Home School
 - v. Other: _____
9. Year of Graduation: _____
10. Current College Classification
 - a. Freshman
 - b. Sophomore
 - c. Junior
 - d. Senior

11. How old were you when you were diagnosed with ADHD? _____
12. Who made the diagnosis?
- a. Select only one option.
 - i. Psychologists
 - ii. Pediatrician
 - iii. Family MD
 - iv. Psychiatrist
 - v. Other: _____
13. Which type of ADHD were you diagnosed with?
- a. Select only one option.
 - i. ADHD-I, inattentive predominant type
 - ii. ADHD-HI, hyperactive-impulsive type
 - iii. ADHD-C, combined type
 - iv. Unsure
14. Which of the follow were involved in making the diagnosis of your ADHD?
- a. Select all that apply.
 - i. Clinical Interview & Observation
 - ii. Checklists by you
 - iii. Checklists by parents
 - iv. Checklists by teachers
 - v. Psycho-educational testing
 - vi. Computerized testing
 - vii. Other: _____
15. Please check the following items that were true for your most or all of the time during high school.
- a. Select all that apply.
 - i. Blurted out answers before the questions have been completed.
 - ii. Did not sustain attention to schoolwork during classes.
 - iii. Talked excessively.
 - iv. Had trouble playing or doing leisure things quietly.
 - v. Acted or spoke without thinking.
 - vi. Fidgeted or got out of seat excessively.
 - vii. Did not give close attention to details, made careless mistakes.
 - viii. Required disciplinary interventions (e.g., sat in front of the class)
 - ix. Frequently lost things for tasks or activities (e.g., books, assignments)
 - x. Did not appear to be listening when spoken to
 - xi. Failed to finish schoolwork.
 - xii. Did enough to just get by.
16. Describe details/examples of checked items.

17. Did you participate in any extracurricular activities? (e.g., drama, chess club, football, soccer, etc.).
- a. Select only one option.
 - i. Yes
 - ii. No
18. If selected yes, please describe which one(s) you participated in.
19. How long did you participate in the extracurricular activity(ies)?
20. Did you participate in a sport and non-sport extracurricular activity simultaneously?
- a. Select only one option.
 - i. Yes
 - ii. No
21. If yes, please describe which one(s) you participated in.
22. How long did you participate in the sport and non-sport extracurricular activity simultaneously?

Appendix H

Individual Interview Questions

1. Please tell me a little about yourself as if we were meeting for the first time?
2. How long have you known that you have had ADHD?
3. How did you find out?
4. Please describe your academic experiences living with ADHD. (CRQ)
5. How did ADHD affect your sense of self-efficacy inside the classroom? (CRQ)
6. Please describe any academic challenges you faced because of your ADHD diagnosis.
(SQ1)
7. What coping strategies or organizational methods did you consider, attempt, or utilize to aid you in overcoming said academic challenges due to ADHD? (SQ1)
8. Please describe any successful self-practices you have implemented to aid you in overcoming said academic challenges because of your diagnosis. (SQ1)
9. What else would you like to add to our discussion concerning your academic experiences/challenges that we haven't discussed? (SQ1)
10. How would you describe your experiences with participating in extracurricular activities?
(SQ2)
11. What extracurricular activities either physical or non-physical did you participate in?
(SQ2)
12. What were the extracurricular activities you participated in? (SQ2)
13. What were some unexpected experiences that you encountered while participating in extracurricular activities? (SQ2)

14. What else would you like to add to our discussion concerning your participation in extracurricular activities that we haven't discussed? (SQ2)
15. What were the benefits of participating in extracurricular activities in relation to the development of your academic self-efficacy? (SQ3)
16. While participating in extracurricular activities, did you find any successful strategies that could help achieve more in your academics? What were they? (SQ3)
17. What else would you like to add to our discussion concerning your experiences participating in extracurricular activities that we haven't discussed? (SQ3)
18. If asked to participate in a focus group later, what else would you have to add?

Appendix I

Journal Prompts

1. Describe the process of how ADHD was detected within you.
2. Describe any other academic challenges you faced that were not mentioned in the interview.
3. Describe any other social challenges that you faced that were not mentioned in the interview.
4. If medicated for ADHD, describe the pros and cons, academically and socially, of taking medication. Did the pros of medications outweigh the cons or vice versa?
5. Describe the moment when you realized that participating in extracurricular activities improved your academics. What was that feeling like?
6. Describe any other academic self-efficacy benefits of participating in extracurricular activities that were not mentioned in the interview.

Appendix J

Focus Group Questions

1. How did you feel when you were diagnosed with ADHD? (CRQ)
2. How did ADHD affect your life inside and outside of school? (CRQ)
3. How did you feel about your teachers' understanding of why you had such a hard time focusing on cognitively demanding tasks before your diagnosis? (SQ1)
4. How did you feel about school administrators' understanding of why you had such a hard time focusing on cognitively demanding tasks before your diagnosis? (SQ1)
5. Which extracurricular activity do you believe helped you to focus more on cognitively demanding tasks and why? (SQ2)
6. How did you notice a change in your attention rates within the classroom whilst participating in an extracurricular activity? (SQ3)
7. How did you notice a change in your grades whilst participating in an extracurricular activity? (SQ3)