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Walden University

College of Allied Health

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Dana Richelieu

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Walden University
2024

Abstract

Self-Esteem Among Adults with ADHD Symptoms

by

Dana Richelieu

MS, Walden University, 2019

BA, Moravian College, 2016

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Doctor of Philosophy in Clinical Psychology

Walden University

March 2024

Abstract

This study assessed if attention deficit hyperactivity disorder (ADHD) treatment, ADHD symptoms, social support, gender, coping, and educational attainment predicted self-esteem among adults. It differed from previous research on this topic because it included participants with ADHD symptoms compared to those with formal ADHD diagnoses. Grounded in Leary and Baumeister's sociometer theory, the study involved using a nonexperimental correlational survey research design to assess this issue. A sample of 272 adult participants living in the United States were recruited. A multiple regression analysis revealed ADHD symptoms, social support, and coping were statistically significant predictors of self-esteem, while ADHD treatment, gender, and educational attainment were not. Study findings underscored the relevance of developing social support and active coping strategies as well as addressing ADHD symptoms as key to healthy self-esteem. Findings from the study contribute to positive social change by providing clinical psychologists and other mental health professionals with valuable knowledge on the need for developing social support and coping skills as key components to interventions aimed at enhancing self-esteem and mental health outcomes for adults with ADHD symptoms.

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Chapter 1: Introduction to the Study

Self-esteem is the way people perceive, assess, and value themselves (Fennell, 1999). It is associated with physical and mental health, school, work, and relationships (Orth & Robins, 2022; Rippon et al., 2022). Individuals with attention problems are prone to experience problems with self-esteem (Harpin et al., 2016). College students with ADHD experience challenges involving coping with negative thoughts and worries, academic underachievement, self-dissatisfaction and self-esteem, inconsistent routines, poor time management, and poor interpersonal relationships (Kwon et al., 2018). Poor self-esteem may decrease individuals' confidence or motivation to obtain higher education, further limiting their success or overall quality of life (Harpin et al., 2016). Adults who experience ongoing disappointment due to their ADHD symptoms may not attempt to obtain higher education or lack sufficient education because of their diminished self-esteem, lack of or ineffective coping styles, and unmanaged symptoms during childhood (Harpin et al., 2016). Low self-esteem is particularly problematic for those adults with undiagnosed and/or untreated attention problems (Pawaskar et al., 2020). They are likely to have little awareness of their troubles as well as poor coping skills.

This study involved assessing whether ADHD symptoms, social support, educational attainment, and coping predict self-esteem among adults. This study differs from previous research in that it involved examining the impact of coping and self-esteem on individuals with ADHD symptoms. Participants with ADHD symptoms were

included in the study instead of only those who were formally diagnosed. A more flexible approach to conceptualizing symptoms is an advantage over previous research because attentional issues are better defined as a wide variety of symptoms and functional limits. Apart from suitable psychological coping methods for self-esteem and overall wellbeing, there is limited research on how adults with ADHD cope with life's problems. The current study is notably distinct from current ADHD research in that it involved evaluating how people with ADHD symptoms deal with daily challenges, notwithstanding the importance of psychological coping abilities for self-esteem and overall wellness.

Background information about ADHD symptoms, social support, educational attainment, coping, and their associations with self-esteem among adults is demonstrated. The problem statement, purpose of the study, and research questions and hypotheses are presented. In addition, the theoretical framework, nature of the study, assumptions, scope, and delimitations are discussed. Furthermore, limitations, significance, and a summary are presented.

Background

Adults with ADHD symptoms experience many impairments in terms of their everyday functioning, especially when symptoms are undiagnosed or fail to be adequately treated during childhood. Persistent adult ADHD symptoms are due to childhood ADHD, anxiety, and depression (Kim et al., 2017). Social support is also associated with ADHD and depression. Children with ADHD had lower social

preference, higher social impact scores, were less well-liked, and more frequently in the rejected social status category (Hoza et al., 2005). In addition, students with impairments that begin during childhood such as ADHD had educational challenges in postsecondary institutions (Willoughby & Evans, 2019). Educational challenges were not associated with intellectual capacity but involved lack of ability to implement productive coping styles (Willoughby & Evans, 2019). In addition, students with ADHD had poorer self-compassion and were more likely to self-criticize compared to students with and without other disabilities (Willoughby & Evans, 2019). Furthermore, executive functioning, behavioral deficits, and adverse functional outcomes throughout childhood or adulthood were associated with diagnostic persistence of ADHD (Roselló et al., 2020). There is a relationship between persistent ADHD symptoms in early adulthood and executive, behavioral, and functional deficits in terms of family life, social or educational contexts, and risky activities (Roselló et al., 2020).

ADHD is linked to a lower likelihood of using healthy coping mechanisms for stress and a higher likelihood of using maladaptive strategies causing severe life deficits (Barra et al., 2021). Professional assistance for people with ADHD to incorporate stress management techniques into appropriate treatment modalities and mitigate life deficits is urgently needed (Barra et al., 2021). College students with ADHD experience challenges involving coping with negative thoughts and worries and inconsistent routines due to poor time management, academic underachievement, poor interpersonal relationships, self-dissatisfaction, and lack of self-esteem (Kwon et al., 2018). Individuals with

symptomatic ADHD present worse outcomes than ADHD-diagnosed groups in terms of productivity and self-esteem (Pawaskar et al., 2020). Individuals with symptomatic ADHD who do not have a clinical diagnosis experience more distress and poorer overall quality of life compared to those diagnosed with ADHD (Pawaskar et al., 2020).

Those with ADHD use maladaptive coping methods such as confrontation, escape-avoidance, and less planful problem-solving (Young, 2005). Positive coping styles and resources such as family, love, courage, and faith were positively associated with self-esteem, and family and courage were also positively associated with coping (Newark et al., 2016). Organizational, motoric, attentional, social, and psychopharmacological compensatory strategies exist for individuals to use to manage their ADHD symptoms (Canela et al., 2017). Pharmacological, nonpharmacological, and multimodal treatments are also effective approaches to improve self-esteem (Harpin et al., 2016). There is a gap in literature regarding how adults with a wide range of attention problems cope with daily challenges. Methods adults use to cope with ADHD symptoms can explain delayed or undiagnosed disorders (Canela et al., 2017). Individuals with untreated ADHD suffer from more significant long-term social function and self-esteem issues compared to those without ADHD or those receiving ADHD treatment (Harpin et al., 2016).

Problem Statement

There is little research on how adults with ADHD symptoms cope with life's challenges. Canela et al. (2017) noted "knowledge of self-generated coping strategies

may help better understand patients and their histories and thus facilitate patient cooperation" (p. 1). ADHD is associated with decreased probability of employing healthy stress reduction techniques and increased likelihood of using unhealthy coping mechanisms (Barra et al., 2021). Adults with ADHD engage in unhealthy coping strategies like confrontation, escape-avoidance, and less deliberate problem-solving, but they also effectively reappraise stressful events (Young, 2005). Attention problems can be best understood as a spectrum of symptoms and functional impairments. There are likely many individuals in the general population who have not been formally diagnosed. There is a gap in literature regarding how adults with a wide range of attention problems cope with their daily challenges.

Identifying relationships between coping and self-esteem among adults with attention problems could provide clinicians with valuable insights regarding working with this population. Adults with attention and/or hyperactivity problems have been found to have lower quality of life, poorer academic success, and higher anxiety and depression compared to adults with no attention or hyperactivity problems (Kwon et al., 2018l; Pinho et al., 2019). In the context of these challenges faced by adults with ADHD symptoms, research on relevant coping skills is likely to assist clinical psychologists and other clinicians in terms of developing effective interventions involving increasing self-esteem. Adults with ADHD symptoms can significantly benefit from treatment approaches where clinical psychologists have a background regarding this topic in order to help them reach their highest potential, whether personally, emotionally, or

academically. The clinical psychology field can implement more effective treatment and recommendations and promote social change by understanding multifaceted and interrelated outcomes of ADHD symptoms, social support, educational attainment, coping, and self-esteem.

Purpose

The purpose of this study was to evaluate whether ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping predicted self-esteem among adults. The study included participants with and without previous formal ADHD diagnoses and treatment. I used Baumeister's theory of self-esteem and a quantitative methodology. Through online surveys, Baumeister's theory was used to determine whether ADHD symptoms, educational attainment, and coping predict self-esteem among adults. Primary ADHD symptom domains include hyperactivity, impulsivity, and attention difficulties (Mayo Clinic, n.d.). Social support is "support [that is] accessible to an individual through social ties to other individuals, groups, and the larger community" (Lin et al., 1979, p. ##?). Educational attainment is a measure of highest level of education, such as an associates, bachelor's, master's, or doctorate degree. Coping refers to assessment of one's capacity to successfully manage obstacles in life (Chesney et al., 2006). Self-esteem is defined as "how much value one places on themselves, their self-worth, and their capabilities" (Baumeister at al., 2003, p. ##?).

Research Questions and Hypotheses

The study's research question and hypotheses are:

RQ1: Do ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping significantly predict self-esteem among adults?

$H_0$1: ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping do not significantly predict self-esteem.

H_a1: ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping significantly predict self-esteem.

Independent/predictor variables in the study were ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping, and the dependent variable was self-esteem. A multiple regression analysis was used to identity associations. ADHD treatment and gender are involved using nominal levels of measurement while ADHD symptoms, social support, educational attainment, coping, and self-esteem were continuous/discrete levels of measurement.

Theoretical Framework

The theoretical framework for this study was Baumeister's theory of self-esteem. Baumeister et al. (2003) defined self-esteem as “the value people place on themselves” (p. 2). Baumeister (1998) stated “self-esteem works to maintain positive self-views by processing feedback in a self-serving way” (p. 1048). According to Leary and Baumeister (2000), self-esteem is a measure of perceived worth that changes depending on how much someone feels appreciated by others who surround them. The theory of self-esteem also suggested that self-esteem is a psychological indicator of how much individuals believe they are socially and relationally valued by others (Leary, 2012). When

individuals act in a way that seems designed to preserve or boost their self-esteem, they usually want to preserve and strengthen the value of their relationships, improving the probability of interpersonal acceptance (Leary, 2012).

Nature of the Study

I used a quantitative methodology. A nonexperimental correlational survey research design was used to assess prediction of self-esteem in terms of ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping. Hypotheses were tested with a linear standard/simultaneous multiple regression analysis set at the *p* level of .05. Data were entered and analyzed using Statistical Package for the Social Sciences (SPSS).

Definitions

In this study, I used the following terms:

ADHD symptoms: Symptoms which include hyperactivity, impulsivity, distractibility, and inattention (Targum & Adler, 2014).

Social support: Belief or experience of being valued, cared for, and part of a social network (Taylor, 2011).

Coping: One's assessment of their capacity to successfully manage obstacles in life (Chesney et al., 2006).

Educational attainment: The highest level of education an individual has completed (United States Census Bureau, 2021).

Self-esteem: How much individuals value themselves or their opinions of themselves, whether positive or negative (Baumeister et al., 2003; Rosenberg, 1965).

Assumptions

I assumed participants supplied truthful and accurate answers to all survey questions to ensure validity of results. An additional assumption was that each participant was aware of what assessment questions meant.

Scope and Delimitation

I focused on adults with ADHD symptoms. Individuals who were under the age of 18 were not included in the study.

Limitations

I used self-reported surveys and questionnaires. Self-reported assessments rely on participant truthfulness for accurate results and are affected by social desirability bias. A limitation of correlational studies is that results cannot be interpreted as validating cause-and-effect relationships between variables. In addition, a challenge for the study was obtaining a relatively equal number of male and female participants. Furthermore, since surveys were obtained online, I may have neglected older adult populations or those who were not well acquainted with the Internet.

Significance

This study was unique in terms of existing research evaluating the influence of coping and self-esteem among adults with ADHD symptoms. The study included participants with ADHD symptoms as compared to those with formal ADHD diagnoses.

The study was also unique compared to current ADHD research because it involved investigating how individuals with ADHD symptoms manage daily obstacles, despite the importance of coping in terms of self-esteem and overall wellness.

The study can benefit clinical psychologists via assessing the relevance of coping styles, which can assist in developing successful interventions that are aimed at improving self-esteem and mental health outcomes. Clinical psychologists with expertise in this area can use treatment methods to help adults with ADHD symptoms maximize their ability to reach their personal, emotional, and educational goals. This study involved addressing problem-solving, stress management, and help-seeking behaviors, which are components of successful coping that are not currently addressed in current research regarding long-term functioning for adults with ADHD. Adults with untreated and/or undiagnosed attention impairments are more likely to demonstrate inadequate coping mechanisms and limited understanding of underlying causes of their issues. Results will supply individuals with ADHD symptoms an understanding of their behaviors regarding academic motivations and self-esteem. In addition, results of this study offer clinical psychologists' knowledge about adult ADHD symptoms, effective coping, and proactive management skills of childhood ADHD symptoms. Results can help academic programs by supplying detection strategies in early childhood so children with ADHD symptoms do not have to experience poor self-esteem that may impact their ability to achieve their

academic goals. This study will promote societal awareness regarding the significance of self-esteem on overall quality of life outcomes for this population.

Study findings can contribute to social change by addressing understudied adult ADHD populations and contributing to psychology research. Findings were intended to indicate the potential need for educational and institutional academic programs to address ADHD detection approaches during childhood. Teachers and parents can implement interventions based on coping styles in order to support children and adolescents with attention problems.

Summary

The purpose of this quantitative cross-sectional correlational study was to assess predictors of self-esteem among adults. Predictor variables were ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping. This study assisted in filling the literature gap by offering information for adult populations with ADHD symptoms in relevant professional fields. Surveys that measured each variable were used in the study. The study contributed to social change by supplying research about ADHD symptoms among adults compared to those with formal ADHD diagnoses. I looked at how people with ADHD symptoms deal with daily challenges despite implications of psychological coping mechanisms on self-esteem and general wellbeing. In Chapter 2, the literature search strategy, theoretical framework, and key variables are addressed.

Chapter 2: Literature Review

Adults with untreated or undiagnosed attention issues struggle with low self-esteem compared to those without these presenting concerns (Harpin et al., 2016; Pawaskar et al., 2020). People with low self-esteem may be less self-assured or inclined to pursue further education, which could hinder their success or overall life satisfaction (Harpin et al., 2016). Individuals with ADHD symptoms present difficulties managing negative thoughts and apprehensions, self-confidence, challenges in academic settings, irregular routines, and poor time management and interpersonal relationships (Kwon et al.,2018). Due to their low self-esteem, lack of or inefficient coping mechanisms, and mismanaged symptoms during childhood, adults who experience ongoing disappointment because of their ADHD symptoms may choose not to pursue further education or demonstrate poor educational attainment (Harpin et al., 2016). This study involved evaluating whether ADHD symptoms, social support, educational attainment, and coping predict self-esteem among adults. This study included participants with and without prior formal ADHD diagnoses and examined how they managed daily hindrances.

Literature suggests the need to study challenges faced by adults with ADHD symptoms regarding their self-esteem, social support, educational attainment, and coping. Students encounter a variety of possible stressful circumstances every day in the classroom, which can have a detrimental influence on both their academic performance and health (Freire et al., 2020). Coping is a profound mental, emotional, and motivational

factor in terms of student behavior that has a substantial effect on engagement, perseverance, self-control, and success (Freire et al., 2020).

Canela et al. (2017) noted understanding patients and their backgrounds through knowledge of self-generated coping mechanisms improves patient participation. Adults with ADHD implement maladaptive coping strategies such as confrontation, escape-avoidance, and less deliberate problem-solving (Young, 2005). Adults with attention and/or hyperactivity concerns have poorer life quality, poorer educational success, and higher levels of anxiety and depression compared to adults without attentional and hyperactivity concerns (Kwon et al., 2018; Pinho et al., 2019).

Challenges that college students with ADHD symptoms experienced were researched, and I categorized results into four themes: lack of daily routine, unsatisfactory academic performance and achievement, reduced interpersonal skills, and continuing worries. College students with ADHD experience challenges in terms of coping with negative thoughts and worries, academic underachievement, self-dissatisfaction, lack of self-esteem, inconsistent routines due to poor time management, and poor interpersonal relationships (Kwon et al., 2018). Research indicated adverse academic outcomes for individuals with ADHD symptoms and a connection between ADHD symptoms and self-esteem. Executive functioning, behavioral deficits, and adverse functional outcomes in various areas of life in childhood through adulthood are associated with diagnostic persistence of ADHD (Roselló et al., 2020). In addition, there is a relationship between persistent ADHD symptoms in early adulthood with executive,

behavioral, and functional deficits in terms of family life, social or educational contexts, and risky activities (Roselló et al., 2020)

ADHD symptoms can begin in childhood and lead to educational challenges that require coping styles (Willoughby & Evans, 2019). Students with ADHD or learning disabilities (LDs) have poorer self-compassion compared to the general public or students with other disabilities (Willoughby & Evans, 2019). In addition, students with ADHD or LD are more likely to self-criticize and less likely to have self-compassion (Willoughby & Evans, 2019). ADHD symptoms decrease self-compassion, but their influence on self-esteem has not been addressed.

This chapter includes a description of literature search methods and the theoretical framework. There is a discussion of literature on pertinent concepts and relationships. Associations between self-esteem, social support, educational attainment, and coping among adults with ADHD symptoms were addressed.

Literature Search Strategy

The Walden University Library was the main source to gather research. Databases and search engines were: SAGE Journals, PsycINFO, Taylor & Francis, EBSCOHost, and Google Scholar. Search terms and keywords were: *self-esteem*, *self-concept*, *self-worth*, *adult ADHD*, *ADHD symptoms*, *ADHD treatment*, *ADHD history*, *attention and/or hyperactivity problems*, *social support*, *educational attainment*, *academic achievement*, *educational level*, *underachievement*, *academic self-concept*, *coping*, *coping skills*, and *coping style*. I obtained information from peer-reviewed journals, book

chapters, and medical websites that were published between 1965 and 2023 but prioritized research published between 2019 and 2023.

Theoretical Foundation

Leary and Baumeister's sociometer theory was the theoretical framework for this study.

Leary and Baumeister (2000) stated self-esteem is a scale of perceived value that varies based on how much a person feels valued by those around them. People's strong desir to maintain and improve their self-esteem suggests that it is a significant and desirable outcome (Leary & Baumeister, 2000). Self-esteem acts as a qualitative indicator in terms of interpersonal appraisal, or how highly valued, significant, and close relationships are with other people (Leary & Baumeister, 2000). In addition, self-esteem functions as a sociometer that gauges how well people get along with one another and encourages actions that keep that person at least minimally accepted by others (Leary & Baumeister, 2000).

Self-esteem involves keeping track of how much acceptance one receives from friendship networks and warning them of potential risks to their sense of belonging (Cameron & Stinson, 2017).

In-the-moment feelings of acceptance and belonging are aspects of state self-esteem (Cameron & Stinson, 2017). Certain instances of approval and rejection are internalized to create a fairly predictable and comprehensive perception of an individual's value as a social partner (Cameron & Stinson, 2017).

People with higher self-esteem believe that they always have, currently, and will always be valuable to other people (Cameron & Stinson, 2017). In contrast, people with poorer self-esteem question their worth as partner companions and generalize these concerns to upcoming relationships (Cameron & Stinson, 2017). Global self-esteem is more consistent, while state self-esteem is extremely changeable to social situations (Cameron & Stinson, 2017). Although it might fluctuate in response to significant interpersonal encounters, overall global self-esteem is reasonably constant over a person's lifespan (Trzesniewski et al., 2003).

Sociometer Theory

The sociometer theory has not been applied to similar studies. There are no studies utilizing the theory to explain the self-esteem of individuals with attention problems. Few articles included the sociometer theory to describe coping and primarily focus on social support. However, there are two research articles that indirectly utilized the sociometer theory to explain coping. For example, social support might improve self-esteem, which can be perceived as a coping style (Kleiman & Riskind, 2013) or coping skills. In addition, in terms of self-esteem, social support was likely to have an impact on problem behavior (Leary, 1999). The sociometer theory's primary tenet was that motivation to uphold or improve self-esteem was less inherently impactful on behavior than a desire to preserve strong relationships with others (Leary, 1999). In regards to problem behaviors, when individuals do not feel like they are accepted and included

through socially acceptable means, they might attempt to increase overall social inclusion by participating in maladaptive behaviors (Leary et al., 1995).

Few research studies reported using the sociometer theory to explain educational attainment. However, the sociometer theory was researched to help explain educational attainment and determined that "educational identity might be driven by the academic achievement level, which is the feedback from the environment showing students how well their educational aspirations fit to their educational performance" (Pop et al., 2015, p. 135). In an educational setting, academic achievement or failure serves as a barometer of a student's progress, which can either support or jeopardize individuals' social acceptance and indirectly enhance or diminish their academic identity (Pop et al., 2015). Significant dedication to academics may increase individuals' ambition, which may result in advancements in academic achievement (Oyserman & Destin, 2010; Roeser et al., 2012).

Rationale

The sociometer theory was related to the present study because it emphasized the significance of self-esteem in major life domains. The sociometer theory indicated that an optimistic outlook on oneself results from having generally favorable relationships with pertinent individuals (Leary, 2005). Occasionally it appears an individual's self is influenced by factors that do not directly entail acceptance and rejection (Leary, 2005). Successes and failures in almost any field can impact self-esteem, such as educational, professional, or social domains (Leary, 2005). Individuals utilized seven life domains to

make up their self-worth, including "academics, appearance, approval from others, competition, family support, God's love, and virtue" (Crocker et al., 2003, p. 894). Although research has yet to formally examine this idea, the sociometer theory would imply that the influence of these factors on self-esteem is mediated by their ramifications for an individual's perceived relational value. Nobody would question such competence in achievement, or educational settings would directly affect how accepted or rejected a person feels (Leary, 2005). In addition, social acceptance and familial support are significant components of how an individual feels appreciated and accepted (Leary, 2005).

The research questions built upon the sociometer theory because minimal research exists regarding the relationship between ADHD treatment, ADHD symptoms, social support, gender, educational attainment, coping, and self-esteem among adults. Research exists that indirectly addresses the variables; therefore, the study contributed new data. For example, self-esteem is an indicator of effective coping (Bednar et al., 1989). People's self-esteem is positively impacted when dealing with a psychological threat and negatively impacted when they avoid it (Bednar et al., 1989). The degree of self-esteem impacts later coping, such as low self-esteem promotes avoidance while high self-esteem promotes more effective coping (Bednar et al., 1989). On the other hand, Leary and Baumeister (2000) reported two concerns with their theory. For example, Leary and Baumeister (2000) reported that the theory does not consider many of the proven causes and effects of self-esteem, and people who struggle to cope tend to have low self-esteem

and avoid hazards in their environment more often. Self-esteem is frequently boosted or reduced based on mood or environment (Brinton, 2011). Therefore, the approach would not always provide a fair portrayal of an individual's ability to cope (Brinton, 2011).

Literature Review Related to Key Variables and Concepts

The dependent variable in this research study was self-esteem. The objective of the present study was to determine whether ADHD symptoms, social support, educational attainment, and coping predict self-esteem among adults. In the subsequent section, the empirical literature on these variables will be described.

Attention Symptoms Among Adults

ADHD in adults is becoming more well-recognized (Targum & Adler, 2014). However, the symptoms and functional implications of ADHD, such as hyperactivity, impulsivity, distractibility, and inattention, commonly arise during childhood (Targum & Adler, 2014). While some adults with ADHD may experience a decrease in the hyperactive symptoms as they grow older, the inattention and distractibility symptoms frequently linger and exacerbate difficulties socially, interpersonally, academically, and occupationally (Targum & Adler, 2014; Huang et al., 2020). Adults frequently seek clinical services to regulate their ADHD symptoms because they have difficulty keeping up with their obligations academically, occupationally, or in their home lives (Huang et al., 2020). “Poor concentration, general disorganization, tendency to leave projects incomplete, inattention, impulsivity, poor school performance, difficulty functioning at

work, problems with time management, difficulty controlling their temper, and anxiety" are common symptoms described by adults with ADHD (Huang et al., 2020, p. 100).

Within the last ten years, the rate of adult ADHD has grown, and young adults are now more likely than children to be prescribed stimulants to manage their ADHD symptoms (Johansen et al., 2015). However, a large number of medical practitioners might believe they are unprepared to diagnose and manage adult ADHD as a result (Huang et al., 2020). Medical and psychological disorders that could contribute to the symptoms of inattention can make diagnosing adult ADHD more difficult (Huang et al., 2020). On the other hand, teaching coping skills may enhance psychosocial functioning in adults with ADHD (Canela et al., 2017). Individuals with ADHD may exhibit a varying degree of impairment, potentially due to the effective adoption of coping skills that lead to adaptive behavior (Canela et al., 2017). The coping styles independently developed by people with undiagnosed or untreated ADHD had not received much attention in research (Canela et al., 2017). However, an exploratory qualitative research study was conducted to determine coping strategies adults with ADHD use to manage their symptoms by performing semi-structured interviews (Canela et al., 2017). The study's findings indicated that there were five domains of compensatory strategies, which include organizational, motoric, attentional, social, and psychopharmacological (Canela et al., 2017).

Social Support

Social support is referred to and defined as the experience or view point that an individual is loved and cared for, respected and valued, and a component of a social network where responsibilities and mutual aid exist (Taylor, 2011; Wills, 1991). Social support is crucial to sustaining mental and physical well-being (Ozbay et al., 2007). Positive social support might improve stress resistance, prevent the development of trauma-related psychopathology, and reduce the functional implications of trauma-induced conditions (Ozbay et al., 2007). In addition, research suggested that perceived social support has a protective effect on mental health in stressful conditions (Eisman et a., 2015). Research has also indicated that perceived support quality is more strongly linked to mental health than the true nature of personal networks or connections (Li et al., 2021).

Furthermore, social support levels have been linked to self-esteem (Teoh & Afiqah, 2010). For example, as an essential coping resource, social support can help young people enhance their self-evaluation, establish a positive self-image, and improve their self-esteem (Lui et al., 2021). Social support proactively safeguards mental health, but it can also indirectly impact mental health by increasing self-esteem (Lui et al., 2021). Social support is also considered the most significant external resource for mitigating the adverse impacts of stressful events (Lui et al., 2021). At the same time, research has found that social support positively influences resilience (Lui et al., 2021). In addition, research measuring self-esteem and social support revealed that participants who received

more significant social support from parents and peers had a greater probability of having higher levels of self-esteem, which shielded them from depression symptoms (Teoh et al., 2010). The research also revealed that lower levels of perceived social support from students were linked with lower self-esteem and higher depression levels (Teoh et al., 2010). Therefore, social support may play an integral part in mitigating symptoms of depression and poor self-esteem (Teoh & Afiqah, 2010).

Educational Attainment

The educational domain is one of the areas in which individuals with attention problems have the potential to experience significant stressors. Educational attainment, also known as academic attainment, has been defined by the United States Census Bureau (2021) as the highest education level a person has completed. Educational attainment is also described as the progressive process that occurs due to continuous participation in learning institutions (Magnuson et al., 2016). Educational attainment demonstrates successful proficiency in academic competencies, including mathematics and reading abilities (Magnuson et al., 2016). However, educational attainment can also consist of behavioral skills, including maintaining focus during school, participating in classroom tasks, and adequately working with educators and other students (Alexander et al., 2014; Pungello et al., 1996).

Academic achievement is a complex concept that includes various learning domains and relies on specific criteria to evaluate it (Steinmayr et al., 2018). For example, knowledge developed within educational settings, performance on tests, and

educational degrees and certificates illustrate cumulative academic achievement markers (Steinmayr et al., 2018). Educational or academic attainment and academic achievement are both adversely impacted by ADHD symptoms. However, the focus of this research is on educational/academic attainment.

Education and health are essential factors for individual and societal well-being (Zajacova & Lawrence, 2018). Relative to their counterparts with lower education levels, adults with greater educational attainment tend to be healthier and live longer (Zajacova & Lawrence, 2018). One more year of education compared to none can cause significant differences by improving fundamental literacy and math abilities (Zajacova & Lawrence, 2018). Completing 14 years of schooling compared to 13 years may be involved with improved health through the acquisition of new information and abilities (Houle, 2013; Link & Phelan, 2006). In addition, education plays a critical part in improving individuals' psychological and general well-being based on data from the Chinese General Social Survey 2015 (Long et al., 2020). Improving an individual's health has been demonstrated to be indirectly impacted by education through three channels which include enhancing mental status, healthy behaviors, and economic status (Long et al., 2020). For example, education primarily enhances mental health by lowering the rate of depression and boosting well-being, but it has no discernible impact on increasing social trust (Long et al., 2020). Regarding healthy behaviors, education mainly works to enhance people's regularity of acquiring new information to improve their physical and mental health (Long et al., 2020). Concerning economic status, education primarily

enhances individual health by increasing the individual's and family's economic status (Long et al., 2020).

ADHD has been linked with poorer educational attainment (Sellers et al., 2021). Several studies have identified a connection between ADHD diagnoses and symptoms, and decreased levels of educational attainment in childhood, adolescence, and adulthood (Daley & Birchwood, 2010; Greven et al., 2011; Greven et al., 2014; Plourde et al., 2015; Snowling & Hulme, 2012; Tosto et al., 2015). ADHD symptoms had been linked to lower proficiency levels in reading, writing, and math regarding clinical and community samples (Daley & Birchwood, 2010). Furthermore, comorbid learning disorders and weaker cognitive capabilities are significantly associated with ADHD, which subsequently influences educational attainment (Sellers et al., 2021).

Coping

Coping is the procedure of regulating challenges, whether external or internal, that are considered demanding or surpassing an individual’s resources (Andersson & Willebrand, 2003). On the other hand, coping is defined as the active awareness of utilizing intellectual, emotional, or behavioral attempts to successfully manage externally inflicted incidents and difficulties that a person views as distressful or possibly damaging (Anshel, 2012). Coping also refers to one's assessment of their capacity to successfully manage obstacles in life (Chesney et al., 2006). Students encounter a variety of possible stressful circumstances every day in the classroom, which could have a detrimental influence on both their academic performance and health (Freire et al., 2020). Coping is

regarded as a profound mental, emotional, and motivational factor in student behavior that has a substantial effect on engagement, perseverance, self-control, and success (Freire et al., 2020).

Coping theorists commonly suggest that the coping process entails attempting to lessen experienced strain by engaging in a variety of thoughts, feelings, and behaviors focused on internal and external stressors (Anshel, 2012). That is, one thread which unifies most definitions of coping is the connection between an internal or external stressor and the individual's response to it. An individual's pattern of responses for managing stressors could be referred to as a coping style. Coping styles are the approaches people use to deal with stressors and are a collection of generally consistent qualities that define an individual's behavior in reaction to pressure (Algorani et al., 2022). These approaches to deal with stressors have also been refer to as coping strategies. For example, a person's ability to utilize coping strategies has a significant impact on how successfully they react to adverse situations (Zhao et al., 2022).

A significant number of adults with ADHD do not have pediatric diagnoses and frequently seek out treatment only due to co-occurring conditions (Canela et al., 2017). High-functioning individuals with effective coping mechanisms and strong psychological adjustment may not be identified with an ADHD diagnosis (Asherson et al., 2012). However, educating people with ADHD on coping strategies could enhance their psychosocial functioning (Canela et al., 2017). The wide spectrum of ADHD symptom severity may be due to adults' ability to adequately implement coping strategies that lead

to adaptive behavior (Asherson et al., 2012). There is a lack of research addressing the coping strategies that adults with undiagnosed or unmedicated ADHD identify and use independently (Canela et al., 2017). Furthermore, they suggested that understanding how individuals with ADHD manage their symptoms could shed light on the causes of the disorder's delayed or lack of diagnosis (Canela et al., 2017). To address this gap, they conducted a study to learn how adults with ADHD dealt with their symptoms before their diagnoses and treatment, what coping strategies they had acquired, and how they perceived these coping skills. The study's results revealed five primary categories of coping, which included organizational, motoric, attentional, social, and psychopharmacological (Canela et al., 2017). Uncommonly, ADHD symptoms were even thought to be helpful or viewed as individualized strengths under various conditions (Canela et al., 2017). The participants reported for the organizational skills domain that utilizing technology devices and checklists to schedule or remind themselves of their obligations were productive coping strategies (Canela et al., 2017). Explicitly structured and outlined plans were also beneficial organizational skills (Canela et al., 2017). To manage attention concerns and restlessness, participants reported that changing activities aided in sustaining attention and productivity as an organizational coping skill (Canela et al., 2017). The motoric coping skills identified to improve attentional concerns and restlessness included participating in physical activities, restricting movement through restraints, and fidgeting (Canela et al., 2017). The attentional coping skills included working in a setting with less distracting stimuli to function better and maintain focus

longer (Canela et al., 2017). The social coping skills identified were putting extra effort into being on time and avoiding strict obligations that need extra attention (Canela et al., 2017). Lastly, the psychopharmacological coping strategies, including caffeine, alcohol, tetrahydrocannabinol, and cocaine, were noted as having a calming effect (Canela et al., 2017). In addition, methylenedioxymethamphetamine was reported to improve cognitive performance, nicotine helped maintain attention, and amphetamines influenced motivation and prioritizing (Canela et al., 2017).

Self-Esteem

Self-esteem is defined as "the value people place on themselves" (Baumeister et al., 2003, p. 2) or an individual's favorable or unfavorable outlook about themselves (Rosenberg, 1965). "Self-esteem works to maintain positive self-views by processing feedback in a self-serving way" (Baumeister, 1998, p. 1048). In addition, self-esteem has been suggested to be better understood as a combination of psychological, biological, and social domains (Tripathi et al., 2019). Self-esteem directly affects health and social outcomes during adolescence and adulthood (Nguyen et al., 2019). For example, higher self-esteem is linked to positive outcomes such as successful careers, improved social connections, perception of overall well-being, favorable impressions by peers, academic attainment, and effective coping skills (Banaschewski et al., 2017). On the other hand, low self-esteem can be associated with suicide, substance addiction, and depression (Climie & Henley, 2016). Furthermore, low self-esteem is linked to detrimental

behavioral and mental health implications concerning risky behaviors, including substance abuse, early sexual activity, and eating disorders (Harpin et al., 2016).

Self-esteem has been associated with a number of psychological and physical health outcomes. A critical component of adequate psychological or mental health is having a high sense of value or positive self-esteem (Rouault et al., 2022). High self-esteem is linked with a better capacity to adequately manage distressing events in addition to how an individual copes with daily problems (Rouault et al., 2022). However, numerous mental illnesses, particularly those with an anxious and depressive component, have been connected to low self-esteem (Rouault et al., 2022). Individuals with low self-esteem frequently withdraw from activities more quickly than those with high self-esteem in the event of failure (Rouault et al., 2022). In addition, physical health outcomes are associated with self-esteem and psychological health outcomes. For example, people with good physical and psychological health, self-regulation, and tools for interpersonal-related inclusivity display more consistent positive self-esteem as they age (Wagner et al., 2015). Self-esteem could improve one's mental and physical health (Abtahi & Vallada, 2022). In addition, a study was conducted to identify why better physical health is connected to greater self-esteem by examining potential brain mechanisms connecting physical health and self-esteem (Lu et al., 2018). The study demonstrated that the hippocampus was a mediator between physical health and self-esteem (Lu et al., 2018). Considering that an individual's self-perception influences their behavior throughout their lifetime, self-esteem is regarded as a protective barrier from harmful outcomes, which

encourages and boosts health (Abtahi & Vallada, 2022). Furthermore, increased self-esteem encourages healthy coping skills, while decreased self-esteem may be associated with dangerous behaviors that may lead to injury or illness (Abtahi & Vallada, 2022).

The relationship between self-esteem and attention problems has also been researched. Adults with attention problems or ADHD frequently endure adverse outcomes throughout their lives due to receiving negative signals about their capabilities as children (Cook et al., 2014). As an adult, individuals with ADHD commonly discover they were not provided suitable support from services to address their attentional problems (Cook et al., 2014). Addressing attentional problems is crucial in reducing school dropout rates (Rasmussen et al., 2022). Furthermore, there is research on the relationship between diagnosing attention problems and self-esteem. For example, children with ADHD have lower levels of self-esteem than those without the diagnosis (Masten, 2019). In addition, untreated ADHD is linked to low global self-esteem. Adolescents with ADHD report above-average self-esteem and simultaneously lower levels of ADHD symptoms, suggesting self-esteem plays a preventive role in forming ADHD symptoms (Slomkowski et al., 1995). However, the precise role of self-esteem plays in the progression of long-term attention problems is still unclear (Henriksen et al., 2017).

Summary and Conclusions

I evaluated whether ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping predicted self-esteem among adults. The review of

literature suggested that associations exists between these factors. In addition, Leary and Baumeister's sociometer theory was used to describe how self-esteem impacts individual overall functioning.

ADHD symptoms, including hyperactivity, impulsivity, and inattention, often lead to functional impairments beginning in childhood and persisting into adulthood (Huang et al., 2020; Targum & Adler, 2104). In addition, ADHD symptoms are associated with lower academic attainment due to comorbid learning disorders, impaired cognitive capabilities (Sellers et al., 2021), and weaker proficiency levels in general educational (Daley & Birchwood, 2010). Academic underachievement, self-dissatisfaction, low self-esteem, and strained interpersonal connections are difficulties for people with ADHD to manage (Kwon et al., 2018).

although ADHD symptoms reduce self-esteem, their effects on self-esteem are rarely discussed, and it is still unknown exactly how self-esteem influences the development of long-term attention issues. In addition, research has not focused on coping styles that adults with undiagnosed or untreated ADHD have developed. Furthermore, educational attainment has yet to be researched in terms of self-esteem, social support, coping, and ADHD symptoms.

This study filled the literature gap and extended knowledge in the clinical psychology discipline by providing an understanding of how adults with ADHD cope with their symptoms and helped identify factors that contribute to lack of and delayed diagnoses. I included participants with and without prior formal ADHD diagnosis and

treatment. Incorporating participants without formal ADHD diagnoses led to information regarding why there are delayed and undiagnosed cases of ADHD. Coping styles revealed by this study can also be used to determine why severity of symptoms and academic impairments differ between individuals with ADHD symptoms, which further impacts self-esteem. I used the quantitative methodology and a nonexperimental correlational survey research design. In Chapter 3, the research design and methodological approach for this study are further discussed.

Chapter 3: Research Method

The purpose of this study was to assess if ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping predict self-esteem among adults. A quantitative cross-sectional correlational survey design was used to measure variables that impacted self-esteem among adults. Chapter 3 includes an explanation of the research design and rationale for the study. I discuss the target population, sampling procedures, and power analysis to determine sample size. Procedures for recruitment, participation, and data collection are discussed, as well as instrumentation and operationalization of constructs, data analysis plan, threats to validity, and ethical procedures.

Research Design and Rationale

Independent variables in the study were ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping, and the dependent variable was self-esteem. A quantitative research methodology was used for the study. The quantitative methodology involves investigating numerical trends to examine psychological, social, and economic phenomena (Coghlan & Brydon-Miller, 2014). Quantitative research studies involve using statistical data collection methods to identify relationships among topics, contexts, and variables (Albers, 2017). I used the quantitative methodology to address this topic.

A quantitative cross-sectional correlational survey design was the appropriate design choice to simultaneously measure participant outcomes. Cross-sectional studies

involve selecting participants via predetermined inclusion and exclusion criteria (Setia, 2016). I only included adults in the sample population; time and resource constraints were not present. Cross-sectional research designs are commonly used to determine prevalence of conditions via population-based surveys and clinical samples (Setia, 2016). In addition, variables are not manipulated in cross-sectional designs, and data are collected only once as compared to multiple times in longitudinal studies (Cummings, 2017).

The qualitative research methodology was not selected for the stud because its purpose is to gain a deeper understanding of participants' experiences compared to identifying relationships and predicting variables. Qualitative research involves a smaller population size, which was not appropriate for the study in order to advance knowledge in the discipline.

The study's research question and hypotheses were:

RQ1: Do ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping significantly predict self-esteem among adults?

$H_0$1: ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping do not significantly predict self-esteem.

H_a1: ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping significantly predict self-esteem.

Methodology

Population

The target population of the study were adults living in the U.S. According to the U.S. Census Bureau (2021), there is an estimated 258.3 million adults in the U.S. In addition, according to the World Population Review (2023), there are 264,137,817 adults in the U.S. in 2023. The target population size for this study was 146 participants; a total of 272 participated.

Sampling and Sampling Procedures

I used a nonprobability convenience sampling strategy. Convenience sampling involves employing participants that are convenient for the researcher, and they are obtained randomly without using a specific pattern (Galloway, 2005). Convenience sampling is used for gathering a variety of viewpoints and ideas as well as identifying hypotheses that can be systematically investigated in future studies (Galloway, 2005). This is practical because it is inexpensive, straightforward, and requires less time than other sampling procedures. Convenience sampling was also appropriate because it was valuable when generating possible hypotheses and research goals. Survey instruments were uploaded via the SurveyMonkey website. Participants completed surveys electronically. Participants were required to be 18 or older living in the U.S. Individuals who were under 18 were not included in the study.

To determine the sample size for this study, a power analysis was conducted using G*Power software. A power analysis is used to identify the appropriate sample size for a

study to ensure the power is sufficient to determine statistical significance (Suresh & Chandrashekara, 2012). According to Kang (2021), "The sample size calculation and power analysis are determined by the following factors: effect size, power (1-β), significance level (α), and type of statistical analysis" (p. 2). G*Power software is commonly used to determine sample size and power for different statistical methods. Via a multiple linear regression test, G*Power calculations revealed an effect size of 0.15, alpha level of 0.05, and power level of 0.95 for the six predictor variables. Degree of variation in terms of an outcome or strength of a relationship is indicated by effect size (Peterson & Foley, 2021). Alpha level determines the likelihood of committing a type I error or rejecting a true null hypothesis (Banerjee et al., 2009). In addition, power analyses are used to determine the minimum number of participants to avoid type I and type II errors (Jones et al., 2003). Based on parameters, G*Power results indicated a sample size of 146 participants was required for the linear multiple regression analysis.

Procedures for Recruitment, Participation, and Data Collection

The data collection process began after approval by Walden University's Institutional Review Board (IRB). I collected participants' age, gender, income, ethnicity, and highest level of education. No personal identifiable information was collected. I used an anonymous data collection protocol. Prospective participants were recruited via a flyer advertisement which was posted on Facebook and Instagram as well as Walden University's research participant pool.

Study surveys were completed online and available via SurveyMonkey. The flyer included a link to the study's informed consent form. This form was also available through SurveyMonkey. I first described the study's purpose, participants' rights to withdraw, and approximate completion time (15 minutes). I ensured privacy because participants completed surveys independently, and identifying data such as participants' names and contact information were not collected. Myself, my chair, and committee member were the only individuals with access to data, which were secured in SurveyMonkey. The questionnaire was administered electronically; therefore, there were no formal exit procedures. In addition, there were no followup procedures for this study.

Instrumentation and Operationalization of Constructs

Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale is a 10-item self-report questionnaire used to assess individual self-esteem (Rosenberg, 1965) (See Appendix B). The Rosenberg Self-Esteem Scale consists of a 4-point Likert scale format in which responses range from Strongly Agree, Agree, Disagree, and Strongly Disagree (Rosenberg, 1965). An example of an item includes "I feel that I'm a person of worth, at least on an equal plane with others" and "at times I think I am no good at all" (Rosenberg, 1965). Strongly Disagree = 1 point, Disagree = 2 points, Agree = 3 points, and "Strongly Agree" = 4 points (Rosenberg, 1965). However, questions 2, 5, 6, 8, and 9 are reverse scored (Rosenberg, 1965). The items' sum is scored on a continuous scale where higher scores suggest higher self-esteem (Rosenberg, 1965).

Research is geared toward authenticating the Rosenberg Self-Esteem Scale's psychometric properties among multicultural populations and people with disabilities or conditions, across gender and age ranges, or from various countries (Park & Park, 2019). For example, Schmitt and Allik (2005) conducted a study researching the Rosenberg Self-Esteem Scale across 28 languages to 16,998 participants from 53 countries. The results indicated a mean internal consistency of 0.81, while the highest internal consistency of 0.90 was in Israel and England (Schmitt & Allik, 2005). In addition, Hagborg (1993) discovered an internal consistency of 0.89 when researching the relationship between the Rosenberg Self-Esteem Scale and the Self-Perception Profile for Adolescents (SPPA) among 150 adolescents with education levels varying from eight to twelfth grade. Carroll and Coetzer (2011) researched the traumatic brain injury (TBI) population and determined a high internal consistency, such as a Cronbach's alpha of 0.89. Martín-Albo et al. (2007) researched the reliability and validity of the Rosenberg Self-Esteem Scale's translated Spanish version twice using a sample of 420 university students. The findings determined that Cronbach's alpha was 0.85 on the first assessment and 0.88 on the second (Martín-Albo et al., 2007). Furthermore, Vermillion and Dodder (2007) assessed the construct validity of the Rosenberg Self-esteem Scale by examining 68 wheelchair basketball university student-athletes in the United States. The findings indicated that the Cronbach alpha was .86 (Vermillion & Dodder, 2007). Internal consistency (Cronbach's alpha) for the present study was computed as .85.

Multidimensional Scale of Perceived Social Support

The Multidimensional Scale of Perceived Social Support (MSPSS) is a self-reported, 12-item scale used to determine a person's perceived social support regarding three subscales: Family, Friends, and Significant Other (Zimet et al., 1988). The Multidimensional Scale of Perceived Social Support (MSPSS) questionnaire is scored on a scale of 1 to 7. The item coding includes 1 = Very Strongly Disagree, 2 = Strongly Disagree, 3 = Mildly Disagree, 4 = Neutral, 5 = Mildly Agree, 6 = Strongly Agree, and 7 = Very Strongly Agree. The original study showed that the MSPSS had moderate construct validity and internal and test–retest reliability (Zimet et al., 1988).

The Multidimensional Scale of Perceived Social Support's Cronbach's alpha for the validation study was 0.88, and the Korean-translated scale was 0.90. However, Kim et al. (2022) measured the reliability and validity of the multidimensional scale of perceived social support among 190 Korean breast cancer survivors. The findings indicated that when utilizing the entire scale, Cronbach's alpha was 0.91, whereas the internal consistency for subsections includes 0.96 for spouse, 0.90 for family, and 0.90 for friends (Kim et al., 2022). In addition, cultural variations can alter how people perceive social support, which may impact the instrument's structural validity (Pérez-Villalobos et al., 2021). Therefore, Pérez-Villalobos et al. (2021) also measured the reliability and validity of the scale regarding the impact of social support on the mental health of 399 older adults in Chile. The findings indicated Cronbach's alpha of 0.9 respectively (Pérez-Villalobos et al., 2021). Furthermore, De Maria et al. (2018) assessed the psychometric

properties of the Multidimensional Scale of Perceived Social Support among 236 patients with chronic diseases. The findings revealed that Cronbach's alpha was equal to or greater than 0.89 (De Maria et al., 2018). For the present study, a Cronbach alpha of .93 was computed.

Adult ADHD Self-Report Screening Scale for DSM-5

The Adult ADHD Self-Report Screening Scale for DSM-5 (ASRS-5) is a brief screening tool used to determine present ADHD symptoms (Ustun et al., 2017). A 5-point Likert scale is used to identify the severity of the symptoms, which includes: Never = 0, Rarely = 1, Sometimes = 2, Often = 3, and Very Often = 4 (Ustun et al., 2017). A score of 14 or higher is indicative of ADHD (91.4% sensitivity, 96.0% specificity) (Ustun et al., 2017). The total possible score is 24, while scores 14 and above indicate a higher probability of ADHD, and scores lower than 14 indicate a smaller probability of ADHD (Ustun et al., 2017). For the purpose of this study, simple scoring will be used, thus using the 0-24 as a predictor, without any clinical cutoff. Higher scores indicate higher attention symptomatology.

The psychometric properties of the Adult ADHD Self-Report Screening Scale for DSM-5, among various versions around the world, have been confirmed as reliable and valid. For example, Baggio et al. (2021) measured the diagnostic accuracy of the Adult ADHD Self-Report Scale for DSM-5 French version among 557 participants with and without comorbid conditions. The results indicated that the screening questionnaire was a reliable indicator of an ADHD diagnosis cut-off score $\geq$ 13/24: sensitivity = 84.3%,

specificity = 91.9%) (Baggio et al., 2021). In addition, Ballmann et al. (2022) assessed the reliability and validity of the Adult ADHD Self-Report Screening Scale for DSM-5 German version among 262 participants in primary care and ADHD outpatient services. The results indicated Cronbach's $\alpha = 0.88$, and the psychometric features of the German ASRS-5 were similar to those of the English version (sensitivity 95.6% and specificity 72.3%) (Ballmann et al., 2022). Internal consistency (Cronbach's alpha) was .74 for the present study.

Brief Coping Orientation of Problem Experience Inventory

The Brief Coping Orientation of Problem Experience Inventory is a 28-item self-report questionnaire that assesses a wide variety of coping responses (Carver, 1997). The Brief Coping Orientation of Problem Experience Inventory was derived from the original 60-item COPE scale (Carver, 1997). The Brief Coping Orientation of Problem Experience Inventory consists of a 4-point Likert scale format in which responses range from, 1 = I haven't been doing this at all, 2 = I've been doing this a little bit, 3 = I've been doing this a medium amount, and 4 = I've been doing this a lot (Carver, 1997). The questionnaire also contains three general subcategories to determine an individual's prominent coping style, which include, Problem-Focused Coping, Emotion-Focused Coping, and Avoidant Coping (Carver, 1997).

The validity and reliability of the Brief Coping Orientation of Problem Experience Inventory has been supported across various settings and cultural backgrounds. For example, a study conducted by Rahman et al. (2021) aimed to validate

whether the psychometric characteristics of the Brief Coping Orientation of Problem Experience Inventory were culturally compatible among 423 female nurses from the United Arab Emirates. The findings revealed that Cronbach's alpha ranged from 0.81 to 0.88 (Rahman et al., 2021). In addition, DeDios-Stern et al. (2017) also discovered that the Brief Coping Orientation of Problem Experience Inventory had good internal consistency and a Cronbach's alpha ranging from 0.72–0.84 among dementia patient caregivers, specifically when associated with emotion-focused, problem-focused, and dysfunctional coping strategies. Furthermore, Wise et al. (2023) aimed to develop and enhance the construct validity and reliability of the Brief Coping Orientation of Problem Experience Inventory among 343 Australian rehabilitation health professionals. The research study's results indicated a Cronbach's alpha ranging from 0.72 to 0.82 (Wise et al., 2023). Internal consistency (Cronbach's alpha) was .89 for the present study.

Data Analysis Plan

The data was analyzed via the SPSS software program. The information entered into SPSS was compared to the responses submitted from the initial questionnaires to ensure the data was accurate. To discover potential skewness, outliers, and missing statistics, the data included an analysis of the means, medians, and standard deviations.

A multiple regression analysis was performed to test the hypotheses. Multiple regression is a statistical method for examining the relationship between one dependent variable and an array of independent variables (Moore et al., 2006). A multiple regression analysis utilizes the identified value of the independent variables to predict the sole

dependent variable's significance (Moore et al., 2006). In addition, the variable, gender, was dummy-coded when entered into the multiple regression analysis. The alpha level for statistical significance was placed at .05 when assessing the hypotheses. The results were interpreted by the means, medians, standard deviations, confidence intervals, significance, standardized and unstandardized coefficients, Adjusted R Square, p-value, coefficient of determination, and F-statistic.

Threats to Validity

The validity of the research is determined by how accurately the findings among its participants reflect those of comparable people beyond the study (Patino & Ferreira, 2018). Validity in research design refers to the precision and dependability of the tools utilized and that the results are generated with minimized systemic errors (Chander, 2018). The validity of the research can be increased by identifying the study's goals, objectives, and aligning the assessment criteria with the study's purpose (Chander, 2018). In addition, there are two types of validity which include internal validity and external validity. Internal validity refers to the procedures or guidelines researchers use to ensure accurate results (Chander, 2018). On the other hand, external validity describes how well a study's findings may be applied to individuals in routine clinical settings, particularly among the population the sample intends to reflect (Patino & Ferreira, 2018). However, several internal and external validity threats can arise throughout the research.

Threats to Internal Validity

Internal validity refers to how trustworthy are our inferences about the relationship between variables in our study. Internal validity can be threatened by several elements, such as the subject's size, nature, or variability (Chander, 2018). Threats to internal validity can arise due to measurement errors or incorrectly selecting study participants (Patino & Ferreira, 2018). Internal validity can also be impacted by retention of the participants, maturation, time required for assessment, history, and instrument or measurement sensitivity (Chander, 2018). Internal validity is usually associated with the degree to which we can make inferences of causal relationship between independent and dependent variables in experimental studies. Experimental studies rely on highly controlled settings to minimize any potential threats to validity. Although most of the threats to internal validity associated with experimental and quasi-experimental research designs do not apply to correlational research, some are relevant. For example, selection of participants was relevant to this study. Since the present study employed a non-randomized participant selection procedure, it was possible that hypothesized relationships among variables were influenced by participant characteristics such as age, motivation, education, and others. Furthermore, although the cross-sectional nature of this study minimized most issues associated with the history threat to internal validity, it was possible that unanticipated personal or environmental events may have altered participants' understanding of survey items.

Threats to External Validity

Examining a study's external validity determines whether its findings may be generalized in various matters (Andrade, 2018). The current study's target population wasadults living in the United States. However, we were interested in symptoms associated with attention problems. Therefore, the information gathered, and the research study findings relied on the data from the target population of interest. In addition, the data collected in the study may not generalize due to the non-probability convenience sampling strategy. That is, inferences could be made about the general population of adults, but not necessarily to adults with ADHD symptoms.

Threats to Statistical Conclusion Validity

Statistical conclusion validity involves the degree to which data-driven statistical judgments are appropriate and correct (García-Pérez, 2012). Common threats to statistical conclusion validity are forming inaccurate statistical decisions which result in Type-I and Type-II errors (García-Pérez, 2012).

Ethical Procedures

To obtain approval to conduct the current study, the necessary documents were submitted to Walden University's Institutional Review Board (IRB). Gaining IRB acceptance helped guarantee the study was performed ethically. The study also presented minimal risk to the participants. The participants received an informed consent form (See Appendix A) describing the study's purpose, relevant details, and contact information. The informed consent explained confidentiality and the participant's rights, such as the

ability to withdraw from completing the questionnaires at any time. The participant recruitment was coordinated in a manner that was non-coercive because the informed consent indicated the study's purpose and the participant's right to withdraw at any time. The informed consent also stated that participants involvement in this study was entirely voluntary and there were no risks or rewards. Participants were not faced with any consequences if they declined to take part in the study, and they could stop at any moment. There were also no compensations or payments associated with this study.

The sample population did not include vulnerable groups, which minimized ethical concerns. According to Walden University guidelines, the data was kept safely and will be erased after five years. The researcher and dissertation chair are the only individuals with access to the data. There were no potential conflicts of interest or ethical concerns because the participants responses remained anonymous. Participants names and contact information were not collected.

Summary

Chapter 3 included information about the study methodology. This quantitative cross-sectional correlational survey study involved assessing if ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping predicted self-esteem among adults. The independent variables were ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping, and the dependent variable was self-esteem. The target population was adults who were 18 and older living in the U.S. SurveyMonkey was used to send questionnaires to participants for data

collection. Data were entered into SPSS for multiple regression statistical analyses. Demographic questions were used to address highest level of education, age, ethnicity, household income, and gender. Additional demographic questions included whether participants had formal ADHD diagnoses and whether they received ADHD treatment. Ethical procedures were followed throughout the study. Study findings and data analysis procedures are addressed in Chapter 4.

Chapter 4: Results

The purpose of this quantitative study was to determine what factors predict self-esteem among adults living in the U.S. Individuals who participated in this study were between 18 and 83. I measured whether ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping predicted self-esteem among adults. Chapter 4 includes an explanation of the data collection process and results of the study.

The research question and hypotheses for the study were:

RQ1: Do ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping significantly predict self-esteem among adults?

$H_0$1: ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping do not significantly predict self-esteem.

H_a1: ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping significantly predict self-esteem.

Data Collection

In this section, I address the data collection timeframe, response rates, discrepancies, demographic characteristics and representativeness of the sample, and results of multiple regression analyses.

Timeframe, Response Rates, and Discrepancies

Data collection began after receiving approval from the Walden University IRB (#11-06-23-0740135). Questionnaires were entered into SurveyMonkey. Participants were recruited via a flyer advertisement which was posted on Facebook, Instagram, and

Walden University's research participant pool. The flyer contained a link to the SurveyMonkey website where participants completed surveys electronically. After the first day of the flyer's posting, 16 participants completed surveys. After 5 days, 146 participants completed surveys, which was the minimum sample size needed according to G*Power.

However, there was a significant discrepancy in terms of gender, with a predominantly female sample. Therefore, the quota sampling strategy was implemented in order to obtain a larger number of male participants to address the gender discrepancy. The quota sampling strategy involves a sample that is chosen from a population that has been segmented into smaller groups (Iliyasu & Etikan, 2021). Quota sampling depends on random selection and employing a convenience approach throughout each subgroup (Futri et al., 2022). The survey was closed after 3 weeks, and the gender gap was minimized after reaching 292 participants. Although 292 participants started the survey, only 272 completed it. There were no missing data from participants who fully completed the survey. However, there were 20 participants who were removed from the sample because the survey was not completed.

There were no significant discrepancies in terms of data collection compared to the plan that was presented in Chapter 3. In addition, quota sampling was incorporated as a sampling technique to gather a larger number of male participants.

Demographic Characteristics of the Sample

Of the 272 participants, 146 (53.7%) were women and 125 (46.0%) were men. The mean age was 41.40 (*M* = 41.40; *SD* = 17.22). Regarding ethnicity, 231 (84.9%) participants were White, 15 (5.5%) were Hispanic or Latino, 13 (4.8%) were Black or African American, 8 (2.9%) were Asian/Pacific Islander, and five (1.8%) were none of the above. There were no participants who reported their ethnicity as Native American or American Indian. Regarding household income, eight (2.9%) participants reported their household income between $0 and $20,000, seven (2.6%) had incomes between $20,001 and $40,000, 22 (8.1%) had incomes between $40,001 and $60,000, 29 (10.7%) had income was between $60,001 and $80,000, 46 (16.9%) had incomes between $80,001-$100,000, 142 (52.2%) reported incomes greater than $100,001, and 18 (6.6%) participants preferred not to answer. Regarding highest level of education, 24 (8.8%) participants reported having a high school degree or equivalent (e.g., GED), 29 (10.7%) reported having some college but no degree, 13 (4.8%) reported having an associate's degree, 136 (50.0%) reported having a bachelor's degree, and 70 (25.7%) reported having a graduate degree. There were no participants who reported having less than a high school degree.

In addition, 47 (17.3%) participants were diagnosed with ADHD by a licensed professional, and 225 (82.7%) had not been diagnosed with ADHD or were unsure whether they had been diagnosed. Likewise, 47 (17.3%) participants had been treated for an attention problem while 225 (82.7%) had not.

Representativeness of the Sample

The U.S. Census Bureau (2023) indicated the number of females who are 18 years in the U.S. in 2022 was 132,627,446, while there were 128,209,284 males. There were more female participants compared to males. The U.S. Census Bureau revealed that the median age of adults residing in the U.S. in 2022 was 38.9. The mean age of the sample population for this study was 41.40, which is similar to the overall population. In 2022, median household income was $74,580 (Guzman & Kollar, 2023). However, only 10.7% participants household incomes were between $60,001 and $80,000.

The U.S. Census (2022) indicated 75.5% of U.S. citizens are White, 19.1% are Hispanic or Latino, 13.6% are Black or African American, 6.3% are Asian, and 0.3% are Native Hawaiian or other Pacific Islander. For this study, the predominant ethnicity was White, followed by Hispanic or Latino, Black or African American, and Asian/Pacific Islander.

Basic Univariate Analyses

Means and standard deviations for variables in the study were as follows: ADHD symptoms (M = 15.74; SD = 4.09), social support (M = 67.06; SD = 12.65), coping (M = 80.11; SD = 12.78), and self-esteem (M = 30.90; SD = 4.82). In addition, statistics for gender, age, ethnicity, household income, educational attainment, ADHD treatment, and ADHD diagnosis are addressed.

Results of Statistical Analyses

This section presents the results of statistical tests evaluating the study's hypotheses. The study proposed two hypotheses which include the null and alternate hypothesis. Table 1 displays the correlations for the following variables: Self-Esteem, Coping, ADHD Symptoms, Gender, ADHD Treatment, Social Support, and Educational Attainment.

Table 1

Bivariate Correlations Among Variables

		1	2	3	4	5	6	7
1	Self-Esteem	--						
2	Coping	.37**	--					
3	Symptoms	-.55**	-.36**	--				
4	Gender	.09	.05	-.09	--			
5	Treatment	-.27**	-.21	.34**	-.09	--		
6	Social Support	.42**	.14*	-.18**	-.07	-.14*	--	
7	Education	.13*	.03	.00	-.04	-.01	.16**	--

*Note. * p < .05., **p < .01.*

Cohen (1988) indicated the guidelines to determine the strength of the effect size between variables which includes: small *r* =.10 to .29, moderate *r* =.30 to .49, and large *r* =.50 to 1.0. Therefore, there was a moderate, positive correlation between self-esteem and coping, $r = .37$, $n = 272$, $p < .01$. There was a large, negative correlation between self-esteem and ADHD symptoms, $r = -.55$, $n = 272$, $p < .01$. There was a small, positive

correlation between self-esteem and gender, $r = .09$, $n = 272$, $p = .13$. There was a small, negative correlation between self-esteem and ADHD treatment, $r = -.27$, $n = 272$, $p = .00$. There was a moderate, positive correlation between self-esteem and social support, $r = .42$, $n = 272$, $p < .01$. There was a small, positive correlation between self-esteem and educational attainment, $r = .13$, $n = 272$, $p < .05$.

There was a moderate, negative correlation between coping and ADHD symptoms and $r = -.36$, $n = 272$, $p < .01$. There was a small, positive correlation between coping and gender, $r = .05$, $n = 272$, $p = .46$. There was a small, negative correlation between coping and ADHD treatment, $r = -.21$, $n = 272$, $p = .00$. There was a small, positive correlation between coping and social support, $r = .14$, $n = 272$, $p < .05$. There was a small, positive correlation between coping and educational attainment, $r = .03$, $n = 272$, $p = .61$. There was a small, negative correlation between ADHD symptoms and gender, $r = -0.9$, $n = 272$, $p = .15$. There was a moderate, positive correlation between ADHD symptoms and ADHD treatment, $r = .34$, $n = 272$, $p < .01$. There was a small, negative correlation between ADHD symptoms and social support, $r = -.18$, $n = 272$, $p < .01$. There was no correlation between ADHD symptoms and educational attainment, $r = .00$, $n = 272$, $p = .99$.

There was a small, negative correlation between gender and ADHD treatment, $r = -0.9$, $n = 272$, $p = .86$. There was a small, negative correlation between gender and social support, $r = -0.7$, $n = 272$, $p = .24$. There was a small, negative correlation between gender and educational attainment, $r = -0.4$, $n = 272$, $p = .57$. There was a small, negative

correlation between ADHD treatment and social support, $r = -.14$, $n = 272$, $p < .01$. There was a small, negative correlation between ADHD treatment and educational attainment, $r = -.01$, $n = 272$, $p = .85$. There was a small, positive correlation between social support and educational attainment, $r = .16$, $n = 272$, $p < .01$.

The main purpose of this study was to assess whether ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping predicted self-esteem among adults. The null hypothesis included: ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping do not significantly predict self-esteem. The alternate hypothesis included: ADHD symptoms (negatively), ADHD treatment history (positively), social support (positively), gender (women higher than men), educational attainment (positively), and coping (positively) significantly predict self-esteem. A multiple regression analysis was conducted to predict a relationship between the variables. In addition, the demographic characteristics and basic univariate analyses section presents the means and standard deviations of the variables. Table 1 presents a correlation matrix with correlations for the variables.

In the multiple regression analysis, ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping were the independent variables and self-esteem was the dependent variable. Statistical assumptions were also evaluated among the variables. In running a linear regression collinearity assessment to test for key assumptions, the findings did not present any multicollinearity problems among variables. The SPSS findings indicated multicollinearity problems were not present

because all of the VIF values were significantly less than 10 and the tolerance values were higher than .10. In addition, an inspection of the Normal Probability Plot of the Standardized Residuals suggested no deviation from normality. The Scatterplot of Standardized Residuals suggested a generally rectangular shape. A majority of scores near zero and all scores between the 3 to -3 range suggesting outliers were not present. Based on these analyses, the assumptions were met (see Table 2).

Table 2

Summary of Multiple Regression Analysis for Variables Predicting Self-Esteem

Variable	*B*	*SE B*	β	*t*	*p*
ADHD Treatment	-.70	.63	-.06	-1.12	.26
Coping	.06	.02	.16	3.24	.001
Social Support	.12	.02	.31	6.43	.000
ADHD Symptoms	-.48	.06	-.41	-7.77	.000
Gender	.71	.44	.07	1.60	.11
Educational Attainment	.32	.19	.08	.1.70	.09

The Adjusted R Square illustrates that 44% variance of the dependent variable is predicted or explained by the combination of the independent variables. For example, the multiple regression model displays that 44% of the variability in participant's self-esteem is explained by the combination of ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping. The results also indicate statistical significance (p = < .001) and a moderate, positive effect size (R = .67). In addition, the

data exhibited a significant model, $F(6, 272) = 34.95$, $p < .001$, and a moderate effect, $R^2 = .44$.

The unstandardized coefficients suggest for every one unit increase in participant's ADHD treatment, their self-esteem will change by -.70, controlling for their ADHD symptoms, social support, gender, educational attainment and coping. The standardized coefficients illustrate that for every one standard deviation unit increase in ADHD treatment, self-esteem will change by -.06 standard deviations. However, ADHD treatment did not significantly predict self-esteem ($\beta = -.06$, $p = .26$). On the other hand, for every one unit increase in participant's ADHD symptoms, their self-esteem will change by -.48, controlling for their ADHD treatment, social support, gender, educational attainment, and coping. For every one standard deviation unit increase in ADHD symptoms, self-esteem will change by -.41 standard deviations. ADHD symptoms was a statistically significant predictor of self-esteem ($\beta = -.41$, $p < .001$).

For every one unit increase in participant's social support, their self-esteem will change by .12, controlling for their ADHD treatment, ADHD symptoms, gender, educational attainment, and coping. For every one standard deviation unit increase in social support, self-esteem will change by .31 standard deviations. Social support was a statistically significant predictor of self-esteem ($\beta = .16$, $p < .001$). In addition, gender was not a statistically significant predictor of self-esteem ($\beta = .07$, $p = .11$).

For every one unit increase in participant's educational attainment, their self-esteem will change by .32, controlling for their ADHD treatment, ADHD symptoms,

social support, gender, and coping. For every one standard deviation unit increase in educational attainment, self-esteem will change by .08 standard deviations. Educational attainment was not a statistically significant predictor of self-esteem (β = .08, p = .09). Furthermore, for every one unit increase in participant's coping, their self-esteem will change by .06, controlling for their ADHD treatment, ADHD symptoms, social support, gender, and educational attainment. For every one standard deviation unit increase in coping, self-esteem will change by .16 standard deviations. Coping was a statistically significant predictor of self-esteem (β = .16, p = .001).

Summary

Chapter 4 included results of statistical analyses of survey responses for 272 participants. Data showed the sample of adults varied in terms of ages, gender, ethnicities, educational levels, and income. A multiple regression analysis was conducted to assess whether ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping predicted self-esteem among adults. Bivariate correlations were conducted to assess relationships between variables. I also addressed whether participants were diagnosed with ADHD by a licensed professional or received ADHD treatment. Results revealed ADHD symptoms, social support, and coping were statistically significant predictors of self-esteem. However, ADHD treatment, gender, and educational attainment were not statistically significant predictors of self-esteem. Chapter 5 includes interpretations of findings, limitations of the study, recommendations for future research, and social change implications.

Chapter 5: Discussion, Conclusions, and Recommendations

This study, grounded in Leary and Baumeister's sociometer /theory, involved understanding predictors of self-esteem among adults. A nonexperimental correlational survey design was used to assess whether ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping predicted self-esteem among adults. Participants for this study were adults between 18 and 83 living in the U.S. Participants completed a demographic questionnaire and four Likert scale questionnaires. After removing participants who did not fully complete the survey, a total of 272 participants were included in the analysis.

A multiple regression analysis and bivariate correlations were performed to test hypotheses. Results of multiple regression analyses indicated ADHD symptoms, social support, and coping significantly predicted self-esteem. However, ADHD treatment, gender, and educational attainment did not predict self-esteem. This chapter includes interpretations of findings, limitations of the study, recommendations for further research, implications for social change, and a conclusion.

Interpretation of the Findings

I focused on ADHD treatment, ADHD symptoms, gender, social support, educational attainment, and coping as predictors of self-esteem. The theoretical framework was analyzed while considering results of the present study as well as literature on self-esteem.

Predictors of Self-Esteem

The study's main purpose was to identify if proposed variables contributed to statistical variance of self-esteem in adults. I was particularly interested in the role of inattention and hyperactivity symptoms and treatment history. In this section, I discuss how each of the proposed predictors contributed to variance in self-esteem. I focus mostly on multiple regression analysis results, as well as bivariate correlations. First, I discuss variables which were found to significantly predict self-esteem, followed by those which did not significantly predict self-esteem.

ADHD Symptoms

ADHD symptoms were the strongest predictor of self-esteem according to the multiple regression analysis. ADHD symptoms negatively explained 41% of the variance in self-esteem. This means that the more ADHD symptoms participants reported, the lower their self-esteem. Previous literature on the relationship between ADHD symptoms and self-esteem aligned with this study's findings. Individuals with untreated ADHD suffered from more adverse self-esteem outcomes compared to those without ADHD or those receiving ADHD treatment (Harpin et al., 2016). ADHD symptoms can include hyperactivity, impulsivity, distractibility, and inattention (Targum & Adler, 2014). Children with ADHD have lower levels of self-esteem compared to those without the diagnosis (Masten, 2019). Executive functioning, behavioral deficits, and adverse functional outcomes throughout childhood or adulthood are associated with diagnostic persistence of ADHD (Roselló et al., 2020).

Since ADHD symptoms adversely impact overall functioning, self-esteem inevitably lowers, resulting in a significant relationship between these variables. Symptoms of ADHD include difficulties with attention, organization, and impulsivity, making it more challenging to meet expectations. In addition, continuous disappointment due to disruptive ADHD symptoms in daily living may consequently impact self-esteem and views of their abilities or self-worth. Adults who consistently struggle in managing their ADHD symptoms may begin to doubt their ability to succeed, which can cause them to become discouraged and frustrated, negatively affecting their self-esteem.

An increase in ADHD symptoms is associated with lowers levels of self-esteem. Although psychological mechanisms that explain that relationship have been less studied, ADHD symptoms have significant consequences on interpersonal relationships. Frustration associated with lack of academic success may lead to interpersonal issues. These individuals may feel defective and thus less able to meaningfully contribute to relationships. The relationship between ADHD symptoms and self-esteem is likely to be mediated by perceptions of interpersonal effectiveness.

Social Support

The study revealed that social support was a statistically significant predictor of self-esteem in adults. Social support positively explained 31% of the variance in self-esteem. Social support's significant positive correlation with self-esteem was demonstrated in several research studies. Social support is the idea or feeling of being appreciated, taken care of, and part of a social network in which people aid each other

(Taylor, 2011). Individuals with higher levels of social support from peers and parents are more likely to have higher levels of self-esteem (Teoh et al., 2010). In addition, social support increases individual self-esteem, positive self-image, and self-evaluation (Lui et al., 2021). While social support actively promotes mental health, it can also have a simultaneous impact by boosting self-esteem (Lui et al., 2021).

Participants confirmed that the more social support an individual has, the higher their self-esteem can become. In addition, self-esteem can be strengthened by social support in a variety of ways such as providing emotional aid in challenging circumstances, which promotes resilience. Social support may also enhance acceptability and supply a sense of belonging, which are beneficial in improving perceptions of oneself. Furthermore, obtaining social support from other people may improve confidence when taking on obstacles, consequently increasing self-esteem.

Coping

Coping refers to one's assessment of their capacity to successfully manage obstacles in life (Chesney et al., 2006). I found coping was a statistically significant predictor of self-esteem. Coping positively explained 16% of the variance in self-esteem. Positive views about one's efficacy can also enhance self-worth (Molero et al.).

Strategies people employ when confronted with challenges or complex circumstances are related to their coping (Mete, 2021). Coping is also closely correlated with the capacity to resolve issues in a successful and efficient manner (Mete, 2021). While low coping styles predicts low self-esteem, higher coping styles predicts high self-

esteem (Hajloo, 2014). In addition, having high levels of coping makes it possible for people to feel content and successful in life (Mete, 2021). Therefore, individuals who view themselves as sufficient and confident in terms of their ability to overcome challenges will consequently improve their self-esteem, further supporting statistically significant findings from this study.

A significant relationship may also exist between self-esteem and coping since an individual's perception of themselves influences their confidence and the capacity to overcome obstacles. An individual's self-esteem or confidence in their skills may develop when they can successfully manage difficulties or stressors, which improves coping. Gaining a sense of accomplishment and confidence when adequately managing conflicts may enhance self-esteem and confidence in the future. In addition, the findings from this study also suggest that higher levels of coping are positively associated with self-esteem. The direction of this association cannot be determined from the correlational methodology of the present study. Experimental designs may be beneficial in explaining if coping is an antecedent of self-esteem as suggested by our hypothesis. It could be assumed that confidence in our abilities to effectively complete domain-specific tasks is likely to boost our self-esteem. However, the possibility that individuals with a high level of self-esteem may feel confident in their abilities, and therefore having higher coping skills cannot be discarded.

ADHD Treatment

The current study did not find ADHD treatment as a predictor for self-esteem. The rationale for predicting that ADHD treatment would positively predict self-esteem, was anchored on assuming that individuals with ADHD symptoms who undergo treatment may feel better about themselves as compared with those who do not undergo treatment. Although this study did not find ADHD treatment as a significant predictor of self-esteem, some research does support that claim. For example, individuals with untreated ADHD were more likely to experience poorer self-esteem outcomes than people without ADHD or those receiving ADHD treatment (Harpin et al., 2016). However, the statistical significance between self-esteem and ADHD treatment did not exist potentially due to the study's lack of participants who received any ADHD treatment.

One explanation for the lack of significant findings for this hypothesis may be that the study's methodology did not directly focus on individuals meeting the ADHD diagnostic criteria. That is, the present study's methodology was probably not the most appropriate to test this relationship. For example, treatment was operationalized as a dichotomous variable: no treatment versus treatment. A continuous measurement approach, though, could have been better suited for testing this hypothesis, since it can be argued that individuals treated for ADHD symptoms for one month are likely significantly different from those treated for 5 years.

ADHD treatment may also not have been a statistically significant predictor of self-esteem due to the other variables included in this study, such as social support and coping. Social support and coping were statistically significant predictors of self-esteem and may have mitigated the severity of ADHD symptoms and, subsequently, the need to obtain ADHD treatment. There are also several forms of ADHD treatment, such as therapy-related approaches, medication, and executive functioning coaching. As a result, the specific ADHD treatment approaches the study participants used to manage their ADHD symptoms may have been ineffective, and due to the sample size, ADHD treatment was not statistically significant. Therefore, it can be difficult to generalize the influence of ADHD treatment on self-esteem to the entire sample because of the individual differences that exist.

Nevertheless, over the course of an individual's life, ADHD can produce a variety of destructive and disruptive behaviors, especially when left undiagnosed (Franke et al., 2018). These behaviors might include substance addiction, absences from work, and criminal activity, all of which increase the socioeconomic burden of the disorder (Franke et al., 2018). Improved knowledge of ADHD and the ability to diagnose it adequately could lead to enhanced overall control of the disorder while minimizing the detrimental effects (Stibbe et al., 2020).

Gender

The current study did not find gender as a statistically significant predictor for self-esteem. The findings from this study were inconsistent with current research that

addresses gender differences in self-esteem. For example, research has indicated gender differences in self-esteem, where females commonly report lower self-esteem levels than males (Bleidorn et al., 2016; Casale et al., 2020; Mageea & Upeniek, 2019). Because of cultural standards, biases, and norms of society, gender can have a profound effect on one's sense of self-esteem (Li et al., 2022). For example, people could experience pressure to fit into specific gender roles and feel inadequate if they do not fulfill these standards (Li et al., 2022). In addition, an individual's perception of themselves could be influenced by cultural views on femininity and masculinity, which may affect their confidence and self-esteem (Li et al., 2022). On the other hand, one study did not support most current research and was more aligned with the current study by indicating no gender differences in self-esteem (Michaelides et al., 2016).

An explanation for the lack of significant findings on self-esteem and gender may be that the study's methodology did not directly focus on gender differences. Another reason could be that gender differences were not sufficiently represented by questionnaires that measured self-esteem. There is also a chance that study participants underreported their lower levels of self-esteem or responded to the questionnaires to present themselves in a favorable light. In addition, the study's sample also consisted of more females than males, and the sample size may have been too small to detect significant gender differences. Furthermore, individual differences based on a person's background or history may have contributed to the insignificant outcome. Of course, the possibility that there are no gender differences in self-esteem must be considered. A more

thorough assessment of methodological and conceptual differences in how gender and self-esteem are studied is suggested.

Educational Attainment

The current study did not find educational attainment as a statistically significant predictor for self-esteem. Although educational attainment was not a statistically significant predictor of self-esteem in this study, it is somewhat close to the .05 cut off. However, this finding does not align with similar research studies. For example, research indicated that self-esteem is a fundamental psychological construct that can act as a catalyst for academic engagement (Lim and Lee, 2017; Zhao et al., 2021). Educational attainment is referred to as the highest level of education an individual has completed (United States Census Bureau, 2021) and the developmental process that results from ongoing involvement in institutions of learning (Magnuson et al., 2016). Research has indicated that academic attainment was positively correlated with self-esteem (Sirin & Rogers-Sirin, 2015) and self-esteem can foretell an individual's level of educational attainment or engagement (Filippello et al., 2019). Research has also suggested that adolescents with have high self-esteem are more likely to be engaged in their studies and that academic attainment has a positive relationship with self-esteem (Zhao et al., 2021).

Several explanations exist for the lack of significant findings between self-esteem and educational attainment. For example, the sample may be too similar in terms of educational background to demonstrate a meaningful link. Approximately 50% of the participants in this study reported having a bachelor's degree, and about 26% reported

having a graduate degree. Therefore, most of the sample participants were highly educated, which caused the findings to lack significant variations between educational levels. In addition, the chosen approach to measure educational attainment may have lacked the sensitivity to detect slight variances in self-esteem. For example, educational attainment was included as part of the demographic survey compared to utilizing a questionnaire to measure the variable.

There are several reasons why educational attainment was not a statistically significant predictor of self-esteem. Although education can boost self-esteem by offering opportunities, knowledge, and competencies, its effects may be outweighed by other prominent variables (Baumeister et al., 2003). Personal experiences, social interactions, support networks, and individual perspectives can all impact one's sense of self-worth, and these factors may do so more quickly and directly than educational attainment (Baumeister et al., 2003). Some participants may not have wanted to or had the means to obtain higher education, resulting in insignificant findings between educational attainment and self-esteem. In addition, the participants might have found their sense of value in non-formal contexts, including relationships or personal achievements, which reduces the influence of educational attainment on self-esteem (Booth & Gerard, 2011). Since social support was a statistically significant predictor of self-esteem, participants may have sought social connections to improve their self-esteem compared to furthering their education to fulfil a sense of worth or accomplishment.

Theoretical Framework

The study was grounded in Leary and Baumeister's sociometer model/theory. Leary and Baumeister's sociometer model/theory has been used to describe the structure and operation of the self-esteem system (Cameron & Stinson, 2017). Research has indicated that individuals with higher self-esteem believe that they always have, currently, and will always be valuable to other people (Cameron & Stinson, 2017). On the other hand, individuals with poorer self-esteem question their worth as partner companions and generalize these concerns to upcoming relationships (Cameron & Stinson, 2017). However, recent research had not utilized Leary and Baumeister's sociometer model/theory to explain the self-esteem of individuals with attention problems. The results of the study align with Leary and Baumeister's sociometer model/theory by indicating that self-esteem is significantly impacted by social support and coping.

Leary and Baumeister's sociometer theory indicates that self-esteem is a barometer for social acceptance and a sense of belonging (Cameron & Stinson, 2017). The statistically significant results from this study associating social support and coping with self-esteem are consistent with the sociometer theory. For example, the sociometer theory suggests that social support positively affects self-esteem by giving a person a sense of belonging and acceptance from others (Cameron & Stinson, 2017). People's sense of worth and acceptance may be reinforced when they experience sufficient social support, raising their self-esteem. Strong social support, genuine relationships, and help

and contact from others contribute to a person's sense of acceptance and value in their social environment (Li et al., 2021). The sociometer theory states that a person's sense of acceptance and support from others has an immediate influence on their level of self-esteem (Cameron & Stinson, 2017).

Therefore, the statistically significant findings emphasize the relationship between self-esteem and social support. The sociometer theory supports the results by indicating that people who view themselves as having greater social support levels typically have higher self-esteem. Statistically significant results highlighting the association between social support and self-esteem confirm the sociometer theory by demonstrating that individuals who perceive higher levels of social support tend to have higher self-esteem. This inference supports the theory's central claim that a person's sense of acceptance and support from their social surroundings is a prominent factor in determining how they view themselves.

On the other hand, the sociometer theory can also explain the relationship between self-esteem and coping. For example, coping is an idea that one can overcome obstacles, affecting one's sense of self-esteem as an adult (Chesney et al., 2006). People's perception of their self-esteem can be positively impacted when they view themselves as capable of handling challenges. In addition, Leary and Baumeister's sociometer theory indicates that viewing oneself as capable and skilled to face adversity favorably influences one's sense of self-worth and self-regard (Cameron & Stinson, 2017). Therefore, the sociometer theory emphasizes the importance of perceived capability and

adequacy when handling obstacles or distressing events (Cameron & Stinson, 2017), which involves coping's impact on self-esteem.

The sociometer theory is supported by the statistically significant findings that connect coping and self-esteem. These findings suggest that adults with higher levels of self-esteem typically have confident beliefs about their capacities to cope successfully. The sociometer theory also supports the results that indicate coping as a predictor of self-esteem because it suggests that a person's general sense of confidence, self-worth, and self-esteem is positively impacted by their perceived ability to overcome obstacles in life (Cameron & Stinson, 2017). Furthermore, the sociometer model developed by Leary and Baumeister is supported by the significant results about social support and coping increasing self-esteem. These findings highlight the significance of interpersonal connections and believed abilities in influencing an individual's self-esteem.

Limitations of the Study

Notwithstanding the contributions of the present study, several limitations are present. For example, the study used self-reported surveys which rely on the participant's truthfulness for accurate results (Lelkes et al., 2012). Self-report surveys are also known to be affected by the social desirability bias (Brenner & DeLamater, 2017). In addition, a limitation of correlational studies is that the results cannot be interpreted as validating cause-and-effect relationships among variables (Gershman & Ullman, 2023). Furthermore, the surveys were obtained electronically which may have neglected the

older adult population or those not well acquainted with the internet (Heponiemi et al., 2022).

The study also included predominately white participants. As a result, the findings may not generalize to the general adult population in the United States. In addition, the data collection process occurred quickly and over the course of three weeks. Therefore, if the study remained open for a longer period of time, a more representative sample of the population may have been collected.

Recommendations

The study examined the possible predictors of self-esteem among adults with ADHD symptoms living in the United States of America. There is very little research on how adults with symptoms of ADHD cope with life's challenges. For example, although ADHD symptoms may be hypothesized to reduce self-esteem, their effects on self-esteem are rarely discussed (Willoughby & Evans, 2019). Furthermore, it is still unknown exactly how self-esteem influences the development of long-term attention issues (Henriksen et al., 2017). In addition, research has not focused much on coping skills that adults with undiagnosed or untreated ADHD have developed (Canela et al., 2017). Furthermore, educational attainment has yet to be researched in association with self-esteem, social support, coping, and ADHD symptoms. Scholars could expand upon the findings from this study to improve the detection approaches, treatment opportunities, and overall well-being of this population.

Although this study contains several contributions, limitations exist as previously stated in the section above. Future research may benefit from addressing the limitations. For example, the study uses self-reported surveys which relies on the participants truthfulness when responding to the questionnaires. Therefore, future research may benefit by incorporating informant reports, interview data, or behavioral observations as data collection sources. The study also includes a correlational design resulting in the inability to interpret the findings as validating cause-and-effect relationships among variables. As a result, future research may consider utilizing a longitudinal design. In addition, the study solely obtained participants electronically which may have neglected the older adult population or those not well acquainted with the internet. As a result, future research may benefit from incorporating both electronic and in-person formats of the questionnaires to gain a wider variety of ages from the participants. In addition, the participants predominately consist of those from a white ethnicity. Future research could benefit by providing a longer time frame for participants to complete the study so a more generalizable population sample could be collected.

Implications

This study sought to understand the predictors of self-esteem among adults living in the United States of America. This section will discuss the clinical and social change implications of the study's findings.

Clinical Practice

The study's findings can help the clinical psychology field implement more effective treatments and recommendations while promoting social change by understanding the statistical significance of ADHD symptoms and self-esteem among adults. The results of study provide social change for clinical practice by shedding light on how people with ADHD manage their symptoms and assisting in the identification of the causes of the underdiagnosis and delayed diagnosis (Canela et al., 2017). The study included participants with and without prior formal ADHD diagnosis and treatment which provides contributing information regarding why there are delayed and undiagnosed cases of ADHD.

The study also provides positive social change implication for clinical practice by indicating the usefulness of coping styles and strategies, which can help in creating effective treatments meant to increase self-esteem and other pertinent mental health outcomes. Clinical psychologists with expertise in this area can use treatment methods to help adults with ADHD symptoms maximize ability to reach their goals whether it is personally, socially, or emotionally. Furthermore, the results of this study can offer clinical psychologists' knowledge about adult ADHD symptoms, effective coping, and proactive management skills of childhood ADHD symptoms. Therefore, the clinical psychology field can implement more effective treatment and recommendations and promote social change by understanding the statistically significant predictors of self-esteem among adults.

Social Change

The study's findings can contribute to positive social change providing research about the understudied adult ADHD population and contribute to psychology research. Unlike exiting ADHD research, this study addressed the impact of coping on self-esteem for individuals with ADHD symptoms. Since coping was a statistically significant predictor of self-esteem, the findings can promote societal awareness of the significance of self-esteem on overall quality of life outcomes for the adult population. Adults who have untreated attention impairments and/or have not had their conditions properly diagnosed are more likely to have poor coping strategies and a limited comprehension of the underlying reasons of their problems. Since coping ADHD symptoms was a statistically significant predictor of self-esteem, the psychology field can become more aware of the detrimental impact of ADHD symptoms on adults, and establish identification plans for childhood. Furthermore, the study's findings can provide adults with ADHD symptoms an understanding of their behaviors, as well as information about social support and coping strategies to improve self-esteem.

Conclusion

The purpose of this study was to investigate the predicting factors of self-esteem among adults in the United States with ADHD symptoms. The study aimed to provide research about the understudied adult ADHD population and contribute to psychology research. The association between ADHD symptoms and self-esteem can be valuable for clinical psychologists, relevant professional fields, and educational institutions. However,

current research on ADHD symptoms and self-esteem focuses on the pediatric population or adults with prior formal ADHD diagnoses. In addition, the study was grounded in Leary and Baumeister's sociometer model/theory as the theoretical framework. The sociometer theory is the appropriate theoretical framework for this study because it emphasizes the significance of self-esteem in major life domains.

It was hypothesized that ADHD treatment, ADHD symptoms, social support, gender, educational attainment, and coping significantly predicted self-esteem. The results indicated that ADHD symptoms, social support, and coping significantly predicted self-esteem. Additional variables that were statistically significant predictors of self-esteem include ADHD diagnosis, age, and household income. On the other hand, ADHD treatment, gender, educational attainment, and ethnicity did not predict self-esteem. The results of this study can help clinical practice by aiding in the development of successful interventions intended to boost self-esteem and other relevant mental health outcomes. For example, through knowledge of the complex and interconnected relationships between ADHD treatment, ADHD symptoms, social support, gender, educational attainment, coping, and self-esteem, the clinical psychology field can develop more effective treatment plans and recommendations to promote social change.

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Appendix A: Sociodemographic Questionnaire

Gender

What is your gender?

- Female
- Male
- Other (specify)

Age

- Enter your age in numbers.

Ethnicity

Please specify your ethnicity.

- White
- Hispanic or Latino
- Black or African American
- Native American or American Indian
- Asian / Pacific Islander
- Other

Income

What is your total household income?

- $0 to $20,000
- $20,001-$40,000
- $40,001-$60,000
- $60,001-$80,000
- $80,001-$100,000
- $100,001+
- Prefer not to answer

Education

What is the highest level of education you have completed?

- Less than high school degree
- High school degree or equivalent (e.g., GED)
- Some college but no degree
- Associate degree
- Bachelor degree
- Graduate degree

Have you ever been diagnosed with an attention problem by a licensed professional?

Yes
No
Not sure

Have you ever been treated for an attention problem?

Yes
No

Appendix B: Rosenberg Self-Esteem Scale

Permission to use The Rosenberg Self-Esteem Scale

This scale was developed by Rosenberg, M. (1965). The website states that "The Rosenberg Self-Esteem Scale is now in the public domain, meaning you may use it without charge and without notifying the Sociology Department."

Website: https://socy.umd.edu/about-us/rosenberg-self-esteem-scale#

The Rosenberg Self-Esteem Scale is perhaps the most widely-used self-esteem measure in social science research. Dr. Rosenberg was a Professor of Sociology at the University of Maryland from 1975 until his death in 1992. He received his Ph.D. from Columbia University in 1953, and held a variety of positions, including at Cornell University and the National Institute of Mental Health, prior to coming to Maryland. Dr. Rosenberg is the author or editor of numerous books and articles, and his work on the self-concept, particularly the dimension of self-esteem, is world-renowned.

The Rosenberg Self-Esteem Scale is now in the public domain, meaning you may use it without charge and without notifying the Sociology Department. This permission extends to making translations or adaptations as you see fit, consistent with traditional scholarly attribution practices. The department does not maintain any information on the scale beyond what is linked below, and cannot advise on its use.

Appendix C: MSPSS

Permission to use The Multidimensional Scale of Perceived Social Support (MSPSS)

This scale was developed by Zimet, Dahlem, Zimet & Farley (1988) and it was published by Springer Publishing. Pérez-Villalobos et al. (2021) reported that "MSPSS is free to use and does not require a license."

Website: https://bmcgeriatr.biomedcentral.com/articles/10.1186/s12877-021-02404-6#

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The authors would like to thank all the families of individuals with schizophrenia for their participation in the WIFI program and for openly sharing their feelings and experiences. We would also like to thank the Changsha Psychiatric Hospital as well as the 12 community health centers for their collaboration and support. The MSPSS is free to use (Zimet GD, Dahlem NW, Zimet SG, Farley GK. The Multidimensional Scale of Perceived Social Support. Journal of Personality Assessment 1988;52:30-41).

Appendix D: Permission to use the Adult ADHD Self-Report Screening Scale for DSM-5 (ASRS-5)

If you and INSTITUTION agree with the above conditions, please sign and date this letter in the space provided below, and have INSTITUTION do the same and return to me. Upon receipt, we will arrange to send the MATERIAL to you.

Very truly yours,

NYU

By: Abram Goldfinger
Abram Goldfinger
Executive Director, Technology Transfer

Date: Sep 6, 2023

INSTITUTION: Walden University

By: Laura Knight Lynn
Laura Lynn, Ph.D.
Dean of Research

Date: 8/28/2023

[redacted]

Read and Acknowledged by:

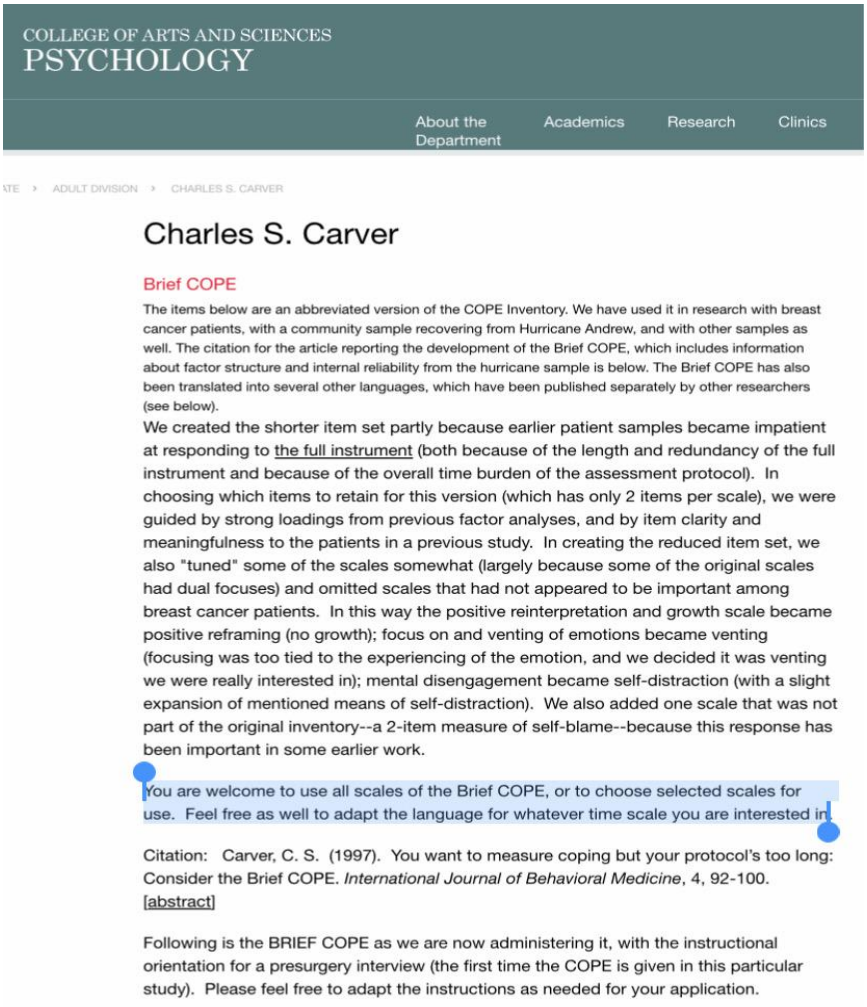
By: _____
SUPERVISOR: Dr. Diaz-Lazaro
TITLE:

By: _____
RECIPIENT:

Appendix E: Brief Coping Orientation of Problem Experience Inventory

Permission to use Brief Coping Orientation of Problem Experience Inventory

This scale was developed by Carver, C. S. (1997). The website states that "You are welcome to use all scales of the Brief COPE, or to choose selected scales for use. Feel free as well to adapt the language for whatever time scale you are interested in." Website: https://local.psy.miami.edu/faculty/ccarver/sclBrCOPE



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ITE › ADULT DIVISION › CHARLES S. CARVER

Charles S. Carver

Brief COPE

The items below are an abbreviated version of the COPE Inventory. We have used it in research with breast cancer patients, with a community sample recovering from Hurricane Andrew, and with other samples as well. The citation for the article reporting the development of the Brief COPE, which includes information about factor structure and internal reliability from the hurricane sample is below. The Brief COPE has also been translated into several other languages, which have been published separately by other researchers (see below).

We created the shorter item set partly because earlier patient samples became impatient at responding to the full instrument (both because of the length and redundancy of the full instrument and because of the overall time burden of the assessment protocol). In choosing which items to retain for this version (which has only 2 items per scale), we were guided by strong loadings from previous factor analyses, and by item clarity and meaningfulness to the patients in a previous study. In creating the reduced item set, we also "tuned" some of the scales somewhat (largely because some of the original scales had dual focuses) and omitted scales that had not appeared to be important among breast cancer patients. In this way the positive reinterpretation and growth scale became positive reframing (no growth); focus on and venting of emotions became venting (focusing was too tied to the experiencing of the emotion, and we decided it was venting we were really interested in); mental disengagement became self-distraction (with a slight expansion of mentioned means of self-distraction). We also added one scale that was not part of the original inventory--a 2-item measure of self-blame--because this response has been important in some earlier work.

You are welcome to use all scales of the Brief COPE, or to choose selected scales for use. Feel free as well to adapt the language for whatever time scale you are interested in.

Citation: Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine*, 4, 92-100. [abstract]

Following is the BRIEF COPE as we are now administering it, with the instructional orientation for a presurgery interview (the first time the COPE is given in this particular study). Please feel free to adapt the instructions as needed for your application.