SOCIAL SKILLS AND SELF-ESTEEM OF COLLEGE STUDENTS WITH ADHD

by

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Abstract

Research indicates that up to 65% of children diagnosed with ADHD may continue to display general behavior problems, as well as specific symptoms of ADHD, later in life. In most of the studies, ADHD college students’ self-esteem is strongly aligned with their social skills. The purpose of this study was to find directions that will assist ADHD students to succeed at college by identifying which factors affect their social skills and self-esteem, and, consequently, affect their academic achievement, their lives, and their careers.

This study used a mixed method approach in which qualitative and quantitative research were combined. There were 88 participants, 44 ADHD students and 44 non-ADHD students from two two-year community colleges and a four-year private university. For quantitative research, the 44 ADHD students and the 44 non ADHD students, from these three institutions, completed three surveys; the Profile Information Form, the Social Interaction Anxiety Scale Survey Schedule and the Rosenberg Self-Esteem Scale questionnaires. The T-Test and MANOVA were utilized to measure the significance of the ADHD students’ social skills and self-esteem compared to non-ADHD students. In qualitative study, eight themes to emerge from the interview data are as follows: 1) Diagnosis/Childhood Experiences, 2) ADHD Symptoms, 3) Self Esteem, 4) Family Support, 5) College accommodations, 6) Social Skills, 7) Medication, and 8) Goals and Professions.

The result of the T-Test and the MANOVA test also illustrate that college students with ADHD have a lower level of self-esteem and poorer social skills when compared to the group of students without ADHD. These eight themes illustrate that
ADHD symptoms affect participants’ self-esteem and social skills and that between their social skills and self-esteem affect their social interactions and their academic achievement in college.
Chapter 1: The Problem

Background of the Problem

Although Attention Deficit Hyperactivity Disorder (ADHD) was once believed to affect only children, recent research indicates that the symptoms of ADHD persist past childhood and adolescence, well into college age and beyond (Weiss & Hechtman, 1993). According to some studies, this can cause a variety of problems in numerous domains, including school, work, and home. Those with ADHD who attend college may have a more difficult time dealing with academic, social, and career-planning demands (Norwak, Norvilitis and MacLean, 2009).

The National Resource Center on ADHD has also characterized many individuals with ADHD as having difficulty with “executive functioning.” This term refers to the functions within the brain that “activate, organize, integrate, and manage other functions.” In other words, executive functioning allows individuals to think about goals and the results of actions, plan consequently, evaluate progress, and shift plans as a result (Barkeley, 2009). In colleges, parents and professors expect a student to start doing these things more independently, and, sometimes, that transition can be difficult for students with ADHD. Norwalk, Norvilitis, and MacLean (2009) found that college students with ADHD may have more difficulty than non-ADHD students in dealing with demands related to such areas as academics, their social lives, and their ability to plan for a career. In turn, these frustrations have led to lower college success rates and higher drop-out rates.
Statement of the Problem

As Weiss and Hechtman (1993) stated, ADHD is increasingly being recognized as a disorder whose symptoms persist into adulthood. Researchers estimate that 50% to 65% of children diagnosed with ADHD may continue to display general behavior problems as well as specific symptoms of ADHD later in life. These individuals may exhibit delinquent and antisocial behaviors during adolescence (Merrell & Tymms, 2001; Barkley, 2006) and often experience difficulties in educational performance, occupational functioning, interpersonal relationships, and self-esteem in adulthood (Barkley, Murphy, & Kwasnik, 1996; Murphy & Barkley, 1996; Barkley, 2006).

One subpopulation of adults with ADHD that has been the focus of recent research, is the college student population. Estimates of the prevalence of ADHD in college students vary, ranging from 2% to 8%, depending on the criteria used to assess symptoms (DuPaul, Weyandt, O’Dells and Varejao 2008). It has been suggested that the symptom profiles of college students with ADHD may differ from that of the typical adult with this disorder.

The ability to successfully interact with others is considered one of the most important aspects of social development for all ages. Some researchers show that inadequate social skills used to interact with peers can affect an ADHD individuals’ progress in many areas and are critical to interpersonal success (Elliot & Gresham, 1987).

In addition to the challenges discussed in different studies for college students with ADHD, the majority of studies also report consistent deficits in social skills. As noted in the studies of overall outcome, these deficits in social skills appear to continue into adulthood.
In discussions of ADHD students’ increasing functioning and educational attainment, the majority of studies also reported consistent deficits in self-esteem. College students with a history of ADHD in childhood were found to have significantly lower self-esteem in comparison to a control group not acknowledged to have ADHD symptoms (Dooling-Litfin & Rosén, 1997).

**Purpose of the Study**

This study explored how ADHD symptoms are related to college ADHD students’ adjustment, especially in the areas of social skills and self-esteem. The final goal of this study was to investigate whether the social skills and self-esteem of college students with ADHD affect their college interaction and academic achievement.

**Hypotheses**

1. College students who meet the criteria for ADHD will report a lower level of social skills, compared to a group of college students with no history of ADHD.
2. College students with ADHD will have a lower level of self-esteem compared to a group of students without ADHD.

**Research Questions**

1. What role do ADHD symptoms play in social skills and self-esteem of the ADHD college students?
2. What role do social skills and self-esteem of college students with ADHD play in their social interaction and academic achievement?

**Introduction of Theories**

Shaw-Zirt, Popali-Lehane, Chaplin, and Bergman (2005) found that college students with ADHD exhibited lower levels of adjustment, social skills, and self-esteem
as compared to a matched control group. According to Landgraf (2007), increasing evidence suggests that ADHD, a neurobehavioral disorder, persists across the life cycle and is associated with a wide range of adverse psychiatric outcomes: substance use, misuse; persistent life impairments because of low self-esteem; marital discord; poor communication and parenting skills; and academic and employment underachievement. Kalbag and Levin (2005) suggest that the prevalence of ADHD in the general adult population ranges from 1% to 5%, but it is estimated to be much higher (11% to 35%) in substance-abusing adults.

Children with ADHD are more likely to encounter rejection from their peers and through negative interactions at home as well. In fact, recent work has linked childhood ADHD (Clarke, Ungerer, Chahoud, Johnson, & Stiefel, 2002) and its often co-morbid oppositional behavior (Gomez & Gomez, 2002) to negative attachment, implying that even rejection by parents, in many instances, is persistent. Downey and colleagues (1998, 2000) proposed that precisely this kind of early rejection can lead to elevated rejection sensitivity, which, in turn, can influence relational adjustment through adulthood. Negative outcomes seen in children and adolescents with high rejection sensitivity resulted in increased conflict with schoolmates, staff, and early dating partners, as well as lower social competence as reported by the children’s teachers (Downey, Freitas, Michaelis, & Khouri, 1998; Purdie & Downey, 2000). Adults with greater rejection sensitivity also showed jealousy and aggression towards their romantic partners, contributing to elevated unhappiness by their partners and leading to termination of relationships over a one year period (Downey & Feldman, 1996; Downey et al., 1998). Given that chronic rejection in childhood often co-occurs with ADHD, it
seems possible that rejection sensitivity contributes to enduring lack of social skills and self-esteem.

Additionally, longitudinal studies of children with ADHD have shown poorer social skills during adulthood when compared to non-ADHD peers (Weiss & Hechtman, 1993). Wolf (2001) argued that peer relations and social skill deficits are significant contributing factors to the poor academic performance and high attrition rates of college students with hidden disabilities such as ADHD.

Prior research shows that rejection of children with ADHD occurs in peer groups and among family members. Also, young adults with ADHD report significantly more difficulty in interpersonal relationships than do persons without ADHD, and studies of children with ADHD reveal poorer social skills during adulthood when compared to their non-ADHD peers.

In terms of college adjustment, Shaw-Zirt’s study (2005) of ADHD students found significantly lower scores on SACQ (The Student Adaptation to College Questionnaire, Vaker & Siryk, 1989) than non-ADHD students.

The tendency is “to anxiously overreact to rejection,” which can lead to elevated rejection sensitivity, and, in turn, can influence relational adjustment through adulthood. Given that chronic rejection in childhood often co-occurs with ADHD, it seems possible that rejection sensitivity contributes to enduring poor social skills and self-esteem.

Healy (2000) recently found that college students with ADHD rated themselves as having more difficulty paying attention during lectures than college students without ADHD and many reported having distracting thoughts during lectures and while working.
with peers. As Burscack (1989) stated, problems with impulsivity, sleeping, and anxiety disorder have strongly affect academic achievement.

Heiligenstein, Guenther, Levy, Savino, and Fulwiler’s study (1999) assessed academic measures in college students with ADHD and compared the results to a non-ADHD control group. They found that the students with ADHD achieved lower GPAs, self-reported more academic problems than the control group, and were more likely than their peers to be on academic probation.

Fewer students with ADHD attend postsecondary institutions, and, of those who do, fewer complete degree programs relative to non-ADHD peers (Barkley et al., 2008). College students with ADHD may have more difficulty than non-ADHD students in dealing with the demands related to areas such as academics, social and daily lives, and the ability to plan for a career. In turn, these frustrations have led to lower college success rates and higher drop-out rates.

**Importance of this Study**

In this study, data analysis (surveys and interviews) sought to reveal whether college students with an ADHD diagnosis have poor social skills as compared to non-ADHD students and whether college students with an ADHD diagnosis have lower self-esteem than non-ADHD students. Furthermore, the data were analyzed as to how these ADHD symptoms play a role in social skills and self-esteem and whether low social skills and self-esteem of college students with ADHD affect their college adjustment and academic achievement.

In a society which judges a person’s worth as a human being according to his/her achievements, ADHD individuals may be considered to be a burden to society because
they are not motivated to achieve. They are often marginalized and rejected, regardless of the fact that they have the potential to become productive, self-actualizing members of society if given the opportunity to overcome their handicaps. Feelings of rejection from peers and low achievement have great impact on the self-esteem of these ADHD college students.

College students with ADHD appear greatly at risk for difficulties with social relationships and adjustment to college life. These difficulties are associated with self-esteem and family climate factors. Further, there may be important differences in social functioning, particularly with respect to interactions with the opposite sex. Findings need to be replicated with larger, more representative samples and extended to identify college students with ADHD who seem to find adjustment to college life difficult, especially when it comes to establishing social relationships and self-esteem (Weyandt and DuPaul, 2008).

Most studies find ADHD college students’ self-esteem is strongly aligned with their social skills. In turn, these frustrations have led to lower college success rates and higher drop-out rates. Fewer students with ADHD attend postsecondary institutions, and, of those who do, fewer complete degree programs relative to non-ADHD peers (Barkley et al. 2008). The purpose of this study was to find directions toward which ADHD students can turn to succeed at college by identifying their social problems and their low self-esteem caused by their symptoms.

Surveys and student interviews were conducted with volunteers from undergraduate college students from one private four-year university and one public four-year university. Each university selected 44 non-ADHD students and 44 students with
ADHD who receive accommodations for having ADHD symptoms. All 88 were asked to fill out the Social Interaction Anxiety Scale Survey Schedule and the Rosenberg Self-Esteem Scale questionnaires. Interviews were conducted with 8 college students with ADHD, who came from the above group of 44 students with ADHD who receive accommodation for having ADHD symptoms.

Postsecondary institutions can use information obtained through this study to design accommodations that assist students with ADHD to be successful in college.

Limitations and Delimitations

Limitations: The sample size is relatively small, which may lead to decreased power in some of the analyses conducted.

Delimitations: The diagnosis is based on both self-reported surveys and interviews with students on school campuses. This allows for a more comprehensive evaluation of symptom history. This study includes a non-referred, community sample of college students from a variety of ethnic backgrounds. Thus, the present sample is more representative of the general young adult population than the sample of clinic-referred students or of individuals diagnosed when younger and followed through adolescence.

Definition of Terms

**ADHD:** Attention Deficit Hyperactivity Disorder, a neurobehavioral disorder which causes difficulties with sustained focus and concentration. The main symptoms required for a diagnosis of adults with ADHD—attention, hyperactivity and impulsivity (NRC, 2008).

**Self-Esteem:** According to Carl Rogers (1951), self-esteem is described to be
essential elements in the development of a healthy psychological self when handling each individual well-being function. It is used to describe the way one views his/her self.

**Social Skill**: The personal skills needed for successful social communication and interaction.
Chapter 2: Literature Review

Introduction

According to DuPaul (2009), approximately 2% to 8% of the nation’s college student population suffers with symptoms of Attention Deficit Hyperactivity Disorder, or ADHD. Attention Deficit Disorder, with or without hyperactivity, is a neurological disorder which causes difficulties with sustained focus and concentration. Research has shown that this brain-based disorder runs in families and is highly genetic (Barkley, 2006).

The National Research Center’s report in 2006 found that the main symptoms required for a diagnosis of adults with ADHD, i.e. inattention, hyperactivity and impulsivity, apply to both adults and children (NRC, 2008). However, there are differences. Although teens and young adults may struggle less with fewer symptoms of hyperactivity than when they were younger, they may encompass greater challenges. They face increasing demands of schoolwork and other duties as they age, along with more requests of their time, greater responsibilities and the demand of independent thought and study while attending college. This can feel overwhelming. Again, the National Research Center’s report on ADHD (2008) found that other conditions commonly experienced by college students with ADHD such as psychosocial, and neuropsychological functioning may affect how these students behave.

This study assesses several aspects of the social skills and self-esteem of students with symptoms of ADHD in adjusting to college life and whether these students have lower interaction abilities including communication with others and confidence in their
own abilities. The study examines in detail the symptoms that these ADHD college students exhibit which affect their social skills and self-esteem.

This chapter reviews some of the theories developed, symptoms identified and treatments prescribed for ADHD college students, and whether the many studies performed on this disorder have been used to effectively increase the social function and self-esteem of college students with ADHD.

**Synthesis of the Literature**

**The Challenges Facing College Students with ADHD**

In a society that judges a person’s worth as a human being according to his or her achievements, ADHD individuals may be considered a burden to society because they are not motivated to achieve. Therefore, they are often marginalized and rejected, regardless of the fact that they have the potential to become productive, self-actualizing members of society if given the opportunity to overcome their handicaps.

According to the American Psychiatric Association (2000), 3% to 7% of children attending school have ADHD, and, if left untreated, many children continue to show meaningful symptoms throughout their lives. However, given the more extensive amount written on childhood ADHD, less research has been conducted concerning ADHD in adults, especially college students.

Although teens and young adults may struggle less with fewer symptoms of hyperactivity than when they were younger, they encounter more issues that require extra skills, energy and determination to finish assignments when they get older (National Research Center, 2006). As DuPaul (2009) indicated, approximately 2% to 8% of the
nation’s college student population suffers with symptoms of Attention Deficit Hyperactivity Disorder.

Weyandt et al. (1995) reported that 4-7% of college students seeking services at university clinics had difficulties with attention, hyperactivity and impulsivity. The increase in the number of students with ADHD attending college or professional schools makes it more imperative for different studies to gain further understanding into the specific challenges that students with ADHD will face during college. Furthermore, it needs to be understood how these challenges affect college years’ success (Weyandt, Linteman, and Rice, 1995).

Also, according to the National Research Center on ADHD (2008), other conditions commonly experienced by college students with ADHD — social, psychological, psychosocial, and neuropsychological functioning — may affect how these students behave. Fewer adolescents with ADHD go to postsecondary education, and, of those who do, even fewer complete degree programs in relation to their non-ADHD peers (Barkley et al. 2008).

As previously stated (Barkley, 2006), Attention Deficit Disorder with hyperactivity is a neurological disorder characterized by inability to sustain focus and concentration. For some college students with ADHD, chronic frustration, discouragement, and academic underachievement are the consequences of failure to acquire proper treatment and intervention aimed at helping people with ADHD to manage this disorder.

Research indicates ADHD symptoms persist well past adolescence, negatively affecting college-age young adults, according to Norwalk, Norvilitis and MacLean
(2009), and causing problems at school, work and home. Although it was once believed that ADHD affected only children, Norwalk, Norvilitis and MacLean found that people with ADHD attending college may have more difficulty than non-ADHD students in dealing with demands related to such areas as academics, their social lives, and their ability to plan for a career. In turn, these frustrations have led to lower college success rates and higher drop-out rates.

According to Landgraf (2007), increasing evidence suggests that ADHD persists across the life cycle and is associated with a wide range of adverse psychiatric outcomes; substance use, misuse, diversion, as well as persistent life impairments because of low self-esteem, marital discord, poor communication and parenting skills, and academic and employment underachievement.

Heading towards adulthood with ADHD presents some unique challenges and obstacles. Once seen as a childhood illness, ADHD was considered to be something one grew out of as maturity set in, but now we know that is not the case. According to a report from the National Resource Center, ADHD can affect social functioning and psychological functions. A study by Weyandt and DuPaul (2006) suggest that college students with ADHD in college students are at increased risk for social, psychological, psychosocial, and neurological functioning problems. The following are areas in which studies have shown that ADHD students differ from non-ADHD college students and provide evidence for having difficulties in academic success.

Schwanz (2007), using a sample of 68 students who self-reported an ADHD diagnosis, carried out a systematic study of medicating ADHD symptoms and psychiatric symptoms on the adjustment to college life. This study reported that the 68 students had
more academic difficulties and symptoms of depression in comparison to the control students. Within the ADHD students, problems with their depression and academic studies were the result of signs of inattention, and not of overactive/impulsive behaviors.

In adults with ADHD, the Malloy-Dinz (2008) study supports the idea that deficits exist related to the three components of impulsive behavior: motor, cognitive, and attention. These findings are in agreement with Barkley’s supposition of inhibitory deficit in adults with ADHD (Barkley, 1997). Malloy-Dinz also showed that the ADHD group had poorer accomplishment of a given task on the IGT (Iowa Gambling Task) than non-symptomatic volunteers.

A few studies have shown findings of motor impulsivity in people with ADHD (Hervey et al., 2004). Hervey (1986) found that both sets of parameters measured lower in the ADHD group, relative to the control group. This puts forward for consideration the notion that adults with ADHD show diminishment in a specific neural mechanism of impulse control, such as that detected by the CPT-II (Continuous Performance Task). The results reflect Barkley’s theory (1997), which suggests that ADHD subjects show behavioral impairments when they need to stop a pre-potent motor response. Conversely, cognitive impulsivity has tended to be connected to the orbit frontal ventro medial areas of the prefrontal cortex, with special emphasis on the more anterior sector of this region, the frontal pole (Bechara, et al. 2000). This particular operation may also be more sensitive to the modulation of the serotonergic system (Rogers, et al. 2003). Some evidence suggests that this prefrontal region may be connected to the manner of the development of the disorder. Malloy-Dinz’s study (2007) showed that the ADHD group
had poorer accomplishment of a given task on the IGT (Iowa Gambling Task) than non-symptomatic volunteers.

Garon et al. (2006) and Toplak, et al. (2005) found that the ADHD group made significantly more disadvantageous choices than the control group, which is consistent with Malloy-Dinz’s findings that show people with ADHD make more unfavorable decisions on work to be done. These studies implicate that impulsive behavior has heavily affected the social abilities of some students with ADHD to work with other college students and achieve high academic levels.

In some studies, anxiety disorders were found in as many as 10% to 40% of college students with ADHD. The distinctive nature of anxiety disorders are shown by several different forms of abnormal and pathological fear reflected in worrying too much, difficulty controlling worries, and the resultant physical symptoms that include headaches and nausea (Mc Learn & Woody, 2001).

Some researchers believe that inattention and impulsivity can cause driving problems among the ADHD population. According to Barkley & Cox (2007), drivers with ADHD have slower and more variable reaction times resulting in traffic violations’ more accidents and they make more impulsive mistakes. The study by Barkley and Cox further found that the use of stimulant medications by ADHD sufferers has been found to have positive effects on driving abilities.

Sleeping disorders are common in teens with ADHD. According to the National Research Center (2008), a college student with ADHD may have problems getting a full and complete sleep and may not necessarily be a side effect of medication use.
A few studies have attempted to examine college students with ADHD and their use of alcohol and forbidden substances. Upadhyaya et al. (2005) found that college students with ADHD who actively display symptoms were more likely to engage in overindulgence in or dependence on an addictive substance than ADHD students who were without current active symptoms. Kalbag and Levin (2005) suggest that the prevalence of ADHD in the general adult population ranges from 1% to 5% but is estimated to be much higher (11% to 35%) in substance-abusing adults.

Tobacco use, marijuana, and drugs other than alcohol were found to be more prevalent in students who showed a lack of symptom control. The risk of substance use among children with ADHD ranges from 12% to 24% (NRC, 2008).

According to National Resource Center (2008), the lives of college students with ADHD are more complicated because they have more problems to juggle in their lives. As further education progresses, the workload becomes more challenging as some of that work includes weekly and long-term projects, as opposed to daily homework assignments. Reports have found that students may receive an advantage from assistance with note-taking, study skills, organization and better utilization of their time to help offset the demanding and ever increasing work demands of college. As their skill set develops, the students possibly gain more confidence in performing their tasks in a timely manner.

Healy (2000) recently found that college students with ADHD measured themselves as having more problems paying attention and maintaining concentration (avoiding distracting thoughts) compared to those without ADHD. As previously stated, there is a strong relationship between the lack of academic achievement and ADHD.
students who have problems with impulsivity, sleeping and anxiety disorders (Burscack 1983). Heiligenstein’s study (1999) evaluated academic measures in college students with ADHD and, in comparison to the non-ADHD control group, they discovered that the ADHD students presented with lower GPAs (Grade Point average), self-reported more academic problems than the control group and were in greater probability more than their peers to have problems with their academic standing. Heiligenstein et al. (1995) suggest that findings of academic diminishment may be related to external factors such as the higher standards that some colleges demand over others, being away from the support of family and the education not being designed specifically for the individual rather than to a showing of ADHD symptoms. University clinics reported that the majority of ADHD students displayed symptoms of mood swings, learning disabilities and underperformance in academic endeavors. For some students their feelings of being unable to succeed further contributed to their severe academic issues. Heilenstein, Guenther, Levy, Savino, & Fulwiler (1999) further amplified the findings that students with ADHD had more academic problems and lower test scores than unaffected students.

Furthermore, ADHD students are at risk of poor academic achievement and failure, compared with their non-ADHD peers when it comes to completing a college education (Barkley & Frazier, 1998). Suggestions exist that college students with ADHD have higher learning skills and the ability to cope than their counterparts with ADHD who do not attend further education, (Glutting, Youngstrom, & Watkins, 2005). This illustrates that college students with ADHD can achieve academically, even if questions remain about the degree of relative success. Nevertheless, Glutting et al.’s study (2005)
indicates that students with ADHD still face noteworthy problems in their search for academic success despite the existence of theorized protective factors.

According to research, impulsive behavior and high anxiety level affected the academic achievement and personal lives of students with ADHD in such areas as driving, sleeping, and drug and alcohol abuse.

College students with ADHD face issues that prove challenging, developing identity, establishing independence, understanding emerging sexuality, making choices regarding drugs and alcohol, and setting goals.

In summary, college students with ADHD attending college may have more difficulty than non-ADHD students in dealing with demands related to such areas as academics, their social and daily lives, and their ability to plan for a career. In turn, these frustrations have led to lower college success rates and higher drop-out rates. Fewer students with ADHD go on to further education and have a higher failure rate than their non-ADHD peers (Barkley et al., 2008).

**College Students with ADHD and their Social Skills**

It has been given careful thought that the ability to successfully interact with others is a vital component of social development for all age groups. Some research shows that inadequate social skills in interacting with peers can affect ADHD individuals’ progress in many areas and are vital to interpersonal success (Elliot & Gresham, 1987). Some studies report consistent deficits in social skills. As noted in the studies of overall outcome, these deficits in social skills appear to continue into adulthood.
As Chickering (1969) reports, the transition to college is marked by complex challenges in emotional, academic, and social adjustment. Tomlinson-Clark and Clark (1994) reported the positive correlation between academic achievement and social skills. In addition, College students who participated in a greater number of college activities had greater interpersonal skills and higher popularity.

Shaw-Zirt et al. (2005) found that college students with ADHD exhibit diminished levels of adjustment, social skills, and self-esteem, as compared to a corresponding control group. Their study assessed several aspects of college adjustment, social skills, and self-esteem in a non-referred sample of college students meeting criteria from the Diagnostic and Statistical Manual of Mental Disorders (4th ed.) diagnosis of ADHD. Twenty-one undergraduate students with symptoms of ADHD were compared to 20 students without significant ADHD symptoms who otherwise matched the students with ADHD on age, gender, and grade-point average. Students with ADHD symptoms showed decreased functioning in several areas of college adjustment, as well as lower levels of self-reported social skills and self-esteem.

Because ADHD symptoms may vary from society’s norms of acceptable behavior, persons with ADHD are often found to be irritating and troublesome to others (Miller-Johnson et al., 2002). In fact, studies conducted on children found that their viewpoints toward their peers with ADHD were negative in general, frequently resulting in expulsion from peer groups (Erhardt & Hinshaw, 1994). Teenagers with ADHD report considerably more difficulty in interpersonal relationships than persons without ADHD (Ramirez et al., 1997).
One cognitive-behavioral factor described in the social psychology literature which relates to social maladjustment, is rejection sensitivity (RS), the tendency to “anxiously overreact to rejection” (Downey, Khouri, & Feldman, 1997, p. 85). Children with ADHD are more probable to encounter rejection from their peers and through negative interactions at home, as well. In fact, recent work has linked childhood ADHD (Clarke, Ungerer, Chahoud, Johnson, & Stiefel, 2002) and its often co-morbid oppositional behavior (Gomez & Gomez, 2002) to negative attachment, implying that even rejection by their parents, in many instances, is persistent. Downey and colleagues proposed that precisely this kind of early rejection can lead to elevated rejection sensitivity, which in turn, can influence relational adjustment through adulthood. Negative outcomes seen in children and adolescents with high rejection sensitivity result in increased conflict with schoolmates, staff, and early dating partners, as well as lower social competence as reported by their teachers (Downey, Freitas, Michaelis, & Khouri, 1998; Purdie & Downey, 2000). Adults with greater rejection sensitivity also show jealousy and aggression towards their romantic partners, contributing to elevated unhappiness by their partners and leading to termination of relationships over a 1-year period (Downey & Feldman, 1996; Downey et al., 1998). Given that chronic rejection in childhood often co-occurs with ADHD, it seems possible that rejection sensitivity contributes to their enduring problems with social skills and self-esteem.

Longitudinal studies of children with ADHD have shown poorer social skills during adulthood than their non-ADHD peers (Weiss & Hechtman, 1993). Wolf (2001) argued that peer relations and social-skill deficits are significant contributing factors to
poor academic performance and high attrition rates of college students with hidden disabilities, such as ADHD.

Given that chronic rejection in childhood often co-occurs with ADHD, it seems possible that rejection sensitivity contributes to enduring poor social skills and self-esteem in ADHD adults. Eakin’s study (2004) followed children with ADHD to adulthood. The study included measures of social functioning and found a continuation of poor psychosocial adjustment. Milman (1979) found that 67% of hyperactive adults (mean age 19) had social problems. Weiss and Hechtman (1933) reported that hyperactive adults (mean age 25) had significantly poorer social skills. After measuring social and emotional competence in adult ADHD students, Friedman’s study (2003) finds adults with ADHD view themselves as less socially competent and more sensitive toward violations of social norms. This study shows that these ADHD individuals frequently struggle to maintain healthy interpersonal relationships within social and work domains.

In adolescence, relationships between teenagers with ADHD and their friends become more important. Landau & Moore’s (1991) report states that adolescents with ADHD tend to evoke extremely negative responses from their peers, and, often, are viewed by their peers as aggressive, disruptive, intrusive and socially rejected. These relationships are often difficult for college students with ADHD. During college years, their friends change. They date more and peer pressure increases. They may also become more easily frustrated and more emotionally sensitive than their non-ADHD peers. This is common for ADHD college students (Wibbelsman & Brown, 2005). Some college students with ADHD show no problems in the establishment of and keeping relationships. Others have problems dealing with different personalities, their
own expectations and that of others. ADHD students tend to be more easily frustrated or more emotionally sensitive than others their age. Participating in structured social activities, such as sports and clubs, can help provide them with a built-in social group and shared positive experiences. Importantly, it appears that the forces at work within an ADHD student’s family may play a sufficiently greater role in affecting quality of life outcomes for them. Also, the ability of the student with ADHD to interact in the normal or usual way with the opposite sex may vary across ADHD subtypes.

Children with ADHD are more likely to encounter rejection from their peers and through negative interactions at home, as well. In fact, recent work has linked childhood ADHD (Clarke, Ungerer, Chahoud, Johnson, & Stiefel, 2002) and its often co-morbid oppositional behavior (Gomez & Gomez, 2002) to negative attachment, indicating that even rejection by their parents, in many instances, is consistent. Downey and colleagues propose that precisely this kind of early rejection can lead to elevated rejection sensitivity, which in turn can affect relational adjustment through adulthood. Negative outcomes seen in children and adolescents with high rejection sensitivity result in increased conflict with schoolmates, school personnel, or early dating partners, as well as lower social skills as reported by their teachers (Downey, Freitas, Michaelis, & Khouri, 1998; Purdie & Downey, 2000).

A small number of studies including one by Meaux, Green, and Broussard (2009) examine the social functioning of college students with ADHD, including the use of alcohol and banned substances. Students were interviewed and to aide in a study carried out by Meaux, Green, and Broussard (2009) to help recognize factors that help students with ADHD handle with college adjustment, as well as excel academically.
In terms of college adjustment, Shaw-Dirt’s study (2005) of ADHD students found significantly lower scores than the non-ADHD students on all aspects of the SACQ, as well as the final adjustment score. Students identified seven factors as being useful: being responsible to someone or for some activity, the result or effect from their own actions, alerts and timely reminders, positive self-reinforcement, removing things that divert form giving full attention, and organized scheduling. The interviewees described seeking support of their peers in college to supplant their parents who had been their main support system while in high school and identified these relationships as a particularly helpful coping factor. Positive self-reinforcement also helped to maintain relationships and avoid bad behavior, such as interrupting others. Rabiner, Anastopoulos, et al. (2008) found that a striking difference to the negative findings regarding the ability to function in society finding that students who reported having difficulties with ADHD in their first semester did not encounter less satisfaction with social relationships compared to students without ADHD. During the college experience, possibly, the lack of satisfaction increases over time as more negative social experiences occur.

**College Students with ADHD and their Self-Esteem**

Over the years, terms such as self-image, self-concept, self-esteem, and self-efficacy, have been used to describe the way one views oneself. The most common term used by researchers in studies on college students with ADHD is “self-esteem.” Therefore, in this study, “self-esteem” will be used as the term for the way one views oneself. Self-esteem was described by theorist Carl Rogers (1951), to be an
essential element in the development of a healthy psychological self when handling each individual well-being functions.

Brown’s study (1993) indicated individuals’ lacking self-esteem can lead to problems with self-concept. Individuals with identity problems can experience cognitive, interpersonal, and emotional problems. According to many researchers, deficits in social skills directly affect self-esteem.

College students with ADHD have been consistently linked to negative outcomes of social acceptance. Previous studies demonstrated that rejection, experienced by children with ADHD, may be pervasive, taking place in both peer (Hoza et al., 2005) and family (Seipp & Johnston, 2005) contexts. Feelings of rejection from peers and family and low achievement have a great impact on the self-esteem of these college students with ADHD.

In discussions on the ADHD students’ increasing functioning and educational attainment, the majority of studies reported consistent deficits in self-esteem. College students with a history of ADHD in childhood were found to have significantly lower self-esteem in comparison to a control group not acknowledged to have ADHD symptoms (Dooling-Litfin & Rosén, 1997).

Many theorists have offered for consideration a connection between social functioning and the development of self-esteem. Marchall, Anderson, & Champagne (2007) stated that we often need to be accepted by others in order for us to accept ourselves. Dooling-Liftin and Rosen (1997) reported that undergraduate psychology students with ADHD reported lower levels of self-esteem in contrast to students who did not report any history of ADHD.
An area for concern is the attitude of campus peers toward students with ADHD, which can be a factor that relates to the ADHD students’ self-esteem. A study performed by Chew, Jensen & Rosen (2009) examined the attitudes of college students with and without ADHD toward peers with ADHD. The study indicates that peers, parents, and teachers have many misperceptions and unfavorable attitudes toward individuals with ADHD.

Studies show that college students with a childhood history of ADHD had significantly lower ratings on self-esteem. Low tolerance for stress and frustration is also detrimental to ADHD college students’ achievement motivation. This lack of effort, due to the fear of failure, is counter-productive and usually leads to further failure. These findings correspond to findings from other studies conducted on this topic. Shaw-Zirt, Popali-Lehane, Chaplin, and Bergman (2005) found that college students with ADHD showed lower levels of adjustment, lessened social skills, and self-esteem, as compared to a matched control group. Yet another study, Landgraf (2007), suggested that ADHD persists across the life cycle and is associated with a wide range of adverse psychiatric outcomes; substance use, as well as persistent life impairments because of low self-esteem, marital discord, poor communication and parenting skills, and academic and employment underachievement.

In Hoy et al.’s (1978) report, college male students with ADHD indicated that they were less pleased with themselves, and tended to place themselves closer to unsuccessful, unhappy, or failing people. College students had little self-confidence, anticipated failure, avoided social participation, and had lower self-esteem scores and
increased feelings of inadequacy. They also reported that they spent most of their spare
time alone or with younger children.

In most of the studies of overall outcome, these deficits in social skills and
adjustment negatively affect self-esteem, which researchers have found equates with
success or failure in educational endeavors and professional careers. Slomkowski, Klein,
and Mannuzza (1995) reported that an ADHD student’s symptoms appear to continue
into adulthood, with older students with ADHD demonstrating a significantly higher
degree of sadness, loneliness, and fewer friends than students without ADHD. Self-
esteeem while growing up was positively correlated with psychosocial adjustment and
negatively correlated with ADHD symptoms, they reported. Furthermore, they also point
out that self-esteem when growing up equates with achieved education success and
eminent career position.

Studies of students with academic difficulties have suggested the presence of a
logical association between scholarly success, self-esteem, and social skills. Further,
education facilities are trying to accommodate those students who request it for their
ADHD symptoms. School-based intervention strategies—including behavioral
interventions, modifications to academic instruction, and home-school communication
programs—are extremely helpful to these students.

**Presentation of Theories**

ADHD is increasingly recognized as a disorder with symptoms which persist into
adulthood. Researchers estimate that up to 65% of children diagnosed with ADHD may
continue to display general behavior problems, as well as specific symptoms of ADHD,
later in life (Weiss & Hechtman, 1993). ADHD is characterized by developmentally
inappropriate amounts of inattention and/or hyperactivity-impulsivity throughout the person’s life (American Psychiatric Association, 2000; Barkley, 2006). In relation to normal developing children, ADHD afflicted students are at higher risk for having to repeat a course, being placed in special education, and failing to finish high school (Barkley, 2006; Barkley, Murphy, & Fischer, 2008).

Fewer young students with ADHD go on to further institutions of learning, and, of those who do, even fewer finish degree programs relative to their non-ADHD peers (Barkley et al., 2008). Initial studies suggest approximately 25% of college students who receive disability services have ADHD, and this number continues to grow (Wolf, 2001). Given the growing numbers and the difficulties they face, there is an emphasis more and more on this age group in written works on ADHD

As Barkley states, ADHD consists of a deficit in behavioral inhibition. Barkley also developed a theoretical model that links inhibition to four neuropsychological functions that are required for effective execution: they are (a) working memory, (b) self-regulation of affect-motivation arousal, (c) internalization of speech, and (d) reconstitution (behavioral analysis and synthesis). Barkley reviews evidence for each of these domains of functioning and finds it to be strongest for deficits in behavioral inhibitions among those with ADHD. Although the model is promising as a potential theory of self-control and ADHD, far more research is required to evaluate its merits and the many predictions it makes about ADHD.

In a Malloy-Diniz’ study (2007), ADHD is characterized by inattention and hyperactivity and impulsivity. Impulsivity persists in adults with ADHD and might be the basis of much of the impairment observed in the daily lives of such individuals. This
study concludes that impulsivity consists of three components among adults with ADHD: motor, cognitive, and attention.

The National Resource Center on ADHD has also characterized people with ADHD as having problems with “executive functioning” (2008). This term refers to the cognitive functions within the brain that are a set of processes that all have to do with managing oneself and one's resources in order to achieve a goal, “activate, organize, integrate, and manage other functions.”

Executive functioning allows a person to think about goals through mental control and self-regulation and the ability to review results of his or her actions, and plan accordingly (Barkley, 2009). In colleges, parents and professors expect a student to become more independent; sometimes, the change and increased responsibility is troublesome for students with ADHD. Research indicates ADHD symptoms persist well past adolescence, negatively affecting college-age young adults, according to Norwalk, Norvilitis and MacLean (2009), and causing problems at school, work and home. Although it was once believed that ADHD affected only children, Norwalk et al (2009) found that people with ADHD attending college may have more difficulty than non-ADHD students in dealing with demands related to such areas as academics, their social lives, and their ability to plan for a career. In turn, these frustrations have led to lower college success rates and higher drop-out rates.

“The Expression of Adult ADHD Symptoms in Daily Life,” a study conducted by Knouse et al (2007), used an experience sampling method (ESM) to examine the impact of inattentive and hyperactive-impulsive ADHD symptoms on the daily lives of young adults in the areas of emotional well-being, activities and distress, cognitive impairment,
and social functioning. Subjective appraisals were also examined. High levels of inattention are associated with reports of decreased positive affects in daily life, the report states. The relationship between social contact and positive effects, however, tends to reverse at high levels of inattentiveness, indicating that inattentive participants reported a more positive affect when they were alone than when they were with others.

In summary, fewer students with ADHD attend places of higher education and fewer of them graduate, relative to non-ADHD peers (Barkley et al., 2008). Initial findings suggest that 25% of all college students receiving disability services are considered ADHD, and this number is growing. As Barkley states, ADHD comprises a deficit in behavioral inhibition. The Malloy-Diniz’ study added that ADHD is characterized by inattention, hyperactivity, and impulsivity, which persists in adults with ADHD and might be the basis of much of the impairment observed.

**Summary**

Research so far indicates that the majority of children do not outgrow ADHD when they reach adolescence, with most teens still suffering from ADHD when they become young adults (Barkley, 2008). As DuPaul states, approximately 2% to 8% of students in college report clinically significant levels of ADHD, and at least 25% of all college students reporting disabilities are diagnosed with ADHD.

The American Psychiatric Association (DSM-IV-TR, 2000), states that ADHD affects 3% to 7% of the school-aged population and 2% to 4% of the college student population. Presently, college students with ADHD are receiving more notice, largely due to the increase ”in numbers” of high school students with ADHD going on to
higher education, combined with reports of prescription stimulant abuse increasing on college campuses.

In the summary, the findings concerning growth and advancement issues facing college students with ADHD mention that, relative to “the regular” college population as a whole, college students with ADHD are more likely for academic, social, and psychological difficulties on many campuses. These difficulties heavily affect the self-esteem of these students. Their low self-esteem directly affects the social skills needed to interact with peers and campus staff.

Research suggests that there are a substantial number of undergraduates with ADHD enrolling in colleges and universities. Conversely, there has not been adequate research conducted to indicate and recognize the wants of this group. There is no evidence that colleges and university faculty members are being trained to help these college students. There is not enough sufficient evidence that these ADHD students have family support to help them.

The initial treatment strategies include psycho-stimulant medication, coaching, and educational accommodations. However, very little research has been organized and carried out on the controlled treatment outcome.

Many teens with ADHD find that school culture does not fit their personality or maximize their aptitudes. It is important for them to find their niche and identify their strengths, as well as find reinforcing surroundings and activities and to develop the understanding that everybody has strengths and weakness.

ADHD is increasingly recognized as a disorder with symptoms which persist into adulthood. Researchers estimate that up to 65% of children diagnosed with ADHD may
continue to display general behavior problems, as well as specific symptoms of ADHD later in life (Weiss & Hechtman, 1993). ADHD is characterized by developmentally inappropriate amounts of inattention and/or hyperactivity-impulsivity throughout the person’s life (American Psychiatric Association, 2000; Barkley, 2006). In most of the studies, ADHD college students’ self-esteem is strongly aligned with their social skills. The purpose of this exercise is to find directions ADHD students can turn to in order to succeed at college by identifying their social problems and their low self-esteem caused by these symptoms.

Results of literature reviews have indicated that there is a strong correlation among college ADHD students’ psychological and neurological functions and their low academic achievement. Therefore, many studies have reported that those ADHD students attending college who were academically at risk tended to have lower levels of self-esteem and social skills (Clemes & Bean, 1981; Wiggings, Schatz & West, 1994). In turn, these frustrations have led to lower college success rates and higher drop-out rates. Proportionally fewer students with ADHD attend college and, of those who attend, less complete degree programs compared to non-ADHD peers (Barkley et al. 2008).
Chapter 3: Methodology

Introduction

This study looked at how ADHD symptoms are related to different facets of adjustment to college, in the areas social skills and self-esteem, by students with ADHD. The final goal of this study was to find out whether those ADHD college students have social skills and self-esteem problems that affect their social interaction and their academic achievement. This chapter describes the research approach used in this exploratory study. The intent was to secure sufficient information to create a greater understanding about the lived experiences of the college students with ADHD. Further, this chapter offers background on the qualitative and quantitative traditions of research, describes the sampling method and resulting sample used for the study, outlines the data collection process and procedures, and highlights ethical considerations. It also explains why the researcher used the combination of quantitative and qualitative methods to conduct data analysis.

Research Methodology

In this study, both the qualitative and quantitative methods are used. The findings are presented separately. However, in the end, these two findings are compared and analyzed. In this study, questionnaires (Appendices A, B and C) and interviews that ask both fixed choice questions and open-ended questions were used (Appendix D) to measure the following hypotheses and research questions.
Hypotheses and Research Questions

**Hypotheses**

1. College students who meet the criteria for ADHD will report a lower level of social skills, compared to a group of college students with no history of ADHD.
2. College students with ADHD will have a lower level of self-esteem compared to a group of students without ADHD.

**Research Questions**

1. What role do ADHD symptoms play in social skills and self-esteem of the ADHD college students?
2. What role do social skills and self-esteem of college students with ADHD play in their social interaction and academic achievement?

**Sample and Population**

All participants were students at post-secondary institutions based in Los Angeles, California. The researcher contacted several post-secondary institutions in Los Angeles seeking students diagnosed with ADHD. Volunteers were undergraduate and graduate students from one private four-year university and 2 two-year public community colleges.

**Data Collection and Procedures**

One four year university and two community colleges allowed contact with their students through their Disability Service Center (DSC). All three institutions’ DSC offices sent e-mails out to students who self-identified as having ADHD with three surveys (Appendices A, B & C). All of the three questionnaires ask, at the top of the form, whether the respondent is an ADHD student or a non-ADHD student. One
professor from each of these institutions sent out these surveys to his/her classes which have ADHD students and non-ADHD students. There were indicators on each survey for students to identify themselves whether they are ADHD students or non-ADHD students (Appendices A, B & C). These three institutions also allowed the researcher to post notices on bulletin boards on their campuses.

1. Among the 44 ADHD students, 6 were from responses to the researcher’s bulletin board notice, 12 were from the 3 professors sending out surveys in classes, and 26 ADHD students responded from the Disability Service Centers from these three institutions.

2. Among the non-ADHD students, 16 were responses from the researcher’s bulletin board notice, and 28 were from the three professors in these three institutions sending out surveys with explanations.

3. All 8 interviewees were selected from these 26 ADHD students who responded from the three DSCs from these three institutions.

There were 44 non-ADHD and 44 ADHD students from the above collection method who filled out the Rosenberg Self Esteem Scale, Social Interaction Anxiety Scale, and the Personal Profile Information surveys (Appendices A, B, & C).

**Quantitative Methodology**

After careful examination of the completed surveys, 88 sets of data, in which 44 are ADHD students and 44 are non-ADHD students’ surveys (Appendices A, B & C), are used for quantitative research.
**Instrumentation**

The following two instruments and the Profile Information Form were used for outcome measures.

1. Social Interaction Anxiety Scale Survey Schedule (Appendix A)
2. Rosenberg Self-Esteem Scale (Appendix B)
3. Profile Information Form (Appendix C)

**Reliability and Validity of the instruments**

1. **The Social Interaction Anxiety Scale Survey Schedule (Appendix A)** (Mattick & Clarke, 1998): The instrument was developed to measure social function in a variety of social situations. The authors developed the scale as a way to provide a narrower and more specific measurement of social interaction skills. This survey consists of 20 items. This schedule has suggested high internal consistency (.86 to .94) across a variety of clinical communities, and student samples (Heimbert et al.). Co-relational data also provides some support for the convergent and discriminate validity of the SIAS. Other measures of social anxiety have been shown to be significantly associated with the SIAS (.66 to .81) (Cox et al., 1998). Copyright: E-mail sent to authors for permission to use in this study.

2. **The Rosenberg Self-Esteem Scale (Appendix C)** (Rosenberg, 1965): This is a global measure of self-esteem and consists of 10 items answered on a 4 point scale, from “strongly agree” to “strongly disagree.” The scale was found to have a 2-week test-re-test reliability coefficient of .85, in addition to strong convergent and discriminate validity (Silber & Tippett, 1965). Copyright: Permission granted to use for educational and research purposes.
3. **Profile Information Chart**: It was designed (Appendix C) to address the demographics of those who participated in this quantitative study: gender, birth year, nationality, ethnicity, school status, expect degree, and year of first enrollment at college. These provided selected variables (n=88) which provide a glimpse of this population’s background and status in looking from a research perspective for comparison and references.

**The Description of the Sample**

There were 44 non-ADHD and 44 ADHD students from three institutions who filled out the Rosenberg Self Esteem Scale, Social Interaction Anxiety Scale, and the Personal Profile Information survey forms.

**Quantitative Analytical Procedure**

The research investigates this study’s hypotheses regarding whether “College students who meet the criteria for ADHD will report a lower level of social skills, compared to a group of college students with no history of ADHD, and “College students with ADHD will have a lower level of self-esteem compared to a group of students without ADHD.”

The researcher used three sets of questionnaires’ results, based on the Rosenberg Self-esteem Scale, the Social Interaction Anxiety Scale and the Personal Profile Information to conduct quantitative analysis.

A Multivariate analysis of variance (MANOVA) was used for analyzing in order to prevent the inflation of Type I errors as well as to identify whether changes in the independent variables (with ADHD vs. without ADHD symptoms), which have a significant effect on the dependent variables (on both social skills and self-esteem).
MANOVA tests, such as Wilks’ Lambda, consider the correlation between two responses and, therefore, are more accurate and have less type I errors. MANOVA only detects whether there is a difference. If there is a difference, then the T-test should be conducted.

T-test checks the group difference (with ADHD vs. without ADHD) under each response, i.e., Rosenberg’s Self-Esteem Scale and the Social Interaction Anxiety Scale. If a difference is detected by MANOVA, a T-test will be performed to verify where the difference occurs (under which scale).

Statistical analyses conducted based on the information collected include:

1. Statistical counting of samples in diverse fields,
2. Statistical characteristics of scores obtained through the Rosenberg Self-esteem Scale and the Social Interaction Anxiety Scale,
3. Reliability analysis to check internal consistency of the questionnaires for social anxiety and self-esteem.
4. Two T-tests to compare the difference between groups (students with ADHD and without ADHD) for total scores based on the Rosenberg Self-esteem Scale and Social Interaction Anxiety Scale.

**Qualitative Research Methodology**

Qualitative method incorporates the research data and melds it into themes, content and concepts coupled with qualitative research from interviewing 8 students with ADHD with 10 open-ended questions (Appendix D).
Guiding Questions for Interviews

1. What was your childhood like?
2. How do you feel about school?
3. Do you join different clubs at school or in the community?
4. What would you like to do as a professional?
5. Do you have any problems, such as sleeping at night, or excessive drinking?
6. How do you feel about yourself?
7. Do you have a close relationship with your family and friends?
8. How do you handle emergency situations?
9. What are your favorite pastimes?
10. Are people friendly to you?

Qualitative findings grow out of three kinds of data:

(1) In-depth, open-ended interviews
(2) Direct observation
(3) Interaction dialogues

Interviews yield direct quotations from people about their experiences, opinions, feelings and knowledge. Data consists of verbatim quotations with sufficient context to be interpretable (Patton, 2011). The voluminous raw data in these field interviews are organized into readable narrative descriptions with major themes and illustrative case examples extracted through content analysis. The themes, patterns, understandings, and insights that emerge from fieldwork and subsequent analysis are the fruit of qualitative inquiry (Patton, 2011). This wide-range understanding gives a clearer idea of how social skills and self-esteem affect the quality of learning for college students diagnosed as
ADHD. This inquiry also examined the themes which hindered their social skills and self-esteem.

**Description of the Sample**

Interviews were conducted with 8 college students with ADHD. All 8 interviewees were selected from the 29 ADHD students who responded from the DSCs from the three institutions. Here are the profiles of these eight students (table 1).

Table 1

*Study Sample of 8 Participants*

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</tbody>
</table>

**Data Collection**

The data collection procedure for this study commenced with phone calls and emails from interested students from these three DSC from these three institutions. Students were given general information and permission over the phone or via emails about the study and to ensure that they met basic eligibility requirements.

The semi-structured interviews provided all-encompassing themes and related questions, but this less formal structure also allowed for exploration of ideas that appeared during the conversation rather than being limited by 10 research questions (Appendix D). The 10 questionnaires were designed to collect demographic data about the participants, background information about their experiences with ADHD, and prior and present approaches employed to address symptoms. Questions also inquired about personal and academic goals, services and accommodations used recently and in the past,
and the major challenges they faced in their higher education. All 8 interviewees also filled out these three survey forms:

1. Social Interaction Anxiety Scale Survey Schedule (Appendix A). The instrument was developed to measure social function in a variety of social situations.

2. Rosenberg Self-Esteem Scale (Appendix B). This is a global measure of self-esteem and consists of 10 items answered on a 4 point scale, from “strongly agree” to “strongly disagree”.

3. Profile Information Form (Appendix C). It was designed to address the demographics of those who participated in this quantitative study: gender, birth year, nationality, ethnicity, school status, expected degree, and year of first enrollment at college. These provided selected variables (n=88) which give a glimpse of this population’s background and status, looking from a research perspective for comparison and references.

The interview questions were designed to collect information about the participants’ coping with day to day school life, their future career plans, their day to day functioning in their school, and the effectiveness of the accommodations related to their self-esteem and social skills, which are essential for success with students. These interviews also allowed for observation of each ADHD student’s body language, such as tapping on a table, moving around in the chair, and fidgeting with a pen. Each of the personal interviews averaged about an hour and half in length and followed the interview protocol. The interview locations were at the DSC centers with one interviewee was interviewed at Berger King and another interviewee were placed in a classroom in his campus. Creswell (1998) highlighted the psychological approach, which focuses on the
meaning of experiences with particular attention to individual experiences. He described this kind of thinking as to determine what an experience means for the persons who have had the experience and are able to provide a comprehensive description of it. From these individual descriptions, general or universal meanings are derived.

**Data Analysis Process**

**Description of the tool: Atlas.ti**

The qualitative results were gathered using interviews with 8 ADHD students. The data from these 8 interviewees are placed into a research program, called Atlas.ti, for analysis.

The researcher used Atlas.Ti as the software to conduct qualitative data analysis. It helped the researcher to organize the data from the eight interviews. The researcher identified the key words and concepts in the transcripts of the interviews and used Atlas.ti to formalize them into 39 “codes” (such as anxiety, attention, etc). The researcher then used this program to group segments from the transcripts into 39 groups, each corresponding to a code word, in a systematic way. Each code concept could then be analyzed as to how often or important it was in the eight interviews.

**Analysis**

Because of the richness of information associated with data collected and the goals and purpose for this research, interviewing was the primary data collection method used for this study. Transcribed verbatim from recordings or handwritten notes, interviews were accomplished through a process that involved the subjects being asked a series of unstructured, open-ended questions in a semi-structured processes or through focus groups (Creswell, 1998).
The process of data analysis for the present study began with completing the transcripts of the recorded interviews and soliciting input from the participants. The finalized transcripts were loaded into an Atlas.ti file for coding. The researcher’s next step was to re-read all of the transcripts for the purposes of identifying codes. That process yielded a total of 39 codes. Using these 39 codes, the data were categorized into 8 themes: Diagnosis/Childhood Experiences, ADHD Symptoms, Self Esteem, Family Support, Accommodations, Social Skills, Medication, and Goals. There are corresponding themes under each theme. The narrative structure used in reporting the findings attempts to describe the essence of the experiences as described by the study 44 participants (Creswell, 2007) which exhibit what the researcher seeks to learn.

Using these 39 codes, the transcripts were further coded to into eight themes. These 39 codes were used to sort the data, determine which codes were meaningful, and decide which were not especially important toward answering the research questions.

Role of the Researcher

The quality of qualitative data depends to a great extent on the methodological skill, sensitivity, and integrity of the researcher. Content analysis requires considerably more than just reading to see what is there. Generating useful and credible qualitative findings through interviews and content analysis requires open-ended questions, knowledge, practice, passion and an open-mind.

After development of the research questions and after all interviews were conducted, the overall design of this study was developed. The University of Southern California’s Institutional Review Board authorized all advertising materials and adapted
them in accordance with the requirements of the dissertation committee. The approved documents were submitted to the three schools that provided access to their students.

**Fact Sheet about this Study**

The ethical considerations related to this study included acquiring IRB approval, participants’ verbal and email consent, data storage, incentives, and confidentiality. Institutional Review Board (IRB) approval was granted through the University of Southern California. Additionally, the voluntary nature of the study was re-emphasized at the start of the interviews. Only first names were used in the transcripts in the format of Atlas Ti. The record of interviews was stored on a secure computer drive and password protected with access granted only to the primary researcher. Students received a total of $35 for participating in both interviews and filled out survey forms. The purpose of providing incentives was to help students fully understand that their participation represented a service to the community college as well as to other students with ADHD who might enter the system in the future. The recruitment letter is available for review in Appendix F.
Chapter 4: Findings

Introduction

The present research was intended to afford ADHD students the chance to express their feelings on surveys, or/and verbalize how they feel about their life in college and help the academic world comprehend how the ADHD student thinks and deals with his/her symptoms in the day-to-day struggle to earn a degree. An analysis of words, body language, and emotions of the interviewees and three surveys (Appendices A, B, and C) aimed to understand their life at school and at home, and their responses to challenges, both internally and externally. Questions asked about the ADHD students’ life at college, and how this disorder affects their social life and, consequently, their self-esteem. This study aimed to identify whether personal behavior affects their social skills and self-esteem, which further affects their social interaction and academic achievement.

Qualitative findings may be presented alone or in combination with quantitative data (Patton, 2011). In this study, the qualitative findings and quantitative findings are presented separately.

Hypotheses and Research Questions

Hypotheses

College students who meet the criteria for ADHD will report a lower level of social skills, compared to a group of college students with no history of ADHD.

College students with ADHD will have a lower level of self-esteem compared to a group of students without ADHD.
Research Questions

What role do ADHD symptoms play in social skills and self-esteem of the ADHD college students?

What role do social skills and self-esteem of college students with ADHD play in their social interaction and academic achievement?

Quantitative Research

Sample of Study

There were 44 non-ADHD and 44 ADHD students from three institutions who filled out the Rosenberg Self Esteem Scale, Social Interaction Anxiety Scale, and Personal Profile Information survey forms. After careful examination of the completed surveys, 88 sets were selected, which were completely filled out and viable for quantitative research.

Instrumentation

Outcome Measures from the following two instruments:

1. Profile Information Chart (Appendix A)
2. Social Interaction Anxiety Scale Survey Schedule (Appendix B)
3. Rosenberg Self-Esteem Scale (Appendix C)

Reliability and Validity of the instruments

The Social Interaction Anxiety Scale Survey Schedule (SIAS) (Mattick & Clarke, 1998): The instrument was developed to measure social function in a variety of social situations. The authors developed the scale as a way to provide a narrower and more specific measurement of social interaction skills. This survey consists of 20 items. This schedule suggests high internal consistency (.86 to .94) across a variety of clinical
communities, and student samples (Heimbert et al.). The scale is based on a 5-point scale: 0 = Not at all to 4 = Extremely, Higher scores reflect more anxiety.

**The Rosenberg Self-Esteem Scale** (Rosenberg, 1965): A global measure of self-esteem, the Rosenberg Self-Esteem scale consists of 10 items answered on a 4 point scale, from “strongly agree” to “strongly disagree.” The scale was found to have a 2-week test-re-test reliability coefficient of .85, in addition to strong convergent and discriminate validity (Silber & Tippett, 1965). The scale is based on a 4-point scale: 1 = Strongly disagree to 4 = Strongly agree, Higher scores reflect greater self-esteem.

**Results of the Quantitative Research**

With the research survey results of 88 students (n=88), in which there are 44 ADHD students and 44 non-ADHD students, the researcher applied the T-Test and Manova as the measurement tools to come up with the following findings.

**Manova Findings**

A Multivariate analysis of variance (MANOVA) was used for analyzing in order to prevent type one errors. A one-way MANOVA test was performed using these participant groups (ADHD versus non-ADHD) as the independent variable with the two scale scores (social anxiety and self-esteem) as the dependent variables. The resulting Wilks’ Lambda statistic was significant, $F (2, 85) = 37.19, p = .001$. (Table 2)
Table 2

*Multivariate Tests*

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
<th>F</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>.986</td>
<td>3016.641&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.000</td>
<td>85.000</td>
<td>.000</td>
<td>.986</td>
</tr>
<tr>
<td>Wilks’ Lambda</td>
<td>.014</td>
<td>3016.641&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>85.000</td>
<td>.000</td>
<td>.986</td>
</tr>
<tr>
<td>Hotelling’s Trace</td>
<td>70.980</td>
<td>3016.641&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>85.000</td>
<td>.000</td>
<td>.986</td>
</tr>
<tr>
<td>Roy’s Largest Root</td>
<td>70.980</td>
<td>3016.641&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>85.000</td>
<td>.000</td>
<td>.986</td>
</tr>
<tr>
<td>Group</td>
<td>.467</td>
<td>37.185&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>85.000</td>
<td>.000</td>
<td>.467</td>
</tr>
<tr>
<td>Wilks’ Lambda</td>
<td>.533</td>
<td>37.185&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>85.000</td>
<td>.000</td>
<td>.467</td>
</tr>
<tr>
<td>Hotelling’s Trace</td>
<td>.875</td>
<td>37.185&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>85.000</td>
<td>.000</td>
<td>.467</td>
</tr>
<tr>
<td>Roy’s Largest Root</td>
<td>.875</td>
<td>37.185&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>85.000</td>
<td>.000</td>
<td>.467</td>
</tr>
</tbody>
</table>

a. Design: Intercept + Group
b. Exact statistic

Four statistics were used to evaluate the difference including Pillai's Trace, Wilk's Lambda, Hotelling's Trace, and Roy's Largest Root. The test statistics and p-values for each testing of group difference are very consistent, i.e., Pillai's Trace ($F(2, 85) = 37.19, p = .001$), Wilk's Lambda ($F(2, 85) = 37.19, p = .001$), Hotelling's Trace ($F(2, 85) = 37.19, p = .001$), and Roy's Largest Root ($F(2, 85) = 37.19, p = .001$). This set of tables also shows the significance of group difference in affecting the score variations for the two scales ($p=0.000$ and $0.018$).

**A Profile Information Chart**: It was designed (Appendix C) to address the demographics of those who participated in this quantitative study: gender, birth year, nationality, ethnicity, school status, expect degree, and year of first enrollment at college. These provided selected variables (n=88) which provide a glimpse of this population’s background and status in looking from a research perspective for comparison and references. This information is presented in Table 3.
This study looked at how ADHD symptoms were related to different facets of adjustment to college in the areas social skills and self-esteem by students with ADHD. A total of 88 students participated in this study.

Table 3 displays the frequency counts for selected variables. Equal numbers of students were in the ADHD and non-ADHD groups. About half (48.9%) attended a major university while the others attended one of two community colleges. Forty-six percent were undergraduates and approximately another third (36.4%) being graduate students. There were a few more males (53.4%) than females (46.6%) in the sample. Most students (87.5%) were born between 1980 and 1993 (ages 18 to 32). Seventy-two percent were US born and another 21.6% were international students. The commonly reported racial/ethnic backgrounds were Asian (34.1%) and Caucasian (27.3%). Three-quarters (75.1%) started attending their school sometime in or after 2010. Students in the sample were evenly split among those expecting to earn their AA degree (35.2%), their Bachelor’s degree (32.9%) or some kind of graduate degree (31.8%).

Table 3

*Frequency Counts for Selected Variables (N = 88)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ADHD</td>
<td>44</td>
<td>50.0</td>
</tr>
<tr>
<td></td>
<td>Non-ADHD</td>
<td>44</td>
<td>50.0</td>
</tr>
<tr>
<td>School</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>43</td>
<td>48.9</td>
</tr>
<tr>
<td></td>
<td>Community college 1</td>
<td>12</td>
<td>13.6</td>
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<tr>
<td></td>
<td>Community college 2</td>
<td>33</td>
<td>37.5</td>
</tr>
<tr>
<td>Status</td>
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<td>45.5</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------</td>
<td>----</td>
<td>------</td>
</tr>
<tr>
<td></td>
<td>Graduate</td>
<td>32</td>
<td>36.4</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>16</td>
<td>18.2</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>47</td>
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</tr>
<tr>
<td></td>
<td>Female</td>
<td>41</td>
<td>46.6</td>
</tr>
<tr>
<td>Birth year</td>
<td>1947 to 1969</td>
<td>4</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>1970 to 1979</td>
<td>7</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>1980 to 1989</td>
<td>51</td>
<td>58.0</td>
</tr>
<tr>
<td></td>
<td>1990 to 1993</td>
<td>26</td>
<td>29.5</td>
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<tr>
<td>Nationality</td>
<td>US born</td>
<td>63</td>
<td>71.6</td>
</tr>
<tr>
<td></td>
<td>US permanent resident</td>
<td>6</td>
<td>6.8</td>
</tr>
<tr>
<td></td>
<td>International</td>
<td>19</td>
<td>21.6</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td>Caucasian</td>
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<td>27.3</td>
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<tr>
<td></td>
<td>Hispanic</td>
<td>17</td>
<td>19.3</td>
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<tr>
<td></td>
<td>African-American</td>
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<td>9.1</td>
</tr>
<tr>
<td></td>
<td>Asian</td>
<td>30</td>
<td>34.1</td>
</tr>
<tr>
<td></td>
<td>Native American</td>
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<td>5.7</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>4</td>
<td>4.5</td>
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<tr>
<td>Year Started</td>
<td>1994 to 2008</td>
<td>15</td>
<td>17.0</td>
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<tr>
<td></td>
<td>2009</td>
<td>7</td>
<td>8.0</td>
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<tr>
<td></td>
<td>2010</td>
<td>24</td>
<td>27.3</td>
</tr>
<tr>
<td></td>
<td>2011</td>
<td>40</td>
<td>45.5</td>
</tr>
<tr>
<td></td>
<td>2012</td>
<td>2</td>
<td>2.3</td>
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<tr>
<td>Expected Degree</td>
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<td>31</td>
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<td></td>
<td>BA</td>
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<td>28.4</td>
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<tr>
<td></td>
<td>BS</td>
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<td></td>
<td>Master's</td>
<td>27</td>
<td>30.7</td>
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<tr>
<td></td>
<td>Ph.D.</td>
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<td>1.1</td>
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</table>
Descriptive Psychometric Characteristics for the Primary Scale Scores (N = 88)

Table 4 displays the psychometric characteristics for the two scale scores. Cronbach alpha reliability coefficients were $\alpha = .93$ for the social anxiety scale and $\alpha = .84$ for the self-esteem scale. This suggests that both scales had acceptable levels of internal consistency and reflect the accuracy of the research questions. The first step in creating an instrument that has sound psychometric properties is to establish its reliability. Reliability is the measure that tells you how much two raters agree on their judgments of the outcome (Salkind, 2011). Salkind (2011) further states that Cronbach’s alpha is a special measure of reliability known as internal consistency, where the more consistently individual item scores vary, the more confidence that this is internally consistent or measures one thing, and that one thing is the sum of what each item evaluates.

Table 4

<table>
<thead>
<tr>
<th>Scale</th>
<th>Number of Items</th>
<th>$M$</th>
<th>$SD$</th>
<th>Low</th>
<th>High</th>
<th>$\alpha$</th>
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</thead>
<tbody>
<tr>
<td>Social Interaction Anxiety Scale $^a$</td>
<td>44</td>
<td>1.37</td>
<td>0.80</td>
<td>0.00</td>
<td>3.10</td>
<td>.93</td>
</tr>
<tr>
<td>Rosenberg Self Esteem Scale $^b$</td>
<td>44</td>
<td>3.02</td>
<td>0.50</td>
<td>2.20</td>
<td>4.00</td>
<td>.84</td>
</tr>
</tbody>
</table>

$^a$ Based on a 5-point scale: 0 = Not at all to 4 = Extremely.
$^b$ Based on a 4-point scale: 1 = Strongly disagree to 4 = Strongly agree.

Hypothesis One

The related hypothesis predicted that, “College students who meet the criteria for ADHD will report a lower level of social skills, compared to a matched group of college students with no history of ADHD.” To answer this question, Table 5 displays the $t$ test for independent means comparing the two groups of students for their social anxiety.
levels. For this scale, higher scores reflected greater social anxiety and thereby lower levels of social skills. The ADHD group had higher scores ($M = 1.90$) as compared to the non-ADHD group ($M = 0.83$). This difference was significant ($t = 8.56, \eta^2 = .46, p = .001$) which provided support for the first alternative hypothesis.

**Hypothesis Two**

The hypothesis predicted that, “College students with ADHD will have a lower level of self-esteem compared to the other group of students without ADHD.” To answer this question, Table 5 displays the $t$ test for independent means comparing the two groups of students for their self-esteem levels. For this scale, higher scores reflected greater self-esteem. The ADHD group had lower scores ($M = 2.90$) as compared to the non-ADHD group ($M = 3.14$). This difference was significant ($t = 2.40, \eta^2 = .06, p = .02$) which provided support for the second alternative hypothesis.

**T Test Results**

Table 5

*T Test Comparisons for Social Anxiety and Self-Esteem Scale Scores Based on Group (N = 88)*

<table>
<thead>
<tr>
<th>Scale Score</th>
<th>Group</th>
<th>$n$</th>
<th>$M$</th>
<th>$SD$</th>
<th>$\eta^2$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Anxiety Scale$^a$</td>
<td>ADHD</td>
<td>44</td>
<td>1.90</td>
<td>0.70</td>
<td>.46</td>
<td>8.56</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>Non-ADHD</td>
<td>44</td>
<td>0.83</td>
<td>0.45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self Esteem Scale$^b$</td>
<td>ADHD</td>
<td>44</td>
<td>2.90</td>
<td>0.44</td>
<td>.063</td>
<td>2.40</td>
<td>.02</td>
</tr>
<tr>
<td></td>
<td>Non-ADHD</td>
<td>44</td>
<td>3.14</td>
<td>0.52</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$^a$ Based on a 5-point scale: 0 = *Not at all* to 4 = *Extremely*. Higher scores reflect more anxiety.

$^b$ Based on a 4-point scale: 1 = *Strongly disagree* to 4 = *Strongly agree*. Higher scores reflect greater self-esteem.

$\eta$ = This eta coefficient is the Pearson product-moment correlation between which participant group (ADHD versus non-ADHD) and the scale score. It provides a measure of the strength of the relationship.
Qualitative Research

Qualitative methods incorporate the research data and meld it into themes, content, and concepts. In this study, qualitative research was obtained from interviews with 8 students with ADHD using 10 open-ended questions (Appendix D). These interviews provided the data for this study.

Data Collection

Qualitative findings grew out of three kinds of data collection from these 8 ADHD students’ interviews.

1. In-depth, open-ended interviews
2. Direct observation
3. Interaction dialogues

Interviews yield direct quotations from people about their experiences, opinions, feelings and knowledge. Data consists of verbatim quotations with sufficient context to be interpretable (Patton, 2011). The voluminous raw data in these field interviews are organized into readable narrative descriptions with major themes and illustrative case examples extracted through content analysis. The themes, patterns, understandings, and insights that emerge from fieldwork and subsequent analysis are the fruit of qualitative inquiry (Patton, 2011). This wide-range understanding gives a clearer idea of how social skills and self-esteem affect the quality of learning and their social interaction in their daily living for college students diagnosed as ADHD. This inquiry also examined the themes which hindered their social skills and self-esteem.

During research and analysis, some unforeseen behaviors came to light. However, significant observations are notable. The purpose of the interviews was also to examine
the effect of the internal environment of ADHD students as they relate to their external learning environments.

There were personal experiences expressed through the statements of the participants. These are experiences that have developed throughout their lifetime of overcoming the symptoms of ADHD and reflect a picture into the world of the participants’ emotions through their daily life on and off campus.

The qualitative methodology commences with a description of the sample followed by a discussion of progress of the research process. The presentation of the data and results provides a summary of the themes discovered through the analysis and general description of each participant by categories such as gender, age, and race. Then, the overall themes are placed into the different learning theories used for viewing these results. As a finale to the presentation of data and results, some of the unforeseen observations and revelations that provided essential new ideas about ADHD are described.

Both during the interviews and, subsequently, while analyzing the data, all possible conclusions were considered, even those that may have been unexpected or that flew in the face of assumptions made during the researcher’s experience as an ADHD teacher.

While the researcher worked with or around children with ADHD, this was the first encounter with adults who struggled significantly with ADHD. All of the participants were helpful and pleasant during their interviews, which made the research process interesting and a wonderful learning experience.
Patton (2011) highlights that qualitative designs are naturalistic to the extent that the research takes place in real world settings, and one researcher does not attempt to manipulate the phenomenon of interests.

**Role of the Researcher**

The role of the researcher in qualitative inquiry varies greatly across studies, depending on the data collection method selected. Designing flexible questions from the open-ended nature of naturalistic inquiry as well as pragmatic considerations are essential. While one cannot generalize from single cases or very small samples, one can learn from them (Patton, 2011).

Among these 44 ADHD students from the three institutions, there were 8 ADHD students who agreed to be interviewed. Three men and five women agreed with interest to be interviewed on campus and off campus. These ADHD participants represent the three different Disability Service Centers that took part in the study. Four ADHD students were from the four-year university and four were from the two community colleges. All interviews exceeded one hour in length and were recorded, using a digital audio recorder, with the participant’s knowledge and consent. Two participants commented that the noise surrounding them bothered them. Noise was a commonly reported distraction, borne out by the noisy interruptions during the interviews, which seemed to have an impact on the participants. Six of these interviews were conducted inside the office of the Disability Service Center in the respective institutions, one student’s interview was conducted in a Burger King restaurant, and one was conducted in a classroom of a community college.
After all these interviews, the results were examined and data gathered from students with ADHD from the four-year university and four from the community colleges. At the end, eight participants’ interviews were used for this qualitative study. The reason for this selection was that these eight students fully replied to all the questions pertaining to the research questions.

Therefore, out of the eight ADHD college students who were selected for this study, the sample included students at varying stages of life, from different backgrounds, and with unique sets of circumstances. The general characteristics of the sample are highlighted in the following table.

Data Processes and Procedures

Many of the students appeared a bit anxious initially. This initial nervousness seemed to dissipate quickly after the introduction piece for most of the participants. As the interview progressed, the students became more at ease.

The following is a general description of each participant, listing some of the corresponding themes covered by that particular student. Participants’ names have been changed. The discussion presents the overall themes and places them in the tables of themes and of the learning theory used for examining these results. The following section clarifies the themes using quotations and patterns noted in the participants’ words and body language. After the presentation of data and results, some unexpected observations and thoughts that provided important insight are presented, but these did not speak directly to the research questions stated in Chapter 1.
Profile of Each of the Eight Individuals

Mark

This participant showed characteristics of being creative and hard working. He displayed confidence in himself and also used positive sentences. He said he is on medication, but he is in control of his school and daily living.

He had a good childhood and stated his family is very supportive of him. “I had a lot of anxiety and like panic attacks a lot when I was younger, when I was like 8 to 12. Then I went to a psychologist and they gave me medication and I'm like way better now. I was like nervous all the time and I wouldn't go to school.” After many years, he found the medication that suited him, and he has started doing better at school.

When asked about his social life, he had this to say, “Some of my friends didn't understand what I was going through, because they didn't have it. So like I sometimes got teased and stuff like that.” However, he chose to ignore them. Although he does not have a lot of friends, he is trying to work it out by himself.

He is ambitious and has determined to take charge of his life. “I think school is like really important. I need to keep my grades up. I want to go to Stanford Law School so I feel school is one of the most important things in life for everybody and helps make people who they are. I might have to work harder than some people because of the ADD so if I have to work harder that only makes me stronger.”

Jasmine

The most striking characteristic of this interviewee was her indomitable spirit. She loves school and referred to education as a great success in her struggles. She described that she can help the world in a totally different way by using the arts. She
talked about her potential and her intellectual capacity to do so much, if she could somehow find the ability to apply this goal to her academic activities.

However, she has experienced so much since she was a child. She is from the East Coast and grew up on a farm where space is plentiful. She felt great when she was a child, but becoming an adult and enrolling in university was just such a limitation. “And it's not that I could blame anyone else. I am not like other people. There's something wrong. And I just couldn't understand it for the longest time. Why am I like this? You know what I mean? Why can't I just do it? Just do it. I am envious of people who just open the book and start reading. Just concentrate, just to process and done. And it's so frustrating.”

Given the limitations that she experiences, she chooses not to try very hard to finish all her classes and wants to be an artist. She feels that by becoming an artist, she does not have to be restricted into certain behavioral patterns or have to always follow a very strict timeline. Besides, she mentions that the free expression in painting as an artist releases a lot of her ADHD symptoms that bother her “day in and day out.” However, given the difficulties, she will not earn her bachelor degree.

**Cherry**

This participant was extremely expressive and unusually verbose. She was the only participant who could move through a great deal of talking and not lose sight of the question that she was answering. This participant noted her love for learning by saying that she enjoys going to school. She further expresses her love for learning by saying, “I just find learning new things fascinating.”
Academically, she is doing well and expresses her luck in having supportive parents who provided a coach for her when she was four years old. Following that, she had a study coach since first grade, which she stated was extremely helpful for her.

She was diagnosed and has been on medication since she was four years old. She expresses significant frustration about “being so capable on one hand and being so incapable on the other.” Her intellectual capacities stand out as exceptional both in school and in her work place. Even though she has these abilities, she deeply feels the deficits caused by the symptoms of ADHD. Although she was near receiving her Master’s degree in Science, she stated she still feels inadequate and, coincidently, has a boyfriend who has ADHD as well. She describes her life as being between herself and her shadow and claimed that she had no time for friends and for extra activities.

**Clarissa**

This individual was one who would think for a while before answering a question. This participant had a slow response time, seemed tired, and struggled to focus. At times, she would pause as long as 20 seconds before replying. During these pauses, she would be very motionless and her gaze would fix on one point until she spoke again. She showed no confidence in herself. She said that she has great difficulty sleeping because she worries all the time. She hates to be late, but she said she is late all the time, leading to great frustration. She explained that “because you lose track of time, you lose track of other stuff. So I think that a lot of the reasons why I'm late are because of maybe ADHD.”

She describes her working habits as, “I have a hard time focusing on one thing. For example, if I am on my computer doing research, then I'm also on line, on two other
websites--online shopping, and looking at Facebook. Like it’s, I'm always doing a lot at once.” She said, “I don't have that many friends, but I have a close, a lot of my friends are close to me. I'd rather have a few close friends than a lot of friends.” She said she does not like school because other classmates do not know that she is smart. She does not join club activities at school because she is busy. She does not like herself because she has to go “through tons of struggles.”

**Alex**

This young man has a very positive response to medication. As a young person, his parents did not put him on medication for ADHD because it would have negatively affected his standing as a competitive athlete. He excelled at football throughout high school. However, he stated he became emotionally disturbed during his senior year because his parents separated, with neither of them supporting him.

In his first semester at post-secondary school, he faced the challenge of learning how to study for the first time in his life. It was at this point that he realized that he needed to look further into an assessment for ADHD. After enrolling in community college and speaking with a counselor, he was diagnosed with ADHD. It was at that time that he was prescribed medication to help him with his ADHD symptoms.

He says medication has made it much easier for him to learn. He speaks much more positively about being in college and the advantages that academic achievement will bring to his life. He reports that he does not make new friends at community college, but, rather, he still plays with his old friends from high school. He says that he feels fine with himself, but often has difficulty sharing his life with others.
Daly

This person does not like noise and needs to be in a quiet place. Otherwise, her anxiety takes over and she needs to refocus. She worries constantly and needs to perform many tasks at once, even while watching TV and at work, with coffee and alcohol seemingly increasing her ability to focus. She had a relatively normal childhood, but she did not do well in high school and dropped out before graduation. She is a young mother now and stated she is very frustrated with herself.

She can stay on task no longer than a maximum of 45 minutes. After that, she needs to have a break of no less than 15 minutes in order to walk around and reorient herself. She says she loves attending class, but she keeps falling asleep. She is on medication for anxiety and she has trouble sleeping at night, drinking alcohol every night in order to calm down and sleep.

She recently joined Alcoholics Anonymous and no longer drinks, but she remains on medication and still feels overwhelmed and is still unable to concentrate. She feels that she is not smart enough and does not like herself very much.

Despite her problems, she is close with her family members. She is good in quick thinking emergency situations, mainly because her adrenalin is constantly pumping. She likes news in a short and quick format, nothing too long. She also likes hiking, with exercise making her feel better.

At school, she needed help with note-taking. She shows many notes taken by herself, many of which she cannot understand later. She can read short paragraphs, but she has trouble comprehending long stories and books. During the interview, she sits still but balls her hands into each other while trying to focus on our discussion. One of her
biggest fears is being unable to reach her goal of being a nurse. She describes her school test, which requires moving from task to task in one minute intervals, as challenging, as she has a hard time doing it. She said that she spent one interval worrying about it instead of taking action.

**Dottie**

She chose a very quiet corner in a quiet fast food restaurant for the interview. She chewed gum for the hour and a half that the interview lasted. She also kept constantly swinging her black pen in her hand while talking.

She stated that her son has ADHD and was on medication at age 17, but he decided to drop the prescription medication and did not graduate and has since been “in and out” of jail. She said that she has given up on her son. She is on a medication called Cylert, a time release pill, and takes one dosage every 24 hours.

When she was 17 years old, she dropped out of school. She went back to school at the age of 28 at the local community college and, at the time of the interview, was 37 years old. She said she is fidgety and lethargic. However, she can fall asleep without much problem, despite being anxious. She also describes herself as always hyper when she does not take her prescribed medication.

She said that her ADHD is hereditary; besides her son, she notices that two of her sisters have ADHD symptoms, but nothing was being done to help them. She works as a receptionist at an insurance company, but cannot concentrate for long periods. She might sit in front of the phone while doing something else, such as typing a letter for her boss. She attends church as her only social activity but has great difficulty sitting through the service. She needs background music to work or to focus on her tasks. She easily gets
distracted and cannot finish cleaning one room before starting on doing something else. She needs to move around constantly.

Since childhood, she cannot retain what she reads and has trouble understanding what it is she has read. She cannot process facts from reading. She plays the clarinet and golf, which are her favorite pastimes. She does not do well with sugar and coffee, as these do not contribute anything to her. She is excited about her future plans, as she wants to open her own business as a licensed professional to take care of single pregnant girls because she was one of those who got pregnant while attending high school.

In terms of schooling, she prefers taking tests in a different room and open book examinations. She has great difficulties with tests without using the open book method. She tries to manage her frustration and is able to take notes, keeping up at school but with low grades.

She struggles with handling emergencies. In such cases, breathing becomes difficult and she sometimes needs the assistance of air from an airbag. She is usually alone, although she occasionally spends time with family. She also mentioned that she has bouts of depression and tries to be happy and to like people but has a hard time dealing with people.

Always alone, she complained about being lonesome and feeling lonely without a husband and only having a few friends. During the interview, her toes never stopped moving, coupled with a constant tapping on the table.
Michael

He is a quick, bright and articulate male who is in constant motion--legs shaking, head turning, eyes darting, standing up, sitting down, and alternating among these behaviors. He verbalizes his love for sports and his need to move at his own pace in his academic endeavors. His post-secondary institution admitted him because he is able to play basketball well and was a member of the high school basketball team.

Now in his third year of college, he is generally satisfied with his success but points out that he has had to try very hard to catch up academically. When asked how he feels about being dropped from the university basketball team, he admitted that he “cannot do school work and practice basketball every day.” Nevertheless, he appears to be optimistic about his future. He says he is in control of his schooling, but that he only has a few friends and does not feel as though he is accepted by other students.

Data Analysis

The term “content analysis” is used to refer to any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meaning. The core meanings found through content analysis are often called patterns or themes (Patton, 2012).

Data analysis for this study was conducted using theme analysis. The ability to use thematic analysis appears to involve a number of underlying abilities, or competencies. One competency can be called pattern recognition. It is the ability to see patterns in seemingly random information (Boyatzis, 1998).
This approach was selected because it is favored for understanding the different ways in which people describe or discuss a particular topic or phenomenon and is one of the most accessible for qualitative researchers (Morse & Richards, 2002). The comprehensive purpose of this type of data analysis is to find patterns within a framework or create a deeper understanding of the ADHD students’ self-esteem and social skills. The aim is to bring all the ideas on the same topic, together into one place, which aligned well with the goals of this project.

The process of data analysis for the present study began with completing the transcripts of the recorded interviews and soliciting input from the participants. The finalized transcripts were loaded into an Atlas.ti file for coding. My next step was to re-read all of the transcripts for the purposes of identifying codes. That process yielded a total of 39 codes. Using these 39 codes, the data were categorized into 8 themes: Diagnosis/Childhood Experiences, ADHD Symptoms, Self Esteem, Family Support, Accommodations, Social Skills, Medication, and Goals. There are corresponding themes under each theme.

Using these 39 codes, the transcripts were further coded to into eight themes. These 39 codes were used to sort the data, determine which codes were meaningful, and decide which were not especially important toward answering the research questions. The codes are listed alphabetically in Table 6. These codes came from all eight interviews and from key words and issues were highlighted in the transcripts.
### Table 6

**Alphabetical List of Initial Data Codes (from Atlas Ti)**

<table>
<thead>
<tr>
<th>Data Codes</th>
<th>Frequency (Mentioned in their speaking)</th>
<th>Quotes from Atlas.Ti</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation</td>
<td>47 times</td>
<td>7 out of 8 participants</td>
</tr>
<tr>
<td>Anxiety</td>
<td>24 times</td>
<td>8 out of 8 participants</td>
</tr>
<tr>
<td>Distracted</td>
<td>28 times</td>
<td>7 out of 8 participants</td>
</tr>
<tr>
<td>Doing Multiple Tasks (at the same time)</td>
<td>12 times</td>
<td>7 out of 8 participants</td>
</tr>
<tr>
<td>Focus (difficulty)</td>
<td>49 times</td>
<td>7 out of 8 participants</td>
</tr>
<tr>
<td>Forgetful</td>
<td>12 times</td>
<td>6 out of 8 participants</td>
</tr>
<tr>
<td>Frustration</td>
<td>28 times</td>
<td>7 out of 8 participants</td>
</tr>
<tr>
<td>Hereditary (ADHD)</td>
<td>18 times</td>
<td>7 out of 8 participants</td>
</tr>
<tr>
<td>High School</td>
<td>20 times</td>
<td>8 out of 8 participants</td>
</tr>
<tr>
<td>Hyperactive</td>
<td>39 times</td>
<td>8 out of 8 participants</td>
</tr>
<tr>
<td>Identifying (ADHD)</td>
<td>16 times</td>
<td>8 out of 8 participants</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>21 times</td>
<td>7 out of 8 participants</td>
</tr>
<tr>
<td>Lateness</td>
<td>14 times</td>
<td>4 out of 8 participants</td>
</tr>
<tr>
<td>Medication (for ADHD)</td>
<td>64 times</td>
<td>8 out of 8 participants</td>
</tr>
<tr>
<td>Memory (poor)</td>
<td>13 times</td>
<td>6 out of 8 participants</td>
</tr>
<tr>
<td>Nervousness</td>
<td>12 times</td>
<td>6 out of 8 participants</td>
</tr>
<tr>
<td>Noises bother</td>
<td>31 times</td>
<td>8 out of 8 participants</td>
</tr>
<tr>
<td>Organized (difficulty in)</td>
<td>16 times</td>
<td>7 out of 8 participants</td>
</tr>
<tr>
<td>Childhood</td>
<td>24 times</td>
<td>8 out of 8 participants</td>
</tr>
<tr>
<td>School Feelings</td>
<td>31 times</td>
<td>(14 times-negative feelings) (17 times-positive feelings)</td>
</tr>
<tr>
<td>Join Clubs (or not)</td>
<td>12 times</td>
<td>4 out of 8 participants</td>
</tr>
<tr>
<td>Professional Goals</td>
<td>16 times</td>
<td>8 out of 8 participants</td>
</tr>
<tr>
<td>Sleeping Problem</td>
<td>17 times</td>
<td>6 out of 8 participants</td>
</tr>
<tr>
<td>Drinking Problem</td>
<td>12 times</td>
<td>4 out of 8 participants</td>
</tr>
<tr>
<td>Self Feelings (negative)</td>
<td>20 times</td>
<td>8 out of 8 participants</td>
</tr>
<tr>
<td>Close to Family</td>
<td>25 times</td>
<td>4 out of 8 participants</td>
</tr>
<tr>
<td>Close to Friends (positive)</td>
<td>22 times</td>
<td>2 out of 8 participants</td>
</tr>
<tr>
<td>Emergency situations (Being able to cope)</td>
<td>12 times</td>
<td>4 out of 8 participants</td>
</tr>
<tr>
<td>Pastimes (that they like)</td>
<td>14 times</td>
<td>5 out of 8 participants</td>
</tr>
<tr>
<td>People Friendly (to them)</td>
<td>12 times</td>
<td>3 out of 8 participants</td>
</tr>
<tr>
<td>Reading (difficulty)</td>
<td>11 times</td>
<td>7 out of 8 participants</td>
</tr>
<tr>
<td>Short Attention Span</td>
<td>18 times</td>
<td>7 out of 8 participants</td>
</tr>
<tr>
<td>Space out</td>
<td>12 times</td>
<td>6 out of 8 participants</td>
</tr>
<tr>
<td>Sports (playing them)</td>
<td>14 times</td>
<td>7 out of 8 participants</td>
</tr>
</tbody>
</table>
Table 6, continued

<table>
<thead>
<tr>
<th>Activity</th>
<th>Frequency</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taking Notes (difficulty)</td>
<td>8 times</td>
<td>6 out of 8</td>
</tr>
<tr>
<td>Tests (difficulty)</td>
<td>11 times</td>
<td>8 out of 8</td>
</tr>
<tr>
<td>Tutor (have or not have)</td>
<td>7 times</td>
<td>6 out of 8</td>
</tr>
<tr>
<td>Watching Movies or TV programs</td>
<td>9 times</td>
<td>7 out of 8</td>
</tr>
<tr>
<td>(Having difficulty sitting through)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Harder than Non ADHD</td>
<td>8 times</td>
<td>8 out of 8</td>
</tr>
</tbody>
</table>

The themes are determined through the frequency of the code words mentioned in the transcripts. This process served to present the data from different perspectives, recognize premature assumptions made, to develop new themes, and to verify those already identified.

**Results of the Qualitative Research**

**Content Areas and Themes**

Using these 8 themes, the coded data was clustered combining codes based on similarities, and overall themes were developed within the content analysis. Eight themes were established from the 39 initial codes.

Table 7

**Themes of this Study**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Theme Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis/Childhood Experiences</td>
<td>1. Hereditary</td>
</tr>
<tr>
<td></td>
<td>2. Childhood</td>
</tr>
<tr>
<td>ADHD Symptoms (see Table 9)</td>
<td>Academic Difficulties</td>
</tr>
<tr>
<td>Family Support</td>
<td>1. Support System</td>
</tr>
<tr>
<td></td>
<td>2. Familial Frustrations</td>
</tr>
<tr>
<td>College Accommodations</td>
<td>Provide for ADHD students by DSC</td>
</tr>
<tr>
<td>Self Esteem</td>
<td>Depression and Drinking</td>
</tr>
<tr>
<td>Social Skills and Life Impacts</td>
<td>1. Lack of Understanding about ADHD</td>
</tr>
<tr>
<td></td>
<td>2. Difficulty Maintaining Peer Connection</td>
</tr>
<tr>
<td>Medication</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>Goals and Professions</td>
<td>Professional goals</td>
</tr>
</tbody>
</table>
**Diagnosis/Childhood Experiences**

Six of the eight participants indicated having been diagnosed with ADHD as children. The following quotations are examples of supporting commentaries. It should be noted here that the quotes used in this writing are from verbatim transcripts. Any grammatical problems and jumping about in subject matter reflects the way the participants actually spoke, as is the overuse of the word “like.” Their often hyperactive style of speaking reflects their state of being better than the researcher could describe.

“I had a lot of anxiety and like panic attacks a lot when I was younger, when I was like 8 to 12. Then, I went to a psychologist and they gave me medication and I'm like way better now. I was like nervous all the time and I wouldn't go to school and stuff like that and I would get sick. My parents had me diagnosed because I got in trouble a lot. I always did well in my studies, but I was never focused and always on little tangents.”

**Heredity**

Seven out of eight participants reported having family members who were diagnosed as ADHD or who presented ADHD symptoms. Here is an example in which one participant talked about his father:

“He takes a long time to do his work, like. And when he comes home, he like, doesn't even listen. He like, can't pay attention to anything, like, always, he often something else. Like he can't ever finish a project or like… It's like, ‘Oh, I'm going to make this cabinet’ and then he'll do like half of a cabinet and then, ‘I'm going to do the garden now’ or something like that, like, just can't finish things and like, if you want to talk to him, sometimes he doesn’t listen very well.”
Childhood

Research indicates that children with ADHD are more likely to face rejection from their peers and their parents (Clarke, Ungerer, J., Chahoud, K., Johnson, S., and Stiefel, 2002). In fact, researchers have found that childhood ADHD often creates co-morbid oppositional behavior to negative attachment, implying that parents, in many instances, persistently reject their children.

“I can’t retain what I read since childhood; I also had trouble understanding what I read; can’t get facts from reading; can’t remember what it says; can’t understand the words sometimes and can’t recall facts. Definitely, since childhood, I can’t retain the information on my reading even I understand it.”

“My childhood was rough and I could get along with others; I don’t care if I can or not get along with others. My classmates didn’t want to be my friend. I love to be the clown to get attention.”

ADHD Symptoms

All eight participants expressed some of the symptoms listed below as prevalent symptoms.

Table 8

ADHD Symptoms Experienced by Study Participants (8)

<table>
<thead>
<tr>
<th>Prevalent Symptoms</th>
<th>Number of ADHD interviewees who have the symptom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety/Nervousness</td>
<td>8</td>
</tr>
<tr>
<td>Hyperactive</td>
<td>8</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>8</td>
</tr>
<tr>
<td>Poor Memory</td>
<td>6</td>
</tr>
<tr>
<td>Poor Organization</td>
<td>7</td>
</tr>
<tr>
<td>Poor Time Management</td>
<td>6</td>
</tr>
<tr>
<td>Reading Problems</td>
<td>5</td>
</tr>
</tbody>
</table>
Table 8, continued

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inability to Concentrate/Focus/Distracted</td>
<td>7</td>
</tr>
<tr>
<td>Poor Writing/Note Taking Skills</td>
<td>6</td>
</tr>
<tr>
<td>Low Self-Esteem</td>
<td>7</td>
</tr>
<tr>
<td>Poor Social Skills</td>
<td>8</td>
</tr>
<tr>
<td>Procrastination</td>
<td>6</td>
</tr>
<tr>
<td>Lack of Persistence</td>
<td>7</td>
</tr>
<tr>
<td>Poor Sleep Habits</td>
<td>6</td>
</tr>
</tbody>
</table>

When asked about the kinds of symptoms they experienced and how these symptoms show up, two themes emerged: academic struggles and behavioral problems.

**Academic Difficulties**

Seven out of eight interviewees expressed academic difficulties at school. They are experiencing multiple ADHD symptoms that hinder their progress and their day-to-day school learning. To understand the experiences of students in a college environment, it was important to know about their earlier educational experiences, particularly regarding how they may have been affected by ADHD.

Participants were asked the about their educational experiences in college, including any accommodations they may have received, any strategies they used to manage symptoms, what they believed to be the overall impact of ADHD, and earlier academic outcomes which affected their self-esteem and social skills. This pattern continued into their college years.

The following are some of the examples that the interviewees stated in the area of Anxiety/Impulsivity and Sleeping Habits:

“Yes, I have anxiety all the time. I have to do some things with my hands and eyes and body in order to concentrate or focus with what you are talking about.” This participant chewed gum for the entire interview of about 1 ½ hours. She also kept swinging her black pen in her hand constantly.
“I've known my whole life that I was; I'm a very impulsive person. I just never really asked anyone about it. And then, as I got older, I realized that, that I was more impulsive than other people and that it was kind of problematic. And the reason I started to notice was I was getting challenged more, like with school work, stuff like that. So at that point, that's when I reached out to a...psychologist, who had a specialty in like, student disability.”

“I had a little bit trouble sleeping. I didn't fall asleep until like, three. I went to go to bed at like, one and just laid there. I have taken sleeping pills to help, but I don't really like how those affect me, so I try to just take the Adderall really early in the morning and then usually there's no problem.”

These comments are consistent with several researchers’ results. College students have problems with impulsivity. Sleeping and anxiety disorders strongly affect academic achievement (Bursack 1989). Impulsivity is one of the main symptoms required for a diagnosis of adults with ADHD (NRC, 2008). Sleeping disorders are common in teens with ADHD. According to the National Research Center (2008), a college student with ADHD may have problems getting a full and complete night’s sleep, which may not necessarily be a side effect of medication use.

Seven out of eight interviewees mentioned problems in reading, which is the master skill for obtaining information at school and achieving academic success. The area of Reading Problems/Writing/Taking Notes is the leading problem in their struggle for academic achievement. Here are some of the comments from participants in the interviews followed by a listing of the problem area that they are describing:
“I'll read a whole page and not remember anything that I just read, because I was thinking of something else. But my eyes are like, scanning the page. I don't know if you ever do that. So, you know, I'll read this whole book page and like, “What I just read? I didn't absorb any of that information. But my eyes are scanning the page and I knew I was reading it, but really, my mind was just thinking about something else.”

“I have a really hard time doing readings, long readings I have a really hard time keeping up with because I won't remember what to do or do them, and it's really hard for me to sit. Like I love reading on my own, but for whatever reason when I have to read for school, I have a hard time sitting down and doing it, and that makes testing difficult because I'll understand the concept and the theory, but I've never been able to do names and dates, and things like that, I just can't drill it into my head, because I don't... I can't sit down long enough to do that repetition that is necessary.”

“It's just notes on the class... I have a hard time taking comprehensive notes myself and working with them, because I have a hard time focusing both on taking notes and listening to the professor at the same time. If I'm taking notes, I'll start... I'll stop listening to the professor and I’ll start thinking about what I'm taking notes on...or even how my notes look. You know, like I'll become like, weirdly obsessive about doing bullet points in a certain way, or something, and end up missing a whole bunch of stuff. And then, a lot of times I lose my notes or I write down things that like, make sense to me at the time, but then don't later.”
The following are some of the statements related to ADHD symptoms which affect their learning to emerge out of the interviews:

“Like I feel that I read slower as well. Because of the like, attention, I need to like, I don't have problems like, I'll read a book, and I'll read a whole page and not remember anything that I just read, because I was thinking of something else. But my eyes are like, scanning the page. I don't know if you ever do that. So, you know, I'll read this whole book page and like, ‘What I just read? I didn't absorb any of that information. But my eyes are scanning the page and I knew I was reading it, but really, my mind was just thinking about, ‘Oh, what am I going to do tonight?’ well, or like, ‘I'm hungry. What should I eat for lunch?’ or something.”

“I have a really hard time doing readings, long readings I have a really hard time keeping up with, because I won't remember what to do or do them.”

” I can’t retain what I read since childhood; I also had trouble understanding what I read; can’t get facts from reading; can’t remember what it says; can’t understand the words sometimes and can’t recall facts. Definitely, since childhood, I can’t retain the information on my reading even I understand it.”

“Sometimes I can like, focus on things for a while, really, really intently. But then, even then after I focused on something really, really intently for a little bit, it's really hard to come back to that again, because I feel like I'm done with it and the intention to focus is no longer there.”

“It's more like… I tend not to get really focused on readings ever, frankly. But like projects or papers, I can get really, really into it for a little bit. And you know,
I’ll write a brilliant rough draft, but then it's hard to come back to it, because I feel like I've done that, I’ve finished it, I know what it is, and I can't… keep my mind on it anymore.”

“Yes… Or that I was not able to structure…my time to fit the university requirement. You know, it's… I don't know how the university could realistically, within their own limitations, provide structure to someone who was very ADHD, you know, because they can't, you know, check on your progress like, every other day and ask you if you remembered to do something or how it's going, right?

Because too many people, too big the school.”

The apparent impacts of ADHD symptoms for these eight interviewees ranged from relatively minor to substantial, but all noted they believed it had some negative impact. As exemplified in the interview quotes in previous areas, there is a pattern of behavior that it is common in which multiple symptoms are presented at the same time against the ADHD students’ performance of tasks.

Studies of students with academic difficulties have suggested the presence of a logical association between scholarly success, self-esteem, and social skills.

**Family Support**

During the interviews, students were asked about the level of support which they were receiving or had received from their family as it related to ADHD and how important that has been in helping them manage their disability. Among all the participants, those who had fewer struggles with success in college were those who had family support. Interviewee Cherry described how she had a school coach when she was four years old. Mark described how his parents have always been at his side for
assistance in all events throughout his growing period. Five out of eight participants expressed that they experienced struggles throughout their growing stages. These experiences are highlighted as 1) lack of understanding about ADHD symptoms from family members and 2) family members are frustrated with ADHD symptoms on their siblings.

**Support System**

Only five out of eight interviewees indicated that they felt they had good support systems in place. All of them noted that those supports had been of primary importance in helping them manage the disorder. Adequate support helps develop both effective and helpful corresponding strategies for the symptoms that show up with their behavior and performance. Those participants, who have less support, described relationship difficulties rooted in an apparent lack of understanding, on the part of others, about how ADHD symptoms can have an effect on daily functioning. The following are some of their descriptions about their family’s support:

“My family is very supportive, helped me a lot. My parents have struggled with ADD their whole lives too. They push me hard, but they love me and, so that's fine.”

“I got very bad grades in junior high school, and my mother would be upset one day, and the next day, she was too busy-- we had seven kids. She was too busy, too wrapped up with her own thing and I got scolded for a couple days and then it was over. And then it started again, I got a C or worse.”
**Frustrations in family life**

When asked about the degree of family support received, some stated that family members are frustrated dealing with some aspects of their ADHD. According to the participants, even though some of their family members understand how ADHD works, it is difficult for family members to totally understand their situation. The following quote helps illustrate this point:

“My mom can be very harsh. She does not know how to cope with me. She says you just need to be quicker. Some people think of it as an excuse. It is really not an excuse because it is difficult for me to keep up in a class and manage so many things.”

It appears that if participants felt supported by their family, they developed better self-esteem and social skills in living with and managing their ADHD. However, the absence of a true understanding of this psychological disorder often led to frustrations for parents, siblings, and partners, negatively affecting relationships among the family members.

Grenwald-Mayes (2002) found that families characterized as providing positive emotional environments played an important positive role in how college students with ADHD perceived their quality of life and by extension, impacted academic and their self-esteem and social skills.

**Accommodations at the DSC (Disability Service Center)**

Students with disabilities are entitled to receive reasonable accommodations under the law, but must be able to meet academic standards for admission and progress within a program of study in the same way their non-disabled peers do (Wolanin &
Steele, 2004). Seven out of the eight interviewees diagnosed as ADHD had accommodations at their community colleges and university. These seven participants are differently accommodated in the areas of extended test time, a separate testing location, open-book testing, and alternative test formats such as multiple choice or true-false questions. At the university where this research was conducted, three interviewees are provided with a note taker for every class. The following are some of their comments on their college experiences with accommodations:

“If it’s like a really, really big class, then I do because I get distracted like with people like tapping and like fidgeting around, making noises, bothers me and I can't pay attention. So sometimes I take it--another room. Like the teacher will give me an office or something to go to and I do it in there. And I also have a note taker.”

“I think the thing I think that helped me the most, in terms of school, was getting approved for extended time on exams, because a lot of times, I wouldn't finish my tests or my assignments. And I would get a bad grade because I didn't finish, so I think the most helpful for me in college was probably extended time.”

**Self-Esteem**

Studies show that college students with a childhood history of ADHD have significantly lower ratings on self-esteem than non-ADHD students. A fear of failure, compelled by a low tolerance for stress and frustration, also negatively impacts a student’s motivation to succeed. These findings are borne out in a wide range of studies. In one study, by Shaw-Zirt, Popali-Lehane, Chaplin, and Bergman (2005), for instance, college students with ADHD showed lower levels of adjustment, lessened
social skills, and lower self-esteem than members of a comparable control group.

Another study, Landgraf (2007), suggests that ADHD persists across the life cycle, well into adulthood, resulting in a wide range of adverse psychiatric outcomes; drug use and misuse, as well as persistent life impairments due to low self-esteem, such as marital discord, poor communication and parenting skills, as well as underachievement at work and in school.

Attitudes of college students with and without ADHD toward students with ADHD recorded in a study performed by Chew and Jensen (2009) reflect the many misconceptions among peers, parents, and teachers have about individuals with ADHD.

“I feel pretty normal, but I'm saying I like work just really hard. And I sometimes like lose track of what I'm doing or something like that and my medicine wears off a little bit, then I end up working a little bit more than or longer than I probably should be doing...a normal person should be doing.”

“Well, when I was younger, I went through a whole period of being like, well, “Who am I?” This medicine is changing who I am. Which person am I?”

“I try to make yourself - (myself) feel better because I have ADHD and I am different. I couldn't lie to you and tell you that I've done this for my entire life. I mean, I used to always compare myself to other people, always. Then, I don't do it anymore, but then, back when I was like, in high school and I was younger, all the time I compared myself to other people. Why can I do that? Why can I do that? How come I don't have would he have? And, uh, I mean, it wasn't good. I was, I was always... I mean... That's one thing I forgot to tell you. When I got diagnosed, they told the doctor, it was in the report, to monitor my... anxiety,
while I was on the medication. I felt very odd with myself and see myself less competent to other friends. Often, I feel I am not as good as others.”

“There's a lot of different, I, I try to look at it from, you know, I don't like to feel helpless and I like to think that sometimes, you know, maybe I don’t have ADD and as good as other people.”

From these findings, it appears their childhood experiences of being rejected or being different has strong negative effects on their self-esteem. Lack of understanding and familial frustrations contributes greatly to how they see themselves. School environment and the difficulty of maintaining links with other students and activities of joining with schoolmates make them feel inferior.

A sub-theme, which came up in the interviews, is that most of them feel that they have to work harder than other students and feel that they are not as smart or good as other classmates. The following are some of their comments:

“I'm saying I like work just really hard. And I sometimes like lose track of what I'm doing or something like that and my medicine wears off a little bit, then I end up working a little bit more than or longer than I probably should be doing…a normal person should be doing.”

"Oh, I have ADD therefore people don't like me. I know that if they wanted to meet me, then they'd like me. If they want to have a pre-judgment because I have ADD or something like that, that's their own fault, their loss, not mine. It is a stigma, but I am trying very hard to overlook it.”
**Depression and drinking**

Tobacco use, marijuana, and drugs other than alcohol were found to be more prevalent in students who showed a lack of symptom control. The risk of substance use among children with ADHD ranges from 12% to 24% (NRC, 2008). Students with ADHD are also more likely to exhibit emotional instability, have increased risks for substance abuse, and experience low self-esteem (Secnik et al., 2005; Swartz et al., 2005). In seeking to understand the prevalence of these kinds of issues and their effects on the college experience, students were asked if they had ever had bouts with depression or substance abuse. All of the participants indicated they had experienced periods of extended depression. Five said they had been clinically diagnosed as depressed, and two of them used the drinking of alcohol to treat their depression and anxiety. The finding is consistent with current literature.

“Drinking every night in order to calm down; then join the alcoholic anonymous and got rid of the habits.”

“I drink to ease my anxiety. I put a small bottle in my bookcase. It is like a medicine. It makes me feel that I am normal.”

In most of the interviews with the participants, these deficits in social skills and adjustment, which closely connect to self-esteem, appear to continue into adulthood. Slomkowski, Klein, and Mannuzza (1995) reported that, by adulthood, students with ADHD demonstrated a significant degree of sadness, loneliness, and fewer friends than students without ADHD. They further reported that self-esteem in growing up was positively correlated with psychosocial adjustment and negatively correlated with
ADHD symptoms. Furthermore, they also point out that self-esteem, when growing up, equates with achieved education success and eminent career position.

**Social skills and Life Impacts**

Research has found that the ability to successfully interact with others is a vital component of social development for all age groups. Some studies have found in individuals with ADHD consistent deficits in social skills, which are essential to progress in many social and professional areas, and vital to interpersonal success (Elliot & Gresham, 1987). Some studies report consistent deficits in social skills. As noted in the studies of overall outcome, these deficits in social skills appear to continue into adulthood. A study from Tomlinson-Clark and Clark (1994) reports the correlation between academic achievement and social skills.

“I socialize with my family, but I don’t have friends. I like to be alone by myself.”

“Not really... I'm not really good at clubs, I'm not really good because like, you know, they do things like you attend at certain times and I have a hard time regularly attending club meetings or stuff like that. So, no, I'm not really a member of any clubs.”

“I don’t join club. I don’t join any activities; because no time; like people’ but doesn’t go out to socialize.”

Some sub-themes, emerging from the interviews, are related to self-esteem.
Lack of understanding about ADHD

Seven out of eight participants complained that their peers could not understand what they go through. However, some expressed that they really like their counselors who help them.

“Most of my classmates do not have the patience to explain things to me if I ask again. Often, they move on to other classmates who can match their speed and their conversation. I have trouble connecting with them because they don’t understand my problems that I am not always consistent and react quickly to all situations. “

Maintaining peer connections

Difficulties specific to maintaining connections with friends were mentioned:

“I think… I think my ADHD problem; it hasn't really affected my social activity. If anything, the ADHD makes me pull away from responsibilities I should have, should be doing…. I am not able to manage my schedule to go out with friends and classmates. Very often, I miss events because I don’t feel up to it or I don’t have the time.”

Revealed in these interview transcripts is the inability to maintain connections with peers related to their time management and their ADHD symptoms, plus their low self-esteem, which conceivably led to social isolation and depression.

Social relations with classmates are a major part in developing social skills for the remainder of the students’ life. In college, social relations not only augment academic achievement, but also offer a basis for learning to work cooperatively with other adults from various backgrounds. While good social relations with classmates have the ability
to aid students in both their future professional and personal lives, students with ADHD often do not have the proper social skills to make possible such interactions. Persons with ADHD can show conduct that may be seen by others as antisocial and unfriendly. It also creates isolation of each ADHD student who often needs help among classmates. Those behaviors can result in misunderstandings and/or miscommunications with family members. Furthermore, their relationship with their family members also suffers.

**Medication**

All of the eight participants are on medication. Five of the interviewees are taking Adderall, one is on Vyvanse, one on Cylert (the brand name is no longer available, but the generic version is still available) and one on Ritalin.

**Effectiveness**

All eight interviewees said that “Overall medication is a key strategy for me because it enables me to study.” Although they all expressed the importance and help that these medicines have given to allow them to be able to function and minimize their ADHD symptoms, all eight participants said that they would not let their school friends know that they have to take medication to function normally. Some of them expressed that taking medication makes them feel as if they are not as good as the non-ADHD students:

“It's probably the biggest help. The medication keeps me like focused and everything like that and able to pay attention in class and do my homework and make sure that I can… I want to go to law school, so…keeps me focused and ready to do that, hopefully.”
“Yeah, there's a lot going on… I don't really, everyone says like, everyone knows when I don't take my medication, like, my friends, my roommates, my mom, everyone jokes like, they know when I took it and when I don't take it because before I take it in the morning, if I wait a couple hours, I'm like, I’m like going all over the place, I'm like acting crazy, I'm talking, like million miles a minute. And then as soon as I take it, [snaps fingers] I can focus and, and like, go to school and drive.”

“Who I am on my meds, the person who I am off my meds, which one is the real me? What's going on? And I was resentful of them, sort of, but… I mean now I don't like feeling reliant on anything, but, no I'm not resentful of my meds. I love my meds; they let me function in this world. If I'm resentful of anything, it would be the fact that our society nowadays requires everyone to be a certain way to be able to function within our society.”

The study by Barkley and Cox further found that the use of medications by ADHD sufferers has been found to have positive effects on learning abilities. (Barkley & Cox, 2007). However, based on these interviews, the majority of participants admitted that they benefit from the medication; but resent the fact that they have to take it and always view it as a stigma in their life.

**Goals and Professions**

The interviews demonstrate that all participants are striking a future for themselves and look forward to their future success. Although they are experiencing multiple difficulties and struggles with their ADHD symptoms, they all loved to talk
about their future profession and how it serves as the major motivation for their school effort.

**Goals**

Current and previous academic experiences may play a major role in goal formulation and in shaping plans for the future. It was also interesting to note why they believed their chosen fields or occupations were likely a good fit.

Nadeau (2005) noted that appropriate career selection can be critical to the success of adults with ADHD, particularly given their propensity for challenges related to executive-level functioning. Poor time management, organization skills, and difficulties with self-regulation can lead to missed deadlines, misplaced paperwork, and an inability to prioritize projects or work independently.

It is interesting to find out that some of the participants expressed their interest in the areas of art and art design because they stressed their freedom of expression, having their own “space,” and a less rigid structure.
### Professions

#### Table 9

**Professional Study Areas of Participants and Reasons for the Selection**

<table>
<thead>
<tr>
<th>Profession</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artist</td>
<td>I have always loved to paint starting when I lived in the farm as a little kid. I would paint flowers and windmills and stuff. I was fascinated with nature in general and it is just something I would really like to do.</td>
</tr>
<tr>
<td>Art and Design</td>
<td>I am passionate about drawing something new and different. I am a creative kind of person. With having ADD, you tend to find things that are more visual and less rigid or more with your hands, rather than reading</td>
</tr>
<tr>
<td>Computer Technician</td>
<td>My counselor suggested that I work with computers because I am actually pretty good with fixing and repairing. It is not a passion of mine, but I am good at it</td>
</tr>
<tr>
<td>Graphic Arts</td>
<td>I knew that I was interested in drawing what is in my mind instead of memorizing a lot of materials. Graphic design, but I like the area more for the freedom of expression on my own and I do not need to work in a group.</td>
</tr>
<tr>
<td>Industrial Engineer</td>
<td>I am good with engineering because I am good with following formulas and working with problems. Besides, I can work a project on my own and get it done without other people’s interfering.</td>
</tr>
<tr>
<td>Lawyer</td>
<td>Growing up, I always thought that I would like to be a lawyer and I chose to be a lawyer. I always assumed that I had the intelligence to do what I wanted to. I want to go into government law. I think it would be a good fit for me because I like to know that I can make a difference to be a lawyer, even I have ADHD.</td>
</tr>
<tr>
<td>Occupational Therapy</td>
<td>I plan to work in the field of occupational therapy. I like to work with my hands and also work with one person at a time. I like physical work that helps me concentrate at what I do. Also, I would like to know that I can help people.</td>
</tr>
<tr>
<td>Social Worker</td>
<td>I like to help other people like my parents helped me when I grew up. I know that there are a lot of problems that need to be solved and someone [needs] to be there to tackle them. I am sure that I can help each individual to make them live a better life.</td>
</tr>
</tbody>
</table>
Arts and design are the chosen professional fields for two of the eight participants, which they indicated as desirous due to having lower levels of interaction with people and/or the public.

Faigel (1995) offered that a short attention span often leads people with ADHD to shy away from careers that require sustained attention or attention to detail (such as accounting) and toward jobs that lent themselves to switching tasks frequently (such as arts). Six out of eight participants selected fields that do not require significant concentration and attention.

**Summary of Findings**

Eight themes emerged from the interview data: 1) Diagnosis/Childhood Experiences, 2) ADHD Symptoms, 3) Self Esteem, 4) Family Support, 5) College Accommodations, 6) Social skills, 7) Medication, and 8) Goals and Plans. Within the above themes, corresponding themes emerged that helped to illuminate and further define the experiences of those participants.

**Research Question One**

Research Question One asked, “What role do ADHD symptoms play in social skills and self-esteem of the ADHD college students?”

The themes and corresponding themes, which come up from all eight participants’ quotations, illustrated that ADHD symptoms have affected every participant, although in a different degree of severity. Their ADHD symptoms affect their Childhood Experiences, Self-Esteem, Family Relationship, Social Skills, and Professional Goals.
Research Question Two

Research Question Two asked, “What role do social skills and self-esteem of college students with ADHD play in their social interaction and academic achievement?

Through the themes and corresponding themes, illustrated in the transcriptions of each of the eight participants’ interviews, plus all their citations, there is a strong correlation between their social skills, self-esteem, and their social interaction and academic achievement on campus and in their daily life. These results also show that social skills and self-esteem affect their academic achievement. Three out of eight participants said that they barely made the grade; five participants said that they have to constantly study and use all of their time to study in order to catch up; and one participant said that he is fine with his academic work, but not excellent. All eight interviewees expressed that they do not have enough time to join school activities nor become active in community involvement. Some are close to their family members and some are not. Most of them expressed that they have few friends because they do not have time to make friends.

Additional Findings

Among the findings revealed by the interview transcripts is the information that those ADHD students who enrolled at a four-year institution have fewer academic difficulties than the two-year college ADHD students. They are also able to handle school classes better according to the interviews. Secondly, six out of eight interviewees said that they are doing multiple things at the same time. This is a very unusual working habit for the non-ADHD students.
Research Summary

Research questions one and two are supported by qualitative research results, determined by interviewing eight ADHD students and utilizing Atlas.ti as the tool for analysis. Hypotheses are supported with the analysis instruments, T-tests and the MANOVA test.
Chapter 5: Discussion

Introduction

This study provides a unique opportunity to explore the personal experiences of college students with ADHD in order to gain greater knowledge into the challenges they face and the major factors influencing their social skills and self-esteem, which, in turn, affect their academic success and their future career. This study is significant at this time because the number of students with ADHD pursuing postsecondary educations at community colleges and universities is increasing. More and more colleges are aware of these students’ existence and are willing to explore the option of accommodations to assist the ADHD students for the purpose of increasing their chances of success.

As this study indicates, symptoms associated with this disorder put at risk the academic success of college students and, consequently, their social skills and self-esteem are affected. It is evident that the results of this research clarify that ADHD symptoms affect social skills and self-esteem, which further affects their lives and careers. According to Landgraf’s study (2007), increasing evidence suggests that ADHD persists across life cycles and is associated with a wide range of adverse psychiatric outcomes as well as persistent life impairments because of low self-esteem, poor communication, academic and employment underachievement.

Another objective of this study was to provide important feedback to colleges and universities serving ADHD students. It is hoped that this information will serve as a tool to continue improving strategies and plans for assisting the ADHD students and, in so doing, help ensure their chances of success.
This study explores the educational experiences of a small sample of students with ADHD attending two community colleges and one four-year private university in Southern California.

There were 44 non-ADHD and 44 ADHD students from these three institutions who filled out the personal profile information form, the Rosenberg Self-Esteem Scale, and the Social Interaction Anxiety Scale.

There were 44 ADHD students who completed all three of the above mentioned surveys and these 44 sets of surveys were selected for quantitative research. Among the 44 ADHD students from the three institutions, there were 8 ADHD students who agreed to be interviewed, and these eight interviews were used for qualitative research in this study.

This study utilized a mixed-methods research design approach that comprises both qualitative and quantitative data, which serves to further enhance knowledge in this arena. Incorporating surveys and individual interviews, based on 10 questions (Appendix D), allowed the research to go beyond the surveys. The personal interviews provided a rich fountain of information and insight about each participant. The opportunity for the researcher to observe a participant’s emotions and body language is invaluable. This approach allows for the framing of their overall experiences regarding how they see and feel about themselves and, further, for understanding how their self-esteem and social skills affect their lives.
Quantitative Study

This study looked at whether ADHD college students have presented lower social skills and self-esteem. A total of 88 students participated in this study by using the following two scales for measurement.

The Social Interaction Anxiety Scale Survey Schedule (SIAS) and the Rosenberg Self-Esteem Scale. These scales were utilized to measure students’ social skills and self-esteem.

The Social Interaction Anxiety Scale Survey Schedule (SIAS). This instrument was developed to measure social function in a variety of social situations. The authors developed the scale as a way to provide a narrower and more specific measurement of social interaction skills. This survey consists of twenty items.

Profile Information Chart. In addition to the Social Interaction Anxiety Scale, a Profile Information Chart was designed (Appendix C) to address the demographics of this quantitative study: gender, birth year, nationality, ethnicity, school status, expected degree, and years of college enrollment. This data yielded selected variables ($n = 88$), which provided an indication of this population’s background from a research respective for comparison and references.

Qualitative Study

With the qualitative method, eight ADHD students were interviewed. Eight themes emerged from the interview data: 1) Diagnosis/Childhood Experiences, 2) ADHD Symptoms, 3) Self Esteem, 4) Family Support, 5) College Accommodations, 6) Social Skills, 7) Medication, and 8) Goals and Professions. Within the above themes,
corresponding themes emerged, which helped to illustrate and further describe the experiences of those participants.

The eight established themes and the corresponding themes provided a profound revelation of many facets of the college experience for students with ADHD. This section shifts from the specific findings within the themes to consider what implications may be extracted from this research across themes. Specifically, it shows how the data addresses the research question, posed in Chapter 1, and what the implications are of this study’s results that practitioners can use as a reference point to help the ADHD students.

Results of the Quantitative Study and Qualitative Study

Hypotheses are supported with the analysis instruments, T-tests and the MANOVA test. Research questions one and two are supported by qualitative research, determined by interviewing eight ADHD students and utilizing Atlas.ti as the tool for analysis. With this study, it is clear that ADHD students have demonstrated lower social skills and have lower self-esteem. It also illustrates that ADHD symptoms play a significant role in affecting ADHD students’ social skills and self-esteem. Furthermore, the low social skills and self-esteem affect the ADHD students’ social interaction and academic achievement in colleges.

Implications for Practitioners

This section describes specific findings from this study, according to themes, within which implications are specific for all practitioners to consider when working with ADHD students. This study can serve as a reference for practitioners to use within their fields to work with the social skills and self-esteem of ADHD college students. The quantitative research results prove that the two hypotheses are significant that ADHD
college students present a lower level of social skills and lower level of self-esteem compared to non-ADHD students.

The following results are from the qualitative research and the eight established themes will provide insights for practitioners:

**Diagnosis/childhood**

Of the six out of eight students diagnosed in childhood, only one noted that he was placed in a special day class during his high school years. Three out of eight participants reported that childhood learning was aided by parents and coaches. The other three participants reported that their parents did not take action until high school, when the school tested the students and put them on medication. One participant said that he sought help by himself during the first year he was enrolled in community college. Another participant said that she recognized her problems in adulthood.

Previous studies demonstrated that rejection, experienced by children with ADHD, may be pervasive, taking place in both peer (Hoza et al., 2005) and family (Seipp & Johnston, 2005) contexts. Feelings of rejection from peers and family and low achievement have a great impact on the self-esteem of these college students with ADHD.

It is evident from this study that early diagnosis has had tremendous advantages for these ADHD students. Among the eight participants, those who were most successful academically and socially were those who received diagnosis during their childhood and tremendous support from their families and family doctors.
**ADHD Symptoms**

The physical symptoms affecting these ADHD students made them stand out from other students who did not struggle with ADHD. This is consistent with the findings of Weyandt et al. (2003) for college students with and without ADHD. Their study showed that these students did struggle more in many aspects of their lives at school, home, and in the community. Academically, all of them struggle with listening to lectures and internal distractions.

Among the eight interviewees, symptoms of ADHD are co-morbid, with one symptom affecting the others. The following is an example from Cherry, a student at a four-year university:

“It is funny that you say ‘anxiety’, because it was like, it was impulsiveness, but then that kind of made me fall behind in my studies, which caused anxiety for me. And then, eventually, it got to a point where I said I just needed to go reach out for help. And then once I take the medicine, it’s fine and I can sit there and study. But then once the medicine wears off, even in the evening, I get more like, you know, less able to concentrate and jittery and all that stuff.”

Focusing on tasks, becoming motivated enough to regularly attend classes, and turning in assignments on time were among the challenges described by participants. Contributing to these issues were an inability to accomplish other tasks within a certain time, an inability to set realistic goals and identify stressors, poor time management, a lack of persistence, and an inability to focus in general.

Garon et al. (2006) and Toplak, et al. (2005) found that the ADHD group made significantly more disadvantageous choices than the control group, which is consistent
with Malloy-Dinz’s findings that show people with ADHD make more unfavorable decisions on work to be done than do control group individuals. These studies implicate that impulsive behavior has heavily affected the social abilities of some students with ADHD to work with other college students and achieve high academic levels.

Difficulties experienced with executive function were further exemplified as some participants indicated they had not the time, energy, or the skills to make friends with others on campus. Inability to feel accepted by peers and in the community has a detrimental effect on their social adjustment and self-esteem.

**Self-Esteem**

Poor social functioning can create poor self-esteem, perpetuating a cycle that may lead to identity problems, a lack of motivation, and emotional and interpersonal difficulties. These problems, in combination, can negatively affect social, educational, and occupational outcomes, according to Shaw-Zirt et al. (2005). Conversely, Shaw-Zirt et al (2005) found that successes, no matter how small, were important factors in increasing academic persistence and may contribute to increasing motivation and self-esteem.

College students with ADHD have an increased danger of problems with social relationships and adapting to college life. These difficulties are associated with self-esteem and family environment factors. Additionally, there may also be significant differences in social performance, especially in interactions with the opposite sex.

Inability to function socially, during childhood and adolescence, plays a major role in the academic achievement and personal social maturity of ADHD students. These social difficulties, along with their ADHD symptoms, negatively affect self-esteem, an
essential ingredient to shaping the college experiences of these students as well as career development later in life.

**Family Support**

After listening to the participants talk about their successes, struggles, and failures, the picture that emerges is one in which family support was pivotal to the ADHD students’ ability to succeed at school and their ability to make friends. Viewing themselves positively affects their overall abilities in managing symptoms associated with ADHD.

Five out of eight participants believed they had good familial support systems and considered that to be of substantial importance in helping them to live with and/or effectively manage the disorder. Two of the participants reported that their parents hired coaches for them during their younger years. However, two of the eight participants reported that their parents were not aware of their ADHD conditions and that their guardians often complained about their inability to perform tasks. These two participants reported that they learned about their conditions independently and acquired assistance themselves. These two students also reported encountering more struggles and challenges at their respective colleges than the other six participants reported.

One of the students said she grew up on a farm, which provided a great deal of flexibility for her and her parents in functioning socially and personally in their daily lives. Consequently, her ADHD symptoms were not identified.

Grenwald-Mayes (2002) found that positive emotional family environments play a positive role in determining how college students with ADHD perceive their quality of life and, by extension, their successes in academics and life in general. The lack of
understanding on the part of some parents of ADHD students contributed to increased frustrations by other family members in their relationships and to a lack of assistance which could be provided for the family member suffering from this disorder. Negative relationships with family members hindered their social skill development with others outside of their families.

In most of the studies, these problems in social skills and college adjustment, which closely relate to overall self-esteem, appear to continue into adulthood. Slomkowski, Klein, and Mannuzza (1995) reported that, by adulthood, students with ADHD showed a considerable degree of unhappiness, loneliness, and fewer friends than students without ADHD.

**College Accommodation**

All participants reported receiving such commonly mentioned individualized accommodations such as extended testing times and separate testing procedures. It is interesting to note that five students indicated they had met with their DSC counselor during the semester. These students indicated that they were assisted greatly by their counselors. However, three expressed that they had a difficult time locating their counselors due to scheduling conflicts.

Up to today, colleges and universities are not aware of how many ADHD students are in their schools. Accommodations for these ADHD students are made on a voluntary basis. Meaux et al. (2009) found that university students were largely unaware of available services for students with ADHD, and many believed that they should not need special services, noting that, as adults, they should be able to manage things on their own accord. According to interviews with the eight participants, the DSC counselor provided
accommodations and counseling. This counseling proved to be a major help in their success at attending colleges.

**Social Skills**

ADHD experiences have contributed to the social impairments of these students who may lack the skills necessary to engage in meaningful interactions with their peers (CDC, 2008; Faigel, 1995; Shaw-Zirt et al., 2005). Symptoms such as repeating oneself, stammering when speaking, trouble articulating thoughts, missing social cues, acting impulsively, interrupting when others are talking, and difficulty maintaining friendships and links with peers were experienced by all eight participants in our study. These symptoms were among numerous other social impairments associated with their ADHD conditions, both in and out of an educational setting.

Based on interview transcriptions, it was readily apparent that social issues play a significant role in the development of social lives and implementation of plans and goals in the overall college experience. Overall, ADHD students described their school experiences as somewhat negative, due mostly to poor socialization and self-esteem, and difficulties with paying attention and focusing.

**Medication**

All participants reported they are taking ADHD medicine. Based on the comments offered and the fact that all eight participants utilized prescribed medications, it can be inferred that the benefits derived from the use of these drugs outweighed any detrimental effects. Most of these students said that, without the medication, they would never have been able to function at accomplishing simple tasks such as sitting in class and listening to a lecture. The evidence indicates that all eight participating students
understood how to use the medicine effectively and appreciated the assistance it provided. Barkley and Cox (2007) further found that the use of stimulant medications by ADHD sufferers has been found to have positive effects on driving abilities.

**Professional Goals**

The eight participants selected a field that aligned with personal interests and perceived academic abilities based on previous educational experiences. It is interesting to note that three of the eight participants selected areas of study requiring high degrees of creativity (art/design, graphic arts). According to the participants, art and music allowed them to go beyond specific formats, which ADHD students find difficult to follow. The arts also allow imaginative outputs to develop into careers. From the interviews, it appears that all of the participants have a firm understanding of their own academic strengths and weaknesses. Nadeau (2005) highlighted the importance of definitively matching areas of interest to ensure success for adults with ADHD in light of the inherent challenges they already face.

**Additional Findings**

There are two areas which yielded unexpected results not mentioned in the research:

**ADHD students at four-year universities versus those students with ADHD attending two-year community colleges**

The research was intended to include a variety of students from a private four-year university and a two-year community college. The research found significant differences between these two categories of students. Among the findings, revealed by interview transcripts, was that ADHD students who enrolled at a four-year institution had
less academic difficulty than the two-year college ADHD students. They were also able to handle classes better. According to the content of interviews with participants, overall, those attending the private university had less severe ADHD symptoms than their community college counterparts. The two-year college students expressed more difficulties in learning and encountered more severe ADHD syndromes. The four-year university students also had more family support since childhood than the junior college students, according to the interviews.

The accommodations made at this four-year university included the provision of note takers, which made a difference in learning in the classroom. Most of the participants had difficulty listening to lectures and writing down the contents at the same time. So, the note taker serves as a major element to their success.

**Multiple tasks at the exact same time**

Six out of eight interviewees said they have to do multiple things at the same time. Though many students may have a background activity while studying, such as listening to music, performing simultaneous tasks is a very unusual working habit for non-ADHD students. One participant said she had multiple commercial websites open while working on a paper on her computer. She also said she chats with friends online while doing school work on her computer. Several participants reported that they watch videos and type at the same time. However, none of the students interviewed is able to watch a feature length movie. This was especially true if the movie viewing location was in a theater, where other activity is prohibited due to darkness and distraction for the other patrons. For the average person, the ability to concentrate on a single task enables him/her to complete assignments more accurately and completely.
Although many people without ADHD are called “multi-taskers,” they typically do not do three or more things at once. The overall accomplishments of ADHD multi-taskers are not known, and further research in this area is recommended.

**Recommendations for Future Research**

A number of recommendations were developed over the course of conducting this study. This list of recommendations might aid colleges and universities in devising ways to better serve and retain students with ADHD. Recommendations for future research are as follows:

**Time and Availability**

The transcripts indicate a desire by ADHD students for more time with counselors. Those who expressed that they often need the help of the DSC counselors were forced to wait for long periods of time. The research makes clear that students with ADHD often experience significant academic, social, and self-esteem challenges, which often require more than just a list of approved accommodations. Seven out of eight participants utilized DSC services or support, but not beyond an accommodation plan.

**Outreach**

Increasing DSC effectiveness for ADHD students might be addressed by growing outreach efforts. Students who need help often seek it out by reaching out to the administration for help, but the Disability Service Center is suggested to contact the students at risk. Working to maintain close connections with ADHD students through email messages may be effective in reminding students of this resource and the availability of staff to support them.
Service Expansion

Growing the current set of existing academic accommodations may also be helpful in aiding ADHD students. Study participants noted that having a larger amount of assignment choices as a specific accommodation would be useful. This would involve letting students choose from multiple assignments to demonstrate their comprehension of subject matter. An interviewee suggested that they should be able to give an oral report rather than write a term paper when appropriate. Putting into practice an accommodation of this kind would necessitate teaching faculty members about ADHD, campaigning on administrative officials about the need, and creating policies to steer implementation.

Program Design

Designing programs which deal with the social deficits of ADHD students may help address social issues involved with the overall college experience. The National Resource Center on ADHD recommends treatments for social issues that focus on increasing knowledge of social challenges, creating positive attitudes, setting goals, observing others, role playing, visualization, built-in prompts, and increasing social likeability. These treatments are a key factor to improving social functioning.

Increase Understanding

Programs are needed to help non-ADHD students understand ADHD students. Interviews indicate ADHD students’ peers lack understanding of the symptoms. Programs on campus which educate non-ADHD students about their peers with ADHD are highly recommended.
Support group

It is important to note that the chosen fields of study and career goals of the ADHD students interviewed leaned toward the arts, suggesting that this group of students may have a number of things in common and could benefit from a support group. Such a group would not only serve as a way for students to share their experiences, but also to establish friendships. This would also be an effective way to increase ADHD students’ involvement in school activities. Positive experiences on school campuses may lead ADHD students toward community activities.

Work Habit Reform

Interviews indicate that six out of eight participants perform multiple tasks at the same time. This is a very unusual working habit for non-ADHD students. The implications of this behavior are not yet known and worthy of further study. The effectiveness of working at several tasks at once is not known.

ADHD students at four-year universities versus those students with ADHD attending two-year community colleges

The research was intended to include a variety of students from a private four-year university and a two-year community college. The research found significant differences between these two categories of students. Among the findings, revealed by interview transcripts, was that ADHD students who enrolled at a four-year institution had less academic difficulty than the two-year college ADHD students. They were also able to handle classes better. According to the content of interviews with participants, overall, those attending the private university had less severe ADHD symptoms than their community college counterparts. The two-year college students expressed more
difficulties in learning and encountered more severe ADHD syndromes. The four-year university students also had more family support since childhood than the junior college students, according to the interviews.

Limitations of this Study

One key limitation of this study was relative size and scope. Forty-four ADHD students and forty-four non-ADHD students were recruited from two two-year community colleges and one four-year University in an urban area of Southern California to participate in the surveys. From these forty-four ADHD students, eight volunteers were selected as interview subjects. While the perspectives of the students enhance the understanding of their overall experience, a larger sample from multiple colleges across California, or the nation, would provide a greater breadth of information and generalize the findings. Findings need to be reproduced with an increased number of participants coupled with more representative samples.

With such a small number of ethnic minorities, differences from the white majority students could not be addressed. Males and females may experience different types of problems, and, thus, they were studied separately. Since the ADHD and control groups included a combination of male and female students, these gender differences may have masked significant differences in self-esteem, peer acceptance, and compliance between the groups. Further, parenting behaviors may have been affected by gender differences, as parents may respond differently to boys and girls. The present study may also be limited by the use of voluntary participants. Individuals who volunteer to participate in research may be inherently more empathic than the average person.
Delimitations of this Study

The diagnosis is based on both self-report measures and interviews with students. This study includes a non-referred, community sample of college students from a variety of ethnic backgrounds. Thus, the present sample is more representative of the general young adult population than the sample of clinic referred students, or of individuals diagnosed when younger and followed through adolescence.

Conclusion

This study used a mixed-methods approach in which qualitative and quantitative research were conducted. There were 88 participants in this research. A quantitative research method was utilized by means of the Personal Profile Information, the Rosenberg Self Esteem Scale, and the Social Interaction Anxiety Scale. A qualitative research method was used through one-on-one interviews, conducted by the researcher, with eight ADHD students from two, two-year community colleges and a four-year university. All the reports show that appropriate support, training, and coaching can minimize the effects of ADHD on executive functions. These findings can be a reference for family and college medical practitioners to improve their support for ADHD students and to provide the kinds of support and services that would mitigate such deficits in the areas of academic achievement, social skill development, and self-esteem. The following is an outline of the findings.

Factors Influencing Success and Failure

Social skills and self-esteem factors are described as having the most impact on student success or failure in their current study and career paths.
Social Skills

Longitudinal studies of children with ADHD have shown they have poorer social skills during adulthood than their non-ADHD peers (Weiss & Hechtman, 1993). This is the main issue addressed in this study and was an important thread, which wove through all eight of the themes, indicating social issues play a significant role in the overall educational experience.

Students in this study described social impairments that ranged from feeling different from their peers to being repulsed by them. They do not have enough time to join social activities, have difficulties working within groups, do not feel that people are friendly to them, and lack self-confidence. All eight students had minimum involvement in school activities and community functions. Lack of social functioning had a negative impact on their self-esteem.

The challenges for students with ADHD in maintaining peer relationships may be related to short attention spans, easy distractibility, and the divergence of conversations, making it difficult to make sustainable connections with peers. A limited circle of friends and the absence of close friendships can contribute to isolation and feelings of worthlessness (Faille, 1995).

Self-Esteem

With the Rosenberg report, self-esteem is shown to account for ADHD students’ self-confidence, their positive attitude, their inner motivation and their self-respect. These elements, in each individual, are essential to carrying out plans for success. Aspects of adult interpersonal functioning and self-esteem, which are associated with childhood hyperactivity and aggression or withdrawal, are revealed. This is also a co-morbid issue
which weaves throughout all eight of the themes. Self-esteem plays a critical role in the academic success of ADHD students.

In this study, the Rosenberg scale has shown that college students with a childhood history of ADHD have significantly lower ratings on self-esteem. The depression and aggravation which comes from their ADHD symptoms are also damaging to ADHD college students’ incentive to achieve. Not trying, through fear of failure, is debilitating and often leads to further disappointment. These findings match with findings from other studies on this topic. For example, Shaw-Zirt, Popali-Lehane, Chaplin, and Bergman (2005), found that college students with ADHD showed lower levels of adjustment and lessened levels of social skills and self-esteem, as compared to a control match group.

Social skills and self-esteem issues, when combined, are central in planning how ADHD college students might best become inured against their adversities to become successful in a higher education environment. It is imperative that social issues are given a high priority when building new ways to serve college students with ADHD. It is also imperative that the issues associated with success and failure are addressed, including reflection on how to best aid students in the area of accommodation, peer attitudes, faculty responsiveness, and DSC’s dependability.

Support from family, peers, and school faculty is critical in helping ADHD students develop individualized plans for managing ADHD, as well as giving guidance and proper assessment to help students identify areas of study and career choices that will build upon their strong points and make best use of their chances for success.
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Norwalk, Kate, Norvilitis M. Jill & MacLean G. Michael (2009), Attention Problems and Hyperactivity as Predictors of College Grade Point Average, *Journal of Attention Disorders*.


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William & Mary College, Disability Services (2011), Williamsburg, VA.


# Appendix A

## Social Interaction Anxiety Scale (SIAS)

**Instructions:** For each item, please circle the number to indicate the degree to which you feel the statement is characteristic or true for you. The rating scale is as follows:

- **0** = *Not at all* characteristic or true of me.
- **1** = *Slightly* characteristic or true of me.
- **2** = *Moderately* characteristic or true of me.
- **3** = *Very* characteristic or true of me.
- **4** = *Extremely* characteristic or true of me.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Not at All</th>
<th>Slightly</th>
<th>Moderately</th>
<th>Very</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I get nervous if I have to speak with someone in authority (teacher, boss, etc.).</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I have difficulty making eye contact with others.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I become tense if I have to talk about myself or my feelings.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I find it difficult to mix comfortably with the people I work with.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I find it easy to make friends my own age.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. I tense up if I meet an acquaintance in the street.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. When mixing socially, I am uncomfortable.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. I feel tense if I am alone with just one other person.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. I am at ease meeting people at parties, etc.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. I have difficulty talking with other people.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. I find it easy to think of things to talk about.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. I worry about expressing myself in case I appear awkward.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. I find it difficult to disagree with another's point of view.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. I have difficulty talking to attractive persons of the opposite sex.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. I find myself worrying that I won't know what to say in social situations.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. I am nervous mixing with people I don't know well.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. I feel I'll say something embarrassing when talking.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. When mixing in a group, I find myself worrying I will be ignored.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. I am tense mixing in a group.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. I am unsure whether to greet someone I know only slightly.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
## Appendix B

### Rosenberg Self Esteem Scale

<table>
<thead>
<tr>
<th>STATEMENT</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel that I am a person of worth, at least on an equal plane with others.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2. I feel that I have a number of good qualities.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>3. All in all, I am inclined to feel that I am a failure.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>4. I am able to do things as well as most other people.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>5. I feel I do not have much to be proud of.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>6. I take a positive attitude toward myself.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>7. On the whole, I am satisfied with myself.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>8. I wish I could have more respect for myself.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>9. I certainly feel useless at times.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>10. At times I think I am no good at all.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Your score on the Rosenberg self-esteem scale is:

Scores are calculated as follows:

- *For items 1, 2, 4, 6, and 7:*
  - Strongly agree = 3
  - Agree = 2
Appendix C

Profile Information Form

Please check the appropriate box or fill in the requested information.

1. UNIVERSITY AFFILIATIONS/STATUS:
   □ Undergraduate student
   □ Graduate student
   □ USC Language Academy student
   □ Other (please specify):_________________________________________________

2. GENDER:
   □ Male
   □ Female

3. YEAR OF BIRTH:  19_____

4. NATIONALITY:
   □ U.S.
   □ U.S. Permanent Resident
   □ International (citizen of a country outside the U.S.)
   □ Dual Citizenship

5. ETHNICITY
   □ Caucasian
   □ Hispanic/Latino
   □ African American
   □ Asian/Pacific Islander
   □ Native American
   □ Other (please specify):__________________________________________________

6. SEMESTER AND YEAR THAT YOU FIRST ENROLLED  (enter the year in the boxes provided)
   □ Fall
   □ Spring Year:_____________________
   □ Summer

7. DEGREE YOU EXPECT TO EARN:__________________________________________
8. MAJOR FIELD OF
STUDY: ________________________________________________

Thank you very much for taking the time to complete this survey questionnaire.
Appendix D

Guiding Questions for Interviews

1. What was your childhood like?
2. How do you feel about school?
3. Do you join different clubs at school or in the community?
4. What would you like to do as a professional?
5. Do you have any problems, such as sleeping at night, or excessive drinking?
6. How do you feel about yourself?
7. Do you have a close relationship with your family and friends?
8. How do you handle emergency situations?
9. What are your favorite pastimes?
10. Are people friendly to you?
Appendix E

IRB

Purpose of the Study

This study will explore how ADHD symptoms are related to college student adjustment, especially in the areas of social skills and self-esteem. The final goal of this study is to investigate whether the social skills and self-esteem of college students with ADHD, impact their college adjustment and academic achievement.

Confidentiality

There will be no identifiable information obtained in connection with this study. Your name, address or other identifiable information will not be collected. The names of those participating in the study will be assigned a pseudonym in order to protect each individual’s confidentiality.

Permission obtained of these 8 individuals

Permission obtained by emails. All agreements are obtained via emails with individual’s permission to be interviewed and audio recorded. All these emails and audio recordings have been placed in a confidential location and they will remain confidential.
Dear Students,

My name is Marina Tse, and I am a doctoral candidate in the Rossier School of Education at the University of Southern California. I am conducting a research study as part of my dissertation, focusing on Social Skills and Self-esteem of college ADHD students.

You are invited to participate in the study. If you agree, you will participate in an online survey and/or a one to one interview. The survey is anticipated to take no more than 20 minutes to complete. The interview is anticipated to last approximately 45 minutes and may be audio-recorded.

Participation in this study is voluntary. Your identity as a participant will remain confidential at all times during and after the study.

If you have questions or would like to participate, please contact me at [my email address].

Thank you for your participation,

Marina Tse

University of Southern California