POSTSECONDARY FACULTY ATTITUDES, BELIEFS, PRACTICES, AND KNOWLEDGE REGARDING STUDENTS WITH ADHD: A COMPARATIVE ANALYSIS OF TWO-YEAR AND FOUR-YEAR INSTITUTIONS

by

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DEDICATION

This study is dedicated to the following people:

To my fiancée, Alexia Melara, who has been by my side and supported me as we persevered together through our masters program, our doctorate program, our careers, and life in general.

To my parents and family, who have given me all of the opportunities, experiences, and support that have allowed me to be where I am and become the person that I am today.

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ABSTRACT

Understanding the attitudes, beliefs, and practices of postsecondary faculty regarding students with Attention Deficit Hyperactivity Disorder (ADHD) and the laws that protect such students is critical for both student success and compliance with federal laws. The purpose of the present quantitative study was to identify differences between two-year community college and four-year university faculty in regard to their attitudes and beliefs about students with ADHD, their willingness to accommodate such students, and their knowledge of the legal protections for students with disabilities. In order to gain this information, electronic surveys were distributed to faculty members at two two-year community colleges, two four-year public universities, and two four-year private universities. The data was analyzed to determine whether significant differences in faculty responses exist between two-year colleges and four-year universities. Further analysis was conducted in order to determine whether differences exist between faculty responses at private four-year universities and public four-year universities. The results of the analyses indicate that no significant differences exist between types of universities in regard to faculty attitudes and beliefs about students with ADHD, their willingness to accommodate such students, and their knowledge of the legal protections for students with disabilities. However, additional analyses of the survey results beyond the scope of the research questions indicate that further professional development may be needed across postsecondary institutions regarding Section 504 of the Rehabilitation Act of 1973, appropriate accommodations for students with ADHD, and referral processes for students with ADHD to obtain educational accommodations.

CHAPTER I

Introduction

The purpose of the present quantitative study was to identify differences between two-year community college and four-year university faculty in regard to their attitudes and beliefs about students with attention deficit hyperactivity disorder (ADHD), their willingness to accommodate such students, and their knowledge of the legal protections for students with disabilities. In addition to comparing two-year college faculty to four-year university faculty, analysis was conducted to determine whether differences in survey responses exist between public university faculty and private university faculty. The results of the study can be used to target specific areas of need for professional development for administrators and faculty at each type of postsecondary institution.

Background of the Problem

The American Psychiatric Association (2000) estimates that between 3% and 7% of the school-age population has been diagnosed with ADHD. More recent research has reported that the number of children between 4 and 17 years old with ADHD is increasing exponentially (CDC, 2010). This increase in ADHD diagnoses suggests that there will likely be a proportional increase in the ADHD population attending postsecondary institutions as time progresses.

According to the National Center for Education Statistics (NCES, 2011), in 2008-2009 approximately 707,000 students with disabilities were enrolled in postsecondary institutions in the United States, half of which were enrolled in public two-year colleges. Of the 707,000 students with disabilities, NCES reports that approximately 18% (127,260

students) had been diagnosed with attention deficit hyperactivity disorder (ADHD). This suggests that ADHD is the second most common type of disability found in postsecondary settings during the 2008-2009 school year, with specific learning disabilities being the most common (NCES, 2011). When aggregated by type of institution, students with ADD or ADHD constituted 13% of the public two-year college disabled population, 23% of the public four-year university disabled population, 26% of the private not-for profit four-year university disabled population, and 22% of the private for-profit four-year university disabled population (NCES, 2011). Based on these statistics, it is essential to determine the level of comfort that postsecondary faculty have in accommodating the needs of students with ADHD as well as what their attitudes and beliefs are toward such students. Furthermore, the level of knowledge that postsecondary faculty have regarding legal protections for students with ADHD must be determined in order to ensure that they are practicing in compliance with the law. Due to the potential differences in the ADHD population between two-year and four-year institutions, the attitudes, believes, and legal knowledge of faculty at each type of postsecondary institution must be examined and compared in order to determine whether they vary in their need for professional development.

Statement of the Problem

While the number of students with ADHD continues to grow in postsecondary education, current research suggests that faculty members tend to harbor either a conventional or an interactionist/social constructivist view regarding students with disabilities (Ginsberg & Schulte, 2008). The conventional point of view tends to be less

accommodating and more rigid than those who harbor an interactionist/social constructivist point of view. Research indicates that while most professors tend to report positive attitudes toward students with disabilities and are willing to make accommodations such as increased time to complete assignments or tests, they tend to be hesitant to provide accommodations that they perceive would potentially provide an unfair advantage over typical peers (Cook et al., 2009; Ginsberg & Schulte, 2008; Vance & Weyandt, 2008). The research also indicates that while faculty feel that it is important to be knowledgeable about specific disabilities and legal protections, they believe that they do not currently possess an adequate level of training in these areas (Cook et al., 2009). In addition, directors of disability services for multiple institutions across the country agree with that further training is needed for postsecondary faculty (Salzberg et al., 2002).

Purpose of the Study

The present study sought to explore the attitudes and beliefs that postsecondary faculty have toward students with ADHD, their level of willingness to provide accommodations, and their level of knowledge of the laws that protect students with ADHD. For the purpose of this study, attitudes and beliefs were operationalized as level of faculty fairness and sensitivity, performance expectations, believability of the diagnosis of ADHD, and level of inviting student disclosure of a disability. In addition, because the level of exposure to students with ADHD can vary depending on the type of institution, the level of expertise that faculty have working with such students may depend on whether they are employed at a two-year college, a four-year private

university, or a four-year public university. By examining the attitudes and beliefs that faculty have toward students with ADHD and their level of knowledge regarding the legal protections of such students, postsecondary institutions will be able to better focus professional development activities on areas in need of improvement. In order to gain this information, electronic surveys were distributed to instructional faculty at two two-year community colleges, two four-year public universities, and two four-year private universities. The data was then analyzed to determine whether significant differences in faculty responses exist between two-year colleges and four-year universities. Further analysis was conducted in order to determine whether differences exist between faculty responses at private four-year universities and public four-year universities. Based on the results, institutions can choose to provide targeted professional development activities for faculty and administration in order to ensure that their students with ADHD are being provided with the accommodations and consideration that they require.

Significance of the Study

In regard to two-year colleges, one study has been identified that explored two-year faculty comfort with making accommodations for students with disabilities (Sweener, Kundert, May, & Quinn, 2002) and one study was identified that addressed community college professors' attitudes toward alternative instructional strategies (Hart & Dunn, 2008). A third study was identified that compared professor perceptions of students with ADHD at a two-year college with the perceptions of professors at a four-year college and revealed no differences (Vance & Weyandt, 2008). No studies have been identified that compare two-year college faculty knowledge of legal protections

with the knowledge of four-year university faculty. In addition, no studies have been identified that compare private university faculty perceptions and knowledge to the perceptions and knowledge of public university faculty. Therefore, the present study presents new research to the field with regard to comparing the perceptions and knowledge of faculty at public institutions and private institutions and further explores perceptions and knowledge differences between faculty at two-year colleges and four-year universities. The results of this study can be utilized as a needs assessment to determine specific areas to target for professional development based on type of institution.

Research Questions

The present non-parametric quantitative study is carefully constructed in order to address the following research questions:

1. Are the attitudes and beliefs of two-year college faculty toward students with ADHD significantly different than those of four-year university faculty?
2. Is the level of knowledge of two-year college faculty significantly different than the level of knowledge of four-year university faculty regarding the legal protections for students with ADHD?
3. Is there a significant difference between the willingness of two-year college faculty and four-year university faculty in regard to making testing and instructional accommodations for students with ADHD?

4. Are the responses to the above research questions significantly different depending on whether the faculty is from a four-year public or a four-year private institution?

Methodology

The present study utilized purposeful sampling to select two public two-year colleges, two public four-year universities, and two private four-year universities across Los Angeles County, California. An adapted form of the Productive Learning University Strategies (PLuS) survey developed by Murray, Wren, and Keys (2008) was distributed via e-mail to all instructional faculty members at each institution. Multivariate analyses of variance (MANOVA) and t-tests were conducted on the results in order to determine whether significant differences exist between the various types of institutions.

Assumptions

The researcher assumes that all participants completed each item of the survey honestly and that the survey data was analyzed and interpreted accurately.

Limitations and Delimitations

The researcher acknowledges that the proposed methodology poses some limitations. For example, the validity of the study may be limited to those institutions included in the sample and may in particular be less valid in relation to institutions beyond Southern California. Therefore, the results may be limited in their ability to be generalized to various regions of the United States. In addition, the institutions contacted had not aggregated their Disability Services data by graduate and undergraduate student

status and as a result the percentage of undergraduate students with disabilities was not able to be determined. Therefore, the present study did not differentiate between graduate and undergraduate faculty, which may potentially impact the results.

Definition of Terms

Many terms are used synonymously within the field of education. Therefore, a clear understanding of the terms used in the present study is essential for understanding.

Attention Deficit Hyperactivity Disorder (ADHD) – ADHD is a disorder defined in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Text Revision (DSM-IV TR; American Psychiatric Association, 2000) and is characterized by inattentiveness, over-activity, and impulsivity that are outside of the normal range for a child's age. It is possible to have a combination of any of these symptoms.

Community College – A community college is a public institution of higher education that is designed to offer a two-year curriculum terminating with an associate's degree (Merriam-Webster, 2011). Community colleges are also known as junior colleges or city colleges. In the present study, the term "community college" will be used synonymously with the term "two-year college."

Faculty – The term "faculty" refers to all ranks of academic instructional staff at institutions of higher education (professors, assistant professors, associate professors, adjunct faculty, lecturers, etc.).

Postsecondary Education – Postsecondary education refers to higher education programs provided at two-year colleges or a four-year universities.

University – The term "university" will be used synonymously with the term "four-year college" and refers to an institution of higher learning that maintains a curriculum designed to be completed within four years and terminating with a bachelor's degree (Merriam-Webster, 2011).

Summary

The present chapter outlined the purpose of the present study, the methodology, the importance of the findings, and definitions of key terms. The following chapter will present a review of the literature in regard to ADHD diagnosis, the theoretical neurological basis for the disorder, how the symptoms impact students throughout their educational careers from primary through postsecondary schooling, and a review of interventions that have been found to be effective at each educational level. In addition, the literature review will discuss postsecondary faculty attitudes and perceptions toward students with disabilities and the laws that are in place to protect such students.

CHAPTER II

Review of the Literature

Attention Deficit Hyperactivity Disorder (ADHD) is an area of growing concern in the field of education. In 2000, the American Psychiatric Association estimated that between 3% and 7% of the school-age population had ADHD (2000). In addition, a 2007 parent survey conducted for the National Survey of Children's Health indicates that the number of ADHD diagnoses in children aged 4-17 years increased from 7.8% to 9.5% between 2003 and 2007. (Centers for Disease Control and Prevention, 2010). This represents a 21.8% increase over a four-year period.

In regard to postsecondary school students, the exact number of students who have been diagnosed as having ADHD is not known, as students only self-disclose their diagnoses if they are seeking assistance from the school Disability Support Services (DSS) program. The National Center for Education Statistics reports that during the 2008-2009 school year approximately 18% of students in postsecondary institutions who were known to have disabilities had been diagnosed as having ADD or ADHD (NCES, 2011). When aggregated by type of institution, students with ADD or ADHD constituted 13% of the public two-year college disabled population, 23% of the disabled public four-year university disabled population, 26% of the private not-for profit four-year university disabled population, and 22% of the private for-profit four-year university disabled population (NCES, 2011). However, these statistics only indicate the number of students who self-disclosed their disabilities to the institutions and therefore may be an under-representation of the actual ADHD population attending postsecondary schools. It

should also be noted that not all postsecondary institutions enroll students with disabilities. While 99% of two-year public institutions and 99% of public four-year institutions report that they enroll students with disabilities, only 88% of private not-for-profit institutions and 74% of private for-profit institutions enroll students with disabilities (NCES, 2011).

The following literature review will begin with an analysis of the symptoms that lead to a diagnosis of ADHD as well as various theories regarding the neurology of ADHD. The literature regarding the development and progression of ADHD symptoms from elementary through postsecondary school will then be reviewed in order to gain an understanding of the challenges that students with ADHD face throughout their educational development. The legal protections for students with disabilities will also be reviewed, as these laws provide a framework for understanding the required responsibilities of postsecondary faculty when working with students with ADHD. The research regarding faculty perceptions of the legal mandates, the accommodations required, and of the students will then be discussed, as these are the main factors that will be explored in the present study. Finally, the literature regarding student perceptions of the accommodations they receive and their acceptance by professors will be discussed.

Diagnosing ADHD

The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Text Revision (DSM-IV TR) identifies three subtypes of Attention Deficit Hyperactivity Disorder (American Psychiatric Association, 2000). These include the Predominantly Inattention Type, the Predominantly Hyperactive-Impulsive Type, and the Combined

Type. In order for a diagnosis to be made, the DSM-IV TR requires that the symptoms for each of these subtypes be the result of a persistent pattern of inattention and/or hyperactivity-impulsivity that occurs frequently, in at least two settings, and is more severe than typical peers. Furthermore, some of the hyperactive-impulsive or inattentive symptoms must have been present prior to seven years of age and must result in an interference of developmentally appropriate social, academic, or occupational functioning. In addition, the DSM-IV TR indicates that the clinician making the diagnosis should take into consideration whether the ADHD symptoms occur only during the course of other disorders such as Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorders (2000). In adults, clinicians typically rely on rating scales and interviews when making a diagnosis (Hervey, Epstein, & Curry, 2004).

In diagnosing ADHD, the DSM-IV TR identifies various symptoms of inattention, of which six or more must be present within six months prior to the diagnosis. Examples of such symptoms include making careless mistakes in schoolwork, occupational work, or other activities, difficulty sustaining attention on tasks or activities, difficulty listening when spoken to directly, difficulty following through on instructions, difficulty organizing activities, avoidance of tasks involving sustained mental effort, losing things, distractibility, and forgetfulness (American Psychiatric Association, 2000). Additional symptoms are described in regard to hyperactivity. Like the symptoms of inattention, six or more hyperactive symptoms must be present for a patient to be identified as having a hyperactive component of ADHD (2000). Examples of the hyperactive symptoms include fidgeting with hands/feet or squirming in seats, frequently

getting up from a seat when remaining seated is expected, excessively running or climbing when not appropriate, difficulty playing quietly, frequently rushing, and talking excessively. In regard to impulsivity, the DSM-IV TR identifies symptoms such as stating answers before questions have been finished, difficulty waiting for one's turn, and frequently interrupting others (American Psychiatric Association, 2000). It should be noted that research conducted by Biederman, Mick, and Faraone (2000) indicates that symptoms of hyperactivity and impulsivity tend to decrease in adulthood, although inattentive symptoms tend to continue.

In addition to the diagnostic criteria provided by the DSM-IV TR, Nigg and Casey (2005) have summarized the behavioral characteristics of ADHD in an extensive review of the literature. When placed in slow, careful contexts, students with ADHD tend to respond hastily, inaccurately, or inappropriately due to impulsivity. When required to respond quickly and accurately, ADHD children tend to respond slowly and inaccurately due to under-arousal. When required to make decisions quickly, students with ADHD tend to have difficulty providing a prepared response due to poor executive response inhibition. Furthermore, when an organized response is required, children with ADHD tend to have difficulty planning, utilizing working memory, and integrating various forms of information. In addition, students with ADHD tend to have difficulty with delayed gratification and place more weight on immediate rewards than on longer-term incentives. Finally, Nigg and Casey (2005) theorized that students with ADHD tend to have difficulty managing time, as they have a tendency to overestimate time intervals.

The diagnostic criteria and behavioral symptoms described above help to provide an understanding of the challenges that students with ADHD face. This level of understanding will be explored within the present study, as an understanding of the diagnosis likely impacts faculty perceptions of the students who display the symptoms of ADHD.

Theories of ADHD

A true understanding of the struggles that students with ADHD face requires some knowledge of the theories addressing the causes of the disorder. The following section will explore the most widely accepted theories of ADHD and the reasons that symptoms occur.

Executive Functioning Deficits

Researchers have developed several theories attempting to explain the causes of ADHD symptoms. One of the most widely accepted theories of ADHD was developed by Barkley (1997) over a decade ago. Barkley's theory focuses primarily on a deficit in response inhibition, which is typically used for self-regulation during times of temptation or when a temporal delay is required. According to Barkley (1997), this deficit then leads to impairments in the four neuropsychological functions that control goal-directed behavior through the motor system (working memory, internalization of speech, self-regulation of affect/motivation/arousal, and reconstitution). In describing these functions, working memory tends to assist in determining how to respond to situations, self-regulation assists in emotional self-control, internalization of speech assists in reflecting and problem-solving, and reconstitution allows for analysis of situations. Barkley termed

these processes executive functions. Ultimately, multiple deficits in these executive functions tends to result in poor self-control, difficulty executing goal-directed responses and complex motor sequences, responding to tasks inappropriately, poor behavioral control, and impaired ability to reengage in tasks after disruptions (Barkley, 1997).

Neurobiological Model

Building upon Barkley's theory (1997), Sonuga-Barke (2003) presents a neurobiological model in which both executive functioning deficits and deficits related to an aversion to delays of preferred stimulus are placed within the same model. This model views the neurobiological executive circuit and the reward circuit as separate pathways to ADHD. The executive circuit leads to inhibitory deficits and eventually to deficits in executive functioning, ultimately resulting in inattentive and hyperactive ADHD symptoms while the reward circuit is associated with both delay aversion (the desire to minimize delay of rewards) and the desire to maximize stimulation. Deficits in the reward circuit ultimately results in impulsive, inattentive, and over-active ADHD symptoms. Therefore, Sonuga-Barke's (2003) research suggests a dual-pathway model of ADHD (executive functioning deficits and deficits in the reward circuit).

Neurocognitive Theory

Nigg and Casey (2005) present a neurocognitive theory of ADHD. Their research suggests that ADHD symptoms occur due to deficits in the frontostriatal, frontocerebellar, and frontolimbic loops of the individual's neural circuitry. The frontostriatal loops are involved in executive functioning such as working memory, response selection, and response suppression. Deficits in these areas tend to impair a

student's ability to predict what will happen during given events and when they will occur. Therefore, this weakness would impact the student's ability to quickly recognize and assess a given situation. Deficits in the frontocerebellar loops then impact the manner in which the student may perceive time, such as how long he may have to wait for a preferred activity or how long it has been since he received an instruction. Finally, deficits in the frontolimbic loops may impact the student's ability to understand the emotional significance of a situation, thereby making it more difficult to learn from past behavior. Ultimately, Nigg and Casey (2005) hypothesize that due to neurocognitive impairments, students with ADHD may misread situations, engage in improper behavior due to the misreading situations, and fail to understand what the consequences of their behaviors may be. For example, a student with deficits in his frontostriatal and frontocerebellar circuits may fail to identify how much time he has before the school bell rings indicating that class has started. The student may then continue to engage in a preferred activity because he did not know that the bell was going to ring. As a result, the student may be off-task once the bell rings and may not notice that other students have taken their seats. Finally, a deficit in the frontolimbic loops results in the student not understanding the nature and severity of his error and therefore not modifying his behavior in the future (Nigg & Casey, 2005).

The theories described above help to explain the neurological, biological, and behavioral processes that are involved in ADHD symptoms. An understanding of these theories can assist postsecondary faculty to understand that the behavioral symptoms of ADHD are not necessarily voluntary. This understanding can lead to more sympathetic

perspectives of students with ADHD and an acknowledgement that there are biological and neurological components to the disorder that are outside the student's control.

ADHD in Childhood and Adolescence

In order to understand the challenges facing students with ADHD within the postsecondary environment it is essential to understand the difficulties that they have overcome during the elementary and secondary schooling years. The following section will outline the behavioral symptoms that tend to be present during the kindergarten through high school years and the interventions that have been found to be successful for both children and adolescents.

Students with ADHD often present with a number of difficulties during their elementary, middle, and high school years. In a study investigating academic, social-emotional, and behavioral functioning of first through fourth grade students, DuPaul et al. (2006) found that ADHD students tend to display impairment across all domains regardless of gender. Social-emotional and behavioral difficulties were further explored by Miranda, Soriano, Fernandez, and Melia (2008) in a study exploring the extent to which psychological difficulties impact the severity of ADHD based on parent and teacher perceptions. The study consisted of 72 students with ADHD who were between the ages of 6 and 14 years old and the parents and teachers of each student were asked to complete a questionnaire. While significant variability was found between parent and teacher reports in regard to areas such as anxiety (13% agreement), emotional lability (33% agreement), and social problems (29% agreement), there was a high level of agreement in regard to externalizing behaviors such as restlessness/impulsiveness (90%

agreement), hyperactive behaviors (85% agreement), and conduct problems (43% agreement). The researchers hypothesize that the high levels of disagreement in regard to anxiety and emotional lability may be due to the fact that these symptoms are less observable than impulsivity, hyperactivity, and conduct problems. Furthermore, the difference in the environments in which the respondents observe the students (home versus school) may have impacted their responses.

In addition to determining the consistency of responses between parents and teachers, Miranda et al. (2008) sought to determine the relationship between various psychological difficulties and ADHD. The results of the study indicated that students with ADHD-Combined Type exhibited high rates of psychopathologies such as emotional lability and conduct problems. Furthermore, the researchers found that older children with ADHD but without concurrent learning disabilities displayed more psychological difficulties than did the younger children, particularly in regard to inattention and impulsivity. However, the inverse was true for students who exhibited both ADHD and learning disabilities, as younger children with these co-morbid conditions displayed more severe symptoms.

Interventions for students with ADHD at the elementary and secondary level tend to focus on behavior modification and self-regulation, as school districts are not able to make recommendations involving medication. In line with this reasoning, Trout, Lienemann, Reid, and Epstein (2007) conducted a review of non-medication interventions in order to identify the most effective methods of improving academic outcomes for students with ADHD. The results of their study indicated that a

combination of medication and treatment produced the largest effects, particularly when the treatment consisted of self-regulation techniques. Additional treatments that were found to be effective include strategy instruction, direct instruction, and self-reinforcement. The researchers also found that token economies (earning reinforcers for appropriate behaviors), response cost (in response to inappropriate behaviors, the student must return previously earned reinforcers), and peer tutoring were "promising" interventions (p. 222).

Gureasko-Moore, DuPaul, and White (2007) conducted additional research involving sixth and seventh graders with ADHD and the effectiveness of self-management techniques on classroom preparedness and homework. The experimental group subjects were provided with three 15-minute sessions with a school psychologist during which they were taught self-management procedures for use in their classrooms and homework routines. The procedures consisted of maintaining a student log as well as self-monitoring checklists. The school psychologist then monitored their progress and provided feedback for the duration of the study. The results indicated that classroom preparation skills and homework behaviors increased significantly as a result of the training. However, these results should be interpreted with caution, as the sample size for the study was only made up of six male students. Furthermore, two of the students were reported to have been taking psychotropic medications, which may have impacted the results. However, the authors note that the students were taking the medications during the baseline period, continued the same dosage throughout the study, and yet made significant growth as a result of the interventions.

In regard to interventions addressing behavioral and self-regulation difficulties in students with ADHD, daily report cards (DRCs) have been found to be effective (Fabiano et al., 2010; Murray, Rabiner, Schulte, & Newitt, 2008). DRCs involve rating specified behaviors at school daily and having the parents provide positive reinforcement at home for appropriate marks on the DRC. Fabiano et al. (2010) studied the effects of DRCs utilizing 63 first through sixth grade special education students with ADHD. The results indicated positive effects in the areas of classroom functioning, special education goal attainment, and teacher ratings of productivity and disruptive behavior. However, while academic productivity increased, actual achievement testing remained stable, suggesting that work production improved without concurrent development of academic skills. Based on this, the researchers hypothesized that behavioral interventions alone are not sufficient to improve learning.

Murray et al. (2008) further explored the effectiveness of DRCs on 24 kindergarten through fifth grade students with ADHD. In contrast to Fabiano et al. (2010) discussed above, this study found that the subjects demonstrated significant improvement in regard to academic skills as well as productivity. However, it should be noted that Murray et al. (2008) utilized a teacher-rated measure of academic productivity and skills while Fabiano et al. (2010) utilized standardized academic measures. Therefore, while the perception of the teachers in the Murray et al. (2008) study may have been that the students gained academic skill, the actual level of student skill was not measured.

In summary, students with ADHD in childhood and adolescence tend to be reported by their parents and teachers to be restless, impulsive, hyperactive, and have conduct problems (Miranda et al., 2008). While a combination of medication and behavioral treatment has been found to be the most effective intervention (Trout et al., 2007), effective non-medication interventions include strategy instruction, direct instruction, self-management and reinforcement, and the use of daily report cards (Fabiano et al. 2010; Gureasko-Moore et al., 2007; Murray et al., 2008). This information provides a backdrop to understanding the struggles and interventions that students with ADHD have experienced during their journey to postsecondary education. Such information is essential to provide to postsecondary faculty during professional development activities in order to facilitate a more accurate perspective of the challenges that face students with ADHD.

ADHD in Adulthood

Difficulties associated with ADHD persist through adulthood, although the symptoms may change from those exhibited in childhood and adolescence. For example, research conducted by Biederman, Mick, and Faraone (2000) indicate that symptoms of hyperactivity and impulsivity tend to decrease in adulthood, although inattentive symptoms tend to continue. The following review of research discusses the challenges that adults with ADHD often face and the impact that ADHD symptoms have on their lives. Research regarding predictors of success for postsecondary students with ADHD will also be reviewed.

Transition to Adulthood

In exploring ADHD from adolescence through adulthood, Barkley, Fischer, Smallish, and Fletcher (2005) conducted a study in which they followed children with ADHD for approximately 13 years, seeking to determine how ADHD symptoms impacted the children's education and livelihood. The mean age of the ADHD group at the time of study was 20 years old. Academically, the results of the study indicate that the ADHD group had significantly lower educational attainment than the control group, with 32% of the ADHD sample failing to complete high school. Furthermore, subjects from the ADHD group were more likely to have been retained in grade, suspended in high school, had lower grade point averages, and were less likely to enroll in college. In regard to adult life, the ADHD subjects were more likely to have been fired from their jobs, had fewer close friends, were more likely to have had sexual intercourse at a young age, to have contracted sexually transmitted diseases, and to have parented a child at a young age.

Barkley and Fischer (2010) conducted additional research examining the impact of emotional impulsiveness (EI) in 27-year old adults with ADHD. For the purpose of the study, EI was operationalized as impatience, low frustration tolerance, being tempermental, quick to anger, irritable, and being easily emotionally excitable. The results indicate that EI negatively contributed to the amount education that the subjects attained as well as their rates of suspensions and expulsions from school. Outside of the academic domain, EI was associated with high levels of driver license suspensions and citations. Furthermore, EI was found to predict felony and misdemeanor arrests and

convictions. Credit ratings and difficulties managing money were also associated with EI in ADHD adults.

Adult Students with ADHD in Postsecondary Education

In addressing the difficulties exhibited by the students with ADHD who attend college, Norwalk, Norvilitis, and MacLean (2009) sought to determine the relationship between ADHD symptoms and factors associated with persistence in college. Consistent with the research conducted by Barkley et al. (2005) and Barkley and Fischer (2010), the results of this study found that higher levels of ADHD symptoms are related to lower levels of academic adjustment, study skills, grade point average, and self-efficacy in career decision-making (Norwalk et al., 2009). In analyzing these findings, Norwalk et al. (2009) hypothesized that these areas of difficulty were related to executive functioning deficits. This hypothesis is consistent with the ADHD theories described by Barkley (1997) and Sonuga-Barke (2003).

While historically the focus of ADHD research regarding interventions has been within the elementary and secondary school settings, the amount of research exploring effective interventions for the post-secondary ADHD population has begun to grow in recent years. Despite this recent increase in postsecondary focus, research regarding specific strategies, accommodations, and interventions continues to be scarce. In seeking to identify predictors of academic success for college students with ADHD, Kaminski, Turnock, Rosen, and Laster (2006) studied 82 college students with the disorder and assessed their severity of symptoms, academic success, and coping resources. For the purpose of the study, coping resources were defined as factors that were available before

stressors occurred and therefore could be utilized to assist when stressors did occur. Interestingly, the results of the study indicate that ADHD students who exhibit high rates of success reported fewer coping resources than did students who exhibited low rates of success. Furthermore, the less successful students were found to be in greater health and were more physically fit than the more successful students. The authors hypothesize that this is due to the low success students spending more time exercising than studying. This hypothesis was supported by data indicating that several students reported that their exercise schedules impeded their academic success. Additional results of the study indicated that freedom from financial concerns and effective time management were associated with academic success. Based on these results, the authors recommend that universities implement programs focusing on decreasing procrastination, enhancing motivation, and leading students to pursue long-term goals.

Trammal (2003) explored the impact that receiving academic accommodations in college has on final grades. Trammal's sample consisted of 61 college students with either specific learning disabilities (SLD) or attention deficit disorder (ADD). The results of the study indicate that students performed best when only one accommodation was implemented rather than multiple accommodations at one time. Students with ADD were found to be more responsive to accommodations than students with SLD. In addition, students with either SLD or ADD were found to perform better when they attended classes that met for shorter periods of time. In reviewing how students received accommodations for class, the researcher found that students with ADD made fewer requests for accommodations but made better decisions in determining which

accommodations would best suit their needs. Unfortunately, a weakness of this study was that the author did not identify which specific accommodations were most effective for each type of disability.

Rather than study classroom accommodations, Allsopp, Minskoff, and Bolt (2005) conducted research to determine the impact that individualized instruction for specific courses has on the academic performance of students with ADHD. The sample consisted of 46 four-year university students with ADHD at three different institutions. More than half (57%) of the students were identified as having disorders such as depression, anxiety, or obsessive-compulsive disorder in addition to ADHD. Specific learning strategies for each individual's needs were selected and taught using systematic explicit instruction designed to address the particular course that the student was taking. The results of the study indicated that improvement was contingent upon the student independently using the strategies and having a supportive relationship with their strategy instructor. In contrast, medication-related issues and emotional difficulties were found to be associated with non-improvement. For students who did improve, one semester of intervention was found to be adequate for the student to sustain their level of improvement for subsequent semesters. The authors concluded that the success of this intervention was due in large part to the individualized strategies that were provided to each student rather than providing generic strategies to all students.

Lee, Osborne, Hayes, and Simoes (2008) explored the effects of the accommodation of pacing during academic tests on performance in college students with ADHD. The researchers designed an experiment in which the students were assigned to

either a computer-paced testing condition or a student-paced testing condition in order to determine whether forced pacing (in the computer condition) resulted in higher student performance. Ultimately, no significant differences were identified between the two conditions. In fact, interviews with the participants revealed that many of the subjects felt that the forced pacing increased their level of anxiety, although this did not appear to decrease their performance when compared to the student-paced group. However, interviews also revealed that students felt that the computerized testing structure in which only one question was presented on the screen at a time was beneficial to their performance. Therefore, the researchers hypothesize that the benefit of having a structured testing format compensated for the negative impact that the increased anxiety related to forced pacing may have had, thereby resulting in scores that were equivalent to the student-paced group. Based on this hypothesis, the researchers suggest that future studies be conducted to determine the effect of computerized testing on ADHD versus non-ADHD students.

In summary, adults with ADHD often present with both academic and non-academic difficulties (Barkley et al., 2005). While the hyperactive component of their disorder tends to diminish in adulthood, the inattentive component often persists along with emotional impulsiveness (Barkley & Fisher, 2010; Biederman et al., 2000). Those who progress to postsecondary education are often in the minority and have overcome significant challenges to reach the college and university levels. Once at the postsecondary level, adults with ADHD tend to have lower levels of academic achievement due to executive functioning deficits (Norwalk et al., 2009). Because of

this, adult students often require interventions and accommodations to assist them. Programs focusing on decreasing procrastination, enhancing motivation, and the pursuit of long-term goals may assist students with ADHD to be successful (Kaminski et al., 2006). In regard to accommodations, single accommodations have been shown to be more effective than having multiple accommodations (Trammal, 2003). In addition, direct instruction focused on individual subjects has been shown to be effective, provided that the students eventually begin to implement the strategies independently (Allsopp, et al., 2005). Finally, forced pacing was not found to be effective, although computer-based testing allowing for fewer distractions appears to be promising (Lee et al., 2008). Knowledge of these effective accommodations can assist professors in working with students with ADHD and understanding how they best learn.

Legal Protections for Students with ADHD

Students with disabilities who attend any school that receives public funding in the United States are provided with several legal protections that postsecondary faculty should be aware of in order to ensure compliance. These protections include Title II of the Americans with Disabilities Act (ADA), Section 504 of the Rehabilitation Act of 1973, and the Individuals with Disabilities Education Act (IDEA). Title II and Section 504 are broader in their scope of disabilities than the IDEA, which provides special education services for students within specific ages who fall under one or more of 13 disability categories. While Section 504 and Title II apply to both school-age and postsecondary students attending institutions receiving public funding, protections and services under IDEA do not continue beyond high school and therefore are not essential

for postsecondary faculty knowledge. However, postsecondary faculty may benefit from being aware that the eligibility requirements for Section 504 and IDEA are different and therefore many students who were previously eligible for accommodations under are IDEA are not necessarily eligible for any protections when entering postsecondary education (Gordon, Lewandowski, Murphy, & Dempsey, 2002).

Title II of the Americans with Disabilities Act

Title II of the ADA was passed by Congress in 1990 and covers all agencies (including schools) of the state and local government. Under Title II, qualified students with disabilities are entitled to reasonable accommodations that will provide an equal opportunity to benefit from all programs, services, and activities that their typical peers do (ADA, 2005). Title II specifically addresses architectural, communication, and transportation barriers. For example, students with disabilities must have access to buildings, receive aids that may be necessary to communicate with others, and receive reasonable modifications to policies and procedures.

Section 504 of the Rehabilitation Act of 1973

Section 504 of the Rehabilitation Act of 1973 is similar to Title II in that it is intended to prevent discrimination toward people with disabilities. Section 504 defines a person with a disability as one who has a physical or mental impairment that substantially limits one or more major life activities such as caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, or working (Jacob & Hartshorne, 2003; Zirkel, 2009). In regard to services and accommodations, Section 504 requires that schools provide a free and appropriate public education (FAPE) to qualified

students with disabilities. This education must be designed to meet the individual's educational needs in the same manner that their typical peers' needs are met and may include the use of regular classes, supplementary services, or special education and related services (Jacob & Hartshorne, 2003). Section 504 was further refined with the passage of the Americans with Disabilities Act Amendments (ADAA) in January 2009 and included limitations in concentrating, reading, and thinking as examples of major life activities that would make one eligible for Section 504 protections. In regard to ADHD, the ADAA now requires that the functional impact of the disability be determined without consideration of mitigating measures such as medication (Shaw, Keenan, Madaus, & Banerjee, 2010). Based on memorandums by the Department of Education, accommodations provided by Section 504 may include, but are not limited to, a structured learning environment, repeating or simplifying instructions and assignments, supplementing instruction, behavior management, adjustable class schedules, and use of note takers (Jacob & Hartshorne, 2003).

Within the postsecondary setting, a student must self-disclose their disability to the institution if they would like to receive accommodations under Section 504 or Title II. In order to qualify for such accommodations, the student must demonstrate that they have a physical or mental impairment that substantially limits a major life activity (Jacob & Hartshorne, 2003; Zirkel, 2009). Mental impairments may include mental retardation, emotional or mental illnesses, or learning disabilities such as ADHD (Wilhelm, 2003). As previously mentioned, learning may qualify as a major life activity that may be substantially limited by the physical or mental health impairment (Jacob & Hartshorne,

2003). In regard to the severity of the limitation, the United States Equal Employment Opportunity Commission (EEOC) has defined "substantially limited" as either being unable to perform a major life activity that an average non-disabled person can perform or not being able to perform such an activity in a comparable condition, manner, or duration as an average non-disabled person (Wilhelm, 2003). Finally, the student must be considered to be "otherwise qualified" to participate in the program in question. This means that the individual must be able to meet the program requirements with reasonable accommodations (Denbo, 2003; Wilhelm, 2003). If the student is not able to meet the program requirements despite the use of reasonable accommodations, he or she is not considered to be "otherwise qualified" under the ADA (Wilhelm, 2003).

The practice of verifying that a student has a qualifying disability varies from institution to institution. The National Center for Education Statistics (2011) reports that during the 2008-2009 school year 92% of institutions in the United States required some form of verification. Of those institutions, 80% accepted a comprehensive vocational rehabilitation agency evaluation as adequate verification. 44% of the institutions accepted an Individualized Education Program (IEP), and 40% of the institutions accepted a Section 504 plan from a secondary school. When aggregated by type of institution, 99% of public two-year colleges and 98% of public four-year universities required verification of a disability. In the private sector, 87% of private not-for-profit four-year universities and 100% of private for-profit four-year universities required verification.

Once the student has established that he or she has a disability that falls under the scope of Section 504, the institution is required to provide reasonable accommodations that are individualized to eliminate or reduce the impact of the disability on the major life activity (Jacob & Hartshorne, 2003; Wilhelm, 2003). According to Wilhelm (2003), the United States Supreme Court has been clear that reasonable accommodations are those that are individualized for the student but do not lower the academic standards of the program or require substantial program alteration. In regard to common accommodations, the National Center for Education Statistics (NCES, 2011) reports that during the 2008-2009 school year 93% of national postsecondary institutions that enrolled students with disabilities provided additional exam time, 77% provided classroom note takers, 72% allowed faculty-provided course notes or assignments, 72% provided additional help with learning strategies or study skills, 71% provided alternative exam formats, and 70% provided adaptive equipment and technology.

Individuals with Disabilities Education Act

A third legal protection for students with disabilities is the Individuals with Disabilities Education Act (IDEA), although this law does not apply to postsecondary education. IDEA requires that school districts provide special education services for students with disabilities beginning at the age of three years and spanning through either the attainment of a high school diploma or the student's 22nd birthday if he/she has not yet achieved a diploma. In contrast to the requirements of Title II and Section 504, IDEA defines thirteen categories of disabilities and students must fall under one or more of the categories in order to qualify for services. In addition to accommodations similar to

those provided under Section 504, students who fall under IDEA receive specially designed instructional services to meet their unique needs. These services may include instruction in the classroom, home, or hospitals. Each service provided must be designed to grant the student access to a free and appropriate public education within the least restrictive environment. This means that students can only be removed from the regular education environment when the nature or severity of the disability is such that education in regular classes without the use of supplementary aides and services cannot be achieved satisfactorily (IDEA, 1997).

Clinician Understanding of Legal Protections

While the criteria for a diagnosis of ADHD is well established, there continues to be great variability in regard to mental health clinicians' understanding of the laws that protect postsecondary students with this disability. Gordon, Lewandowski, Murphy, and Dempsey (2002) conducted a study of 147 clinicians in order to determine their understanding of both ADA law and the diagnostic criteria that they were using to diagnose SLD, ADHD, and psychiatric disabilities. The sample consisted of clinical psychologists (37%), educational psychologists (29%), neuropsychologists (19%), and other mental health professionals (15%). The results of the study indicated that clinicians are aware that there are different eligibility requirements for legal protections than what is required for a clinical diagnosis. However, clinicians were not aware that the purpose of ADA is to prevent discrimination rather than to facilitate success. Clinicians also tended to believe that students should receive accommodations even if their scores are within the average range. Of particular interest to the researchers was the finding that

41% of clinicians did not appear to be aware that the DSM-IV TR criteria for a diagnosis of ADHD requires that the symptoms began prior to seven years of age. Finally, the results of the study found that many clinicians indicated that they favor advocating for what they view to be the patient's interests rather than strictly applying diagnostic criteria. Based on this information, the researchers recommended increased professional development and dissemination of accurate diagnostic and legal information to clinicians who provide recommendations to universities regarding students with disabilities.

Faculty Attitudes, Beliefs, Practices, and Training

It is essential to consider the knowledge and perception of the implementers when evaluating the degree to which a requirement is implemented. It is equally important to consider the perspectives of those being affected by the fidelity with which the requirement is being adhered to. Based on these assumptions, researchers have begun to focus on the perceptions of both professors and students in regard to the implementation of the required accommodations for students with ADHD.

Faculty perceptions of students with disabilities are particularly important because they can impact the level at which students seek accommodations for their disabilities as well as their academic achievement (Hartman-Hall & Haaga, 2002). The following section will review previous research regarding professor perceptions of students with ADHD as well as reasons to determine the level of acceptance of students with disabilities in both two-year colleges and four-year universities.

According to the National Center for Education Statistics (NCES, 2011), in 2008-2009 approximately 707,000 students with disabilities were enrolled in postsecondary

institutions in the United States, half of which were enrolled in public two-year colleges. Of the 707,000 students with disabilities, NCES reports that approximately 18% (127,260 students) had been diagnosed with attention deficit disorder (ADD) or ADHD. These statistics suggest that a high number of ADHD students currently attend two-year colleges and are potentially eligible for legal protections under Section 504. Therefore, it is particularly important to determine the perceptions and comfort of two-year university professors with accommodating students with disabilities. In exploring this subject, Sweener, Kundert, May, and Quinn (2002) conducted a study surveying 502 community college professors. The results of this study indicate that two-year college faculty tend to be comfortable with providing accommodations that allow students either extra time and space or the use of auxiliary aides. However, the professors tended to report that they were uncomfortable providing accommodations that required additional time and effort on their part.

Faculty Attitudes, Beliefs, and Practices

Vance and Weyandt (2008) conducted research investigating professor perceptions of students with ADHD at two four-year universities and one two-year college. The results of the study indicated no differences in perceptions between professors at two-year colleges or four-year universities. The results also indicated no differences in regard to opinions of professors of varying levels of education or experiences. In regard to their perception of students with ADHD, the majority of professors (58.9%) felt that a student with ADHD is equivalent to a student with a learning disability and 29.6% of the professors ‘agreed’ or ‘somewhat agreed’ that a

student with ADHD is more stressful to teach than a non-ADHD student. In regard to accommodations, 25.7% of professors most 'agreed' to 'somewhat agreed' that they should not accept alternative assignments or provide copies of lecture notes to students with ADHD. Furthermore, 12.3% of professors indicated that students with ADHD should not be provided with special accommodations. The researchers then aggregated the last two categories by area of professor expertise. The results of these analyses indicated that professors who taught in the College of Sciences were most likely to feel that they should not accept alternative assignments or provide lecture notes. In addition, the researchers found that the professors who felt that students with ADHD should not receive accommodations were mainly from the College of Education and Professional Studies, followed by the College of Sciences. Finally, the researchers explored the number of professors who had received training in working with students with ADHD and very few indicated affirmatively. However, the majority of professors reported that they would like to receive such training.

In further addressing faculty attitudes, beliefs, and practices toward students with disabilities, Murray, Wren, and Keys (2008) developed and tested for reliability and validity a 12 factor survey instrument. The researchers then distributed the surveys and gained responses from 192 faculty members (30% response rate) at an urban private university. The study addressed the following factors: (a) faculty perceptions of providing major accommodations (such as reducing workload); (b) faculty willingness to provide accommodations on exams; (c) faculty perception of the fairness of providing accommodations; (d) faculty knowledge of the laws protecting students with disabilities;

(e) faculty willingness to invest additional time to support students with disabilities; (f) faculty willingness to provide teaching accommodations; (g) faculty perceptions that resource constraints made providing accommodations difficult; (h) faculty expectations for the performance of students with learning disabilities; (i) faculty perceptions of student self-disclosure and the level at which faculty should believe what students disclose; (j) the level at which faculty invite student self-disclosure; (k) faculty perceptions of whether they have sufficient knowledge to make accommodations; and (l) faculty perceptions of whether they provide accommodations. The results of the survey indicated a gender difference between male and female faculty responses. Female faculty members were more likely then were males to provide accommodations, have greater knowledge of learning disabilities, have greater sensitivity to students with disabilities, and to personally invest their time to support students with disabilities. Overall, the results of the study indicated that faculty members felt that they had positive expectations for the students with disabilities, were willing to invest additional time for the students, and were willing to make minor accommodations for the students. Faculty were less willing to make major accommodations for students and tended to score lower in regard to inviting students to self-disclose their disabilities. The results of the study also indicated that faculty felt that they required additional knowledge in order to provide appropriate teaching and testing accommodations and an analysis of the survey responses indicated that perceptions of inadequate knowledge was negatively associated with the provision of accommodations. This study is particularly relevant to the present

dissertation study, as it explores each of the factors that the dissertation study seeks to explore.

In reviewing research regarding professor perceptions of students with disabilities, Ginsberg and Schulte (2008) recognized two distinct trends, which they termed the conventional view and the interactionist/social constructivist view. They sought to explore these views in a study of 12 four-year public university professors. In interviewing these professors, Ginsberg and Schulte found that professors who held the conventional view tended to view students with disabilities as being distinct and separate from the other members of the class. These professors felt that students with disabilities are solely responsible for identifying how they should be taught and would not provide accommodations unless the student provided proper documentation, as the professors felt that it was not their job to offer accommodations. In addition, the professors who demonstrated a conventional view tended to report that providing a student with significant accommodations would not be fair to the other members of the class. Professors who held a conventional view tended to provide accommodations such as additional time to take tests, providing lecture notes in advance, allowing additional time to complete assignments, and referrals to the campus learning center.

In contrast to the professors with a conventional view of students with disabilities, Ginsberg and Schulte (2008) found that professors who demonstrated an interactionist/social constructivist view tended to focus on ways in which they could assist students with disabilities. They viewed their role as providing any support necessary to meet the needs of their students and often did not require university

documentation prior to providing accommodations. Examples of accommodations provided by professors with an interactionist/social constructivist view included checking with the student to ensure understanding of concepts, reducing content to smaller pieces, administering examinations orally, arranging for peer support, and meeting with the students individually.

Faculty Training

In order to determine the relationship between the level of training that faculty members receive and their attitudes toward students with ADHD, Murray, Lombardi, Wren, & Keys (2009) conducted a study utilizing a revised form of the survey instrument used in the previously discussed Murray et al. (2008) study. The results of the 2009 study indicated that faculty with prior training are more likely to be willing to provide exam accommodations, view accommodations as fair, have greater general knowledge, are more likely to invest their time for students with disabilities, invite self-disclosure, and to provide accommodations. In addition, faculty with additional training were found to perceive fewer resource constraints and to feel as though they had adequate knowledge to make accommodations. Further analysis of the survey results indicated that faculty who had attended previous trainings focusing on students with disabilities were more likely to have positive attitudes and perceptions of such students than did faculty who did not attend trainings. In regard to types of training that were most effective, faculty who attended workshops or courses tended to have higher scores in regard to general knowledge, followed by faculty who had only read books and articles on the subject rather than attend workshops. Faculty who had no prior training scored lowest on the

survey. Similar to the Murray et al. (2008) study, the Murray et al. (2009) study explored several factors that are further addressed in the present dissertation study and expanded to include both two-year and four-year postsecondary settings. Combined with the information gained from Murray et al. (2009), it is hoped that the present dissertation study results will assist in developing training programs specifically designed for two-year and four-year faculty and administrators.

In order to determine faculty members' priorities in regard to their understanding of students with disabilities and the laws that protect them, Cook, Rumrill, and Tankersley (2009) surveyed 307 faculty members across eight university campuses. The results of their study indicate that most faculty have positive attitudes toward students with disabilities and feel that they provide these students with the same opportunities as typical peers. However, many participants reported that they view accommodations as providing an unfair advantage to students with disabilities and do not know what to do when a student is unhappy about the accommodations provided. The results also indicated that faculty members tend to feel that it is important to understand the characteristics of student disabilities but do not feel that this information is available to them. In addition, the subjects indicated that while they feel that knowledge of legal mandates are important, they do not have a strong understanding in this area. In regard to accommodations, faculty members tend to disagree with having to provide alternate or extra-credit assignments, partial credit, or course substitutions. However, they did agree allowing additional time on tests and the recording of lectures. These results are consistent with a conventional view of students with disabilities as described by Ginsberg

and Schulte (2008). Overall, the results of this study indicate that there continues to be need for professional development in the areas of legal mandates, appropriate accommodations, and understanding of various disabilities. Despite these areas in need of improvement, faculty tend to feel positively about students with disabilities and are in agreement with providing accommodations that are relatively non-invasive or time-consuming.

In regard to additional training for postsecondary faculty, Salzberg et al. (2002) conducted a survey of 214 disability service directors from colleges and universities across the country in order to determine what areas the directors felt were in most need of training at their respective institutions. The results indicate that 61% of the directors were not satisfied with their institutions' current efforts to accommodate students with disabilities and 98% of the directors felt that faculty should be provided with information about the disability services programs. Furthermore, 96% of the directors felt that additional training was needed to provide information about legal mandates and 90% felt that ethical considerations should be included in faculty trainings about disabilities. Consistent with the Cook, Rumrill, and Tankersley (2009) study discussed above, Salzberg et al. (2002) found that 89% of directors felt that faculty required information about specific disabilities and the impact that the disabilities have on student learning. Unfortunately, 73% of the directors reported that it is difficult to have faculty participate in and attend trainings, thus causing a barrier for the information to be distributed to those who teach students with disabilities.

In regard to faculty training, the National Center for Education Statistics (NCES, 2011) reports that in 92% of post-secondary education in the United States that enroll students with disabilities provide one-on-one discussions with faculty who request information or assistance regarding students with disabilities. In addition, 64% of these institutions provide workshops and presentations for faculty, 58% provide a handbook, 54% have resources available for staff use, and 46% send annual mailings or e-mails to faculty. When aggregated by type of institution, public two-year colleges and public four-year universities were most likely to provide one-on-one discussions with faculty asking for assistance, provide workshops for faculty, and have resources available for faculty use. Private for-profit four-year institutions were most likely to have a faculty handbook and private not-for profit four-year institutions had the lowest levels of education materials or activities to assist faculty.

In summary, the literature indicates that professors tend to harbor either a conventional or an interactionist/social constructivist view regarding students with disabilities (Ginsberg & Schulte, 2008). The conventional point of view tends to be less accommodating and more rigid than the interactionist/social constructivist point of view. While professors tend to report positive attitudes toward students with disabilities and are willing to make accommodations such as increased time to complete assignments or tests, they tend to be hesitant to provide accommodations that they perceive would potentially provide an unfair advantage over typical peers (Cook et al., 2009; Ginsberg & Schulte, 2008; Vance & Weyandt, 2008). The research also indicates that while professors feel that it is important to be knowledgeable about specific disabilities and legal protections,

they feel that they do not currently possess an adequate level of training in these areas (Cook et al., 2009). Directors of disability services for multiple institutions across the country agree with this need for training, although they report that it is difficult to gain faculty attendance at such trainings (Salzberg et al., 2002).

Student Perceptions of Self-Disclosure and Accommodations

In addition to studying the perceptions of postsecondary faculty regarding students with disabilities, it is important to understand the perceptions that the students have of themselves and the accommodations that they are entitled to. Student perceptions and comfort with self-advocacy plays an especially important role within the postsecondary environment because students must self-disclose their disabilities in order to qualify for accommodations.

Self-Disclosure and Self-Advocacy

The National Center for Education Statistics (2011) collected data addressing the degree to which postsecondary institutions encourage students with disabilities to identify themselves. The results of the study indicate that 79% of postsecondary institutions across the United States distribute materials providing such encouragement. Aggregated according to type of institution, 90% of public two-year colleges and 92% of public four-year universities distributed materials to students while 76% of private not-for-profit four-year universities and 69% of private for-profit four-year universities distributed materials encouraging students to self-disclose.

In addition to students being knowledgeable about the benefits of self-disclosing their disabilities to their postsecondary institutions, students must feel comfortable

enough to do so. Hartman-Hall and Haaga (2002) sought to determine what factors tend to determine whether or not students request accommodations. The study consisted of 86 university students who had been identified as having learning disabilities. Approximately 35% of those students were also diagnosed with ADHD. The results of the study indicate that students are more likely to seek out help if they have been exposed to hypothetical situations in which a student receives a positive response from a professor and are less likely to seek out help after being exposed to a hypothetical situation in which a student receives a negative response. In addition, students who view their disabilities to be global, stigmatizing, and non-modifiable are less likely to seek out assistance, as are those students who have negative perceptions about their academic, cognitive, or social abilities. Based on these findings, it is essential that professors be educated about the potential long-term impact that their responses to requests for accommodations may have on students and their likelihood to ask for accommodations from other professors in the future. Furthermore, professors should encourage students with disabilities and educate the students in ways that they can compensate for areas of difficulty using the accommodations.

Further addressing student self-advocacy, Trammell and Hathaway (2007) conducted a study that included 32 full-time and part-time professors at a private liberal arts college seeking to determine whether students with self-disclosed disabilities seek help from their professors at significantly different rates than their typical peers. The professors kept logs of each student contact and whether the student did or did not have a disability. Categories of visits included assistance for tests, advising, questions related to

academic majors and minors, papers, and "other." The "other" category typically included homework assistance, discussing group projects, questions about class material, and research projects. Approximately 10.3% of students with disabilities sought assistance from the professors while 13% of non-disabled students sought assistance. Ultimately, the results indicated no significant differences between the assistance rates of students with and without disabilities.

Student Perceptions of Accommodations

For those students who do take advantage of their legal protections, Sweener et al. (2002) sought to explore the perceptions of students with disabilities regarding the accommodations that they receive. In doing this, the researchers studied 31 freshman students with disabilities. The students indicated a neutral level of comfort with asking for accommodations. In particular, the students reported that they felt most comfortable with asking for additional time to complete assignments and asking for extra credit assignments. However, while most faculty reported that they were comfortable with providing additional time to complete assignments, 44% of them felt uncomfortable with providing extra credit assignments.

Kurth and Melard (2006) conducted an additional study exploring student perceptions regarding the accommodation processes at 15 community and technical colleges in California, Minnesota, and Kansas. The results of the study indicated that students were most satisfied with the schools' maintenance of confidentiality regarding their disability. The students were least satisfied with the ways in which their disabilities were discussed with them when determining accommodations. When asked about factors

that the students took into consideration when selecting accommodations, the effectiveness of the accommodations were reported to be the most important. Additional factors that were deemed as important to the students included the ability to increase their independence and the ease of use of the accommodation. Cost, social acceptance, and training were not reported to be important factors from the students' perspective. In regard to the effectiveness of the accommodations that they were provided, students reported that the use of note takers, extended time on tests, adaptive technology, preferential seating, and public transportation were most effective. However, while having access to note-takers was reported to be an effective intervention, many of the subjects reported that better accommodations were necessary, as the note-takers were often poorly trained, failed to attend class, or had illegible writing. In addition, while not as effective as the previously mentioned accommodations, tutors, tape recorders, alternative test locations, taped texts and notes, and counseling services were reported to be beneficial.

In summary, students report that the use of note-takers, extended time on tests, adaptive technology, preferential seating, and public transportation are the most effective accommodations for their disabilities (Kurth & Melard, 2006). Students are more likely to seek accommodations from professors if they expect that the professor will provide a positive response. A negative response from a professor or the perceived likelihood of a negative response tends to have a negative impact on student self-advocacy (Hartman-Hall & Haaga, 2002). In addition, students with disabilities are less likely to request accommodations if they perceive their specific disability to be global, stigmatizing, and

non-modifiable (Hartman-Hall & Haaga, 2002). When they do request accommodations, students are most comfortable asking for additional time to complete assignments and asking for extra credit assignments (Sweener et al., 2002). Unfortunately, when compared to research regarding professor perceptions, professors tend to be willing to provide additional time but may be resistant to allowing for extra credit assignments (Cook et al., 2009; Ginsberg & Schulte, 2008; Sweener et al., 2002; Vance & Weyandt, 2008). Therefore, the literature suggests that student who requests the opportunity for extra credit assignments and is declined by the professor is less likely to request accommodations from professors in the future.

Summary of the Literature

The present chapter reviewed the diagnostic criteria for ADHD as well as several theories regarding the causes of ADHD symptoms. The progression of ADHD from childhood through adulthood was discussed as well as various effective interventions at the primary, secondary, and postsecondary education levels. In addition, the legal protections for students with disabilities were discussed and the differences between the protections in primary and secondary school were the protections in postsecondary education were highlighted. Finally, research exploring professor perceptions of students with ADHD and student perceptions of the accommodations they are provided with and the experiences they have with faculty members were explored.

The literature reviewed clearly demonstrates the increasing need to determine how to best meet the needs of student with ADHD in postsecondary education. The starting point for meeting the needs for students is determining the level of knowledge

and understanding that postsecondary faculty have of students with ADHD and the laws that protect them. The following chapter, Chapter III, will explore the methodology utilized in the present study to determine the degree to which faculty at various types of institutions are familiar with the laws that protect students with ADHD, their willingness to provide accommodations for students with ADHD, and their beliefs and attitudes toward such students.

CHAPTER III

Research Methodology

Due to the increasing numbers of students with ADHD that are entering postsecondary education as described extensively in Chapter II, the present study was intended to explore the attitudes and beliefs that postsecondary faculty have toward students with ADHD, their willingness to provide accommodations for students with the disorder, and their knowledge of the laws that protect students with disabilities. For the purpose of this study, attitudes and beliefs were operationalized as level of faculty fairness and sensitivity, performance expectations, believability of the diagnosis of ADHD, and level of inviting student disclosure of a disability. The results of this study will help to target areas in need of professional development related to faculty attitudes and beliefs toward students with ADHD and their knowledge of legal mandates. The present non-parametric quantitative study is carefully constructed in order to address the following research questions:

1. Are the attitudes and beliefs of two-year college faculty toward students with ADHD significantly different than those of four-year university faculty?
2. Is the level of knowledge of two-year college faculty significantly different than the level of knowledge of four-year university faculty regarding the legal protections for students with ADHD?

3. Is there a significant difference between the willingness of two-year college faculty and four-year university faculty in regard to making testing and instructional accommodations for students with ADHD?
4. Are the responses to the above research questions significantly different depending on whether the faculty is from a four-year public or a four-year private institution?

The present chapter will describe in detail the manner in which the study was conducted and how the results were analyzed.

Design Summary

Institutional Review Board (IRB) approval to conduct the present study was gained through the University of Southern California (see Appendix A). In order to address the research questions stated above, the present study utilized purposeful sampling to select two public two-year colleges, two public four-year universities, and two private four-year universities across Los Angeles County, California. Online surveys using Qualtrics were distributed via e-mail to faculty members at each institution for faculty to complete on a voluntary basis. The results were then analyzed using multivariate analysis of variance (MANOVA) and t-test procedures as described in the "Analysis" section below.

Participants and Setting

The present study consisted of surveys distributed to instructional faculty at six postsecondary institutions. The sample included two public two-year colleges (community colleges), two public four-year universities, and two private four-year

universities. In regard to location, Los Angeles County, California was chosen as an area to explore based on its large size and the numerous postsecondary institutions located within its boundaries. Los Angeles County is made up of 88 cities across 4,083 square miles (Los Angeles County, 2011). Within the boundaries of Los Angeles County, there are 20 public two-year community colleges, seven public four-year universities, and 44 private four-year universities that are accredited by the Western Association of Schools and Colleges (WASC) (California Postsecondary Education Commission, 2011). The inclusion criteria for participating institutions were the following:

1. Located in Los Angeles County, California.
2. Fall under the scope of Section 504 of the Rehabilitation Act of 1973 and are therefore required to make accommodations for students with disabilities as outline in Section 504.
3. Two-year colleges are public California Community Colleges by the California Postsecondary Education Commission (California Postsecondary Education Commission, 2011).
4. Public four-year universities are a part of either the University of California (UC) or the California State University (CSU) systems.
5. Private four-year universities are WASC accredited.
6. All postsecondary institutions included in the study have an office that drafts accommodations for students with disabilities in compliance with Section 504.

In reviewing potential institutions, it was noted that the highest percentages of students being serviced by Disability Services departments tended to be at two-year colleges, while the lowest percentages tended to be at private four-year universities (with the exception of one private four-year university). This is consistent with current research by the National Center for Education Statistics (NCES; 2011), which reports that 99% of two-year public institutions and 99% of public four-year institutions enroll students with disabilities. In contrast, NCES (2011) reports that 88% of private not-for-profit institutions and 74% of private for-profit institutions enroll students with disabilities.

Community College 1 (CC1) is a public two-year community college located in northern Los Angeles County. As of Fall 2009, CC1 had a student population of 22,334. Their Disabled Students Programs and Services office reports that approximately 5% of their total student population has registered as having a disability. As with all postsecondary institutions, these students are identified through self-reporting to the institution and therefore the percentage likely does not represent the total number of students with disabilities on campus. CC1 is reported to have approximately 588 faculty members.

Community College 2 (CC2) is a public two-year community college located in western Los Angeles County. There are approximately 29,960 students enrolled at the college. CC2's Center for Students with Disabilities reports that approximately 7% of their total student population has registered as having a disability. CC2 is reported to have 1,130 full-time faculty.

Private University 1 (PR1) is a small private four-year university located in Los Angeles County, California. PR1 has 921 students enrolled for the 2010-2011 school year and has 130 faculty members. The Disability Resources office reports that approximately 13% of the student body is registered as having a disability.

Private University 2 (PR2) is a large private nonsectarian research university in Los Angeles, California. In 2010, PR2 had 17,500 undergraduate students and 19,500 graduate students for a total of 37,000 students. Approximately 2% of the student population has registered with Disability Services. PR2 is reported to have 5,286 faculty members.

Public University 1 (PUB1) is a large public university at the southeastern boundary of Los Angeles County and adjacent to Orange County. In 2010, PUB1 had 33,416 total students and their Disability Services office indicates that 3% of the students have registered as having a disability. PUB1 is reported to have 2,396 full-time faculty and 853 tenured professors.

Public University 2 (PUB2) is a large public university in Los Angeles County. In Fall 2011, PUB2 had 11,069 undergraduate students and 2,694 graduate students enrolled and 623 faculty members. Their Disabled Student Services office reports that approximately 3% of the student body has been identified as having a disability.

Please see Appendix B for details regarding the demographics of the participating institutions.

Instrumentation

A survey was utilized for the purpose of the present study in order to quickly obtain responses from a large number of faculty members across six postsecondary institutions. The Productive Learning University Strategies (PLuS) survey developed by Murray, Wren, and Keys (2008) was adapted for the present study with their permission. According to Murray et al. (2008), the survey was developed through reviewing research on faculty knowledge, attitudes, beliefs, practices toward students with disabilities, Section 504, and an exploration of previously published measures. The PLuS survey was then drafted and content validity was established utilizing experts in the field of learning disabilities. Murray et al. (2008) report that the reliability of the measure was then established utilizing an exploratory factor analysis. The final version of the Murray et al. (2008) survey consists of 56 items that explore faculty knowledge, attitudes, beliefs, and practices. The participants respond to each item using a six-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree" with a sixth field indicating "No Basis for Judgment." The survey was further refined to include perceptions of faculty training by Murray, Lombardi, Wren, and Keys (2009).

While the surveys conducted by Murray et al. (2008) and Murray et al. (2009) were specific to faculty perceptions of students with learning disabilities, the survey was adapted for the present study by replacing the term "learning disability" with the term "ADHD." In addition, items from the Murray et al. (2008) and Murray et al. (2009) surveys that specifically provided the names of the universities for which they were drafted were modified to state, "at your institution" and items that had referred to

institution-specific programs were either eliminated or changed to "disability services at my institution." The final survey for the present study consists of 50 items after the elimination of several of the institution-specific items addressing a programs provided at those institutions. These eliminations are not believed to negatively impact either the reliability or the validity of the survey for the purposes of the present study.

The survey developed by Murray et al. (2008) and utilized for the present study explores faculty perceptions in several areas. Four of these areas are titled "Willingness to Provide Major Accommodations," "Willingness to Provide Exam Accommodations," "Willingness to Make Teaching Accommodations," and "Willingness to Personally Invest," each of which explores the present research question regarding faculty perceptions of students with ADHD. Factor analysis conducted by Murray et al. (2008) indicates a high level of internal consistency reliability in each of these areas ("Major Accommodations" $\alpha = .81$; "Exam Accommodations" $\alpha = .71$; "Teaching Accommodations" $\alpha = .74$; "Personally Invest" $\alpha = .75$). Items related to these areas address faculty willingness to make instructional, exam, and work accommodations for students with disabilities as well as to their willingness to provide additional time beyond working hours to work with students with disabilities. These four factor sets were found to be necessary to include in the present study due to research indicating that professors tend to have different perceptions regarding the level of accommodations that they are willing to provide (Ginsberg & Schulte, 2008; Murray et al., 2008; Murray et al., 2009; Vance & Weyandt, 2008).

A fifth factor included in the Murray et al. (2008) survey and adapted for the present study is titled "Fairness and Sensitivity" and had an adequate reliability score (α = .65). Items included in this category address the degree to which faculty may feel that providing accommodations to students with disabilities is fair to the other students in the class as well as the faculty member's overall sensitivity to the needs of students with disabilities. This aspect of the survey was found to be vital for the present study due to research indicating that students are more willing to self-disclose their disabilities and requests for accommodations to faculty if the students feel that they are likely to receive a positive response from the faculty member (Hartman-Hall & Haaga, 2002). Two additional factors in the Murray et al. (2008) survey that are related to faculty reactions to students include "Disclosure and Believability" (α =.70) and "Inviting Disclosure" (α =.84). These factors were included in the present survey in order to gain additional information regarding faculty openness to receiving information regarding the need for accommodations and the level to which the faculty members believe that the students' disabilities are genuine.

Murray et al. (2008) included a factor titled "Knowledge of Learning Disabilities" that was adapted to "Knowledge of ADHD" for the purpose of the present study. This factor was reported by Murray et al. (2008) to have adequate reliability (α = .65) and explores faculty knowledge of Section 504 of the Rehabilitation Act of 1973 and ADHD. This factor contains two open-ended questions. The first asks the respondent to provide a description of the implications of Section 504 on interactions with students. The second open-ended question asks the respondent to provide a definition of ADHD. In analyzing

these two open-ended questions, responses were carefully coded based on key definitions as described in Chapter II of the present dissertation. A lack of response to a question or an incorrect response was coded as "No Knowledge" regarding the answer to that particular question. In regard to Section 504, responses that referred to a disability, a physical impairment, a mental impairment, discrimination, or the provisions of services or accommodations were coded as "Moderate Level of Knowledge." Responses that referred to a disability, a physical impairment, or a mental impairment in addition to referring to discrimination, equal access, services or accommodations were coded as having a "High Level of Knowledge." In regard to the definition of ADHD, responses that referred to attention difficulties or hyperactivity were coded as "Moderate Level of Knowledge." Responses that refered to the existence of two or more subtypes of ADHD (Predominantly Inattention Type, Predominantly Hyperactive-Impulsive Type, or Combined Type) were coded as having a "High Level of Knowledge."

The "Insufficient Knowledge" ($\alpha = .74$) factor addresses the degree to which faculty feel that they have the information needed to make adequate accommodations for students with disabilities. In addition, a factor titled "Performance Expectations" ($\alpha = .73$; Murray et al., 2008) was included to determine the degree to which faculty feel that students with ADHD can be successful. These factors address the present research question regarding the level of knowledge that faculty have regarding ADHD, accommodations for ADHD, and the laws that protect students with disabilities. Research indicates that information regarding faculty knowledge of specific disabilities and legal protections is needed in order to direct professional development opportunities

(Cook, et al., 2009; Murray et al, 2009; Salzberg et al. 2002) and additional research indicates that faculty often feel that they lack information in these areas (Cook et. al, 2009). In addition, Murray et al. (2009) found that faculty with less training regarding students with disabilities often perceived resource constraints as being major obstacles to implementing the required accommodations. In order to further explore the perception of resource constraints in the present study, the "Resource Constraints" factor from the Murray et al. (2008) survey was retained ($\alpha = .89$).

Finally, the original Murray et al. (2008) survey included a factor titled "Providing Accommodations" ($\alpha = .71$) that explored the degree of prior experience that the faculty members had with providing accommodations to students with learning disabilities. For the purpose of the present study, the focus of these questions was changed to address ADHD rather than learning disabilities. This section was found to be valuable for the present student in order to gain information regarding the level of experience with ADHD that faculty members had at various institutions.

Specific items (modified for the present study) associated with each factor of the survey (Murray et al., 2008) are described in Appendix C.

Procedures

The adapted PLuS survey was converted to an online format using Qualtrics and the internet link was sent via e-mail to faculty at each of the participating institutions. The e-mail explained to participants that the purpose of the survey was to gain information regarding faculty attitudes and perceptions of students with ADHD and the laws that protect them. The e-mail also explained that the survey is completely

anonymous and voluntary. Please see Appendix D for the text of the e-mail. While maintaining anonymity, the survey began with basic demographic data including the name of the institution at which the participant is employed, the number of years that the participant has been teaching, the participant's area of expertise, the participant's sex, and an estimation of how many students with ADHD the participant has instructed.

Analysis

Each factor of the PLuS has been categorized to address one of the research questions. Please see Appendix E for a description of these categorizations.

Research Questions 1 through 3 address whether differences exist between the responses of two-year community college faculty and four-year university faculty, regardless of whether they are public or private universities. A multivariate analysis of variance (MANOVA) was used to determine whether there were differences between two-year college faculty responses and four-year university faculty in the PLuS factors related to attitudes and beliefs and willingness to make testing and instructional accommodations, with each area being treated as a separate dependent variable. Knowledge of legal protections for students with ADHD was analyzed using an independent sample t-test.

Research Question 4 addresses whether significant differences exist between the responses of faculty from public institutions and the faculty from private institutions. In order to address this, a MANOVA was conducted utilizing the type of institution as an independent variable and the factors categorized under attitudes and beliefs (see the factors addressing Research Question 1 in Appendix E) as dependent variables. In order

to address institutional differences (public versus private) in regard to knowledge of legal protections, independent samples t-tests were utilized with the type of institution as an independent variable and the factor labeled "Knowledge of ADHD" as the dependent variable. Finally, in addressing institutional differences in regard to faculty willingness to make testing and instructional accommodations, a MANOVA was utilized using type of institution as an independent variable and each factor categorized as addressing accommodations (see the factors addressing Research Question 3 in Appendix E) as dependent variables.

Two institutions were surveyed for each type of institution. For example, CC1 and CC2 were surveyed for community colleges, PUB1 and PUB2 were surveyed for public four-year universities, and PR1 and PR2 were surveyed for private four-year institutions. In order to determine whether the two schools within each institution type produced similar responses, MANOVAs were conducted with each school as an independent variable and each factor of the PLuS as dependent variables. The results will then be compared between the two institutions within each category.

Please see Appendix F for a full description of the analyses that were used to address each research question. In addition, a Chronbach's Alpha was be conducted in order to further determine the reliability and validity of the factors that make up the PLuS with the present study's sample.

Limitations and Delimitations

The methodology described in the present chapter makes the assumption that respondents responded honestly to all survey items and that the data was interpreted

accurately and without bias. However, the researcher acknowledges that the methodology utilized posed some limitations. For example, the validity of the study was limited to those institutions included in the sample and may in particular be less valid in relation to institutions outside of Los Angeles County, California. Therefore, the results may be limited in their ability to be generalized to various regions of the United States. In addition, the institutions contacted had not aggregated their Disability Services data by graduate and undergraduate student status and therefore the percentage of undergraduate students with disabilities was not able to be determined. Therefore, the present study did not differentiate between graduate and undergraduate faculty, which may potentially impact the results.

CHAPTER IV

Analysis and Interpretation of Results

The present chapter will review the statistical outcomes of the study and will address how those outcomes relate to the research questions.

Description of the Sample Population

As previously discussed in Chapter III, a revised version of the Productive Learning University Strategies (PLuS) survey (PLuS; Murray, Wren, & Keys, 2008) was sent via e-mail to faculty members at two community colleges, two private four-year universities, and two public four-year universities. The survey was distributed to all faculty members at CC2, PR1, and PUB1. Unfortunately, institutional barriers at CC1, PR2, and PUB2 resulted in the need to e-mail the PLuS to the deans of each department at these institutions with the request that the survey be distributed to all faculty members within their respective departments. Please see Appendix B for a description of the estimated number of faculty members at each institution who were distributed the PLuS and the number of responses received.

The PLuS was sent via e-mail to the nine academic deans at CC1. Of those, four deans (Career Technical Education, Distance Learning Programs/Training, Early Childhood Education/Training Programs, and Social Science and Business) agreed to distribute the survey to their faculty members. It is therefore estimated that the PLuS was distributed to approximately 200 faculty members. Six faculty members completed the survey (n=6), resulting in a response rate of approximately 3%. All six faculty members reported that they had greater than six years of experience. However, none of the

respondents reported that they had received previous training regarding students with ADHD. Approximately 83% of the respondents reported tenured status and 17% reported that they were adjunct faculty. In regard to gender, 40% of respondents were male and 60% were female.

The PLuS was sent via e-mail to all CC2 instructional faculty by the Director of Institutional Research. It is therefore estimated that approximately 1,130 faculty members received the survey. Of those faculty members, 41 (83% female, 17% male) completed the survey (n=41), resulting in a response rate of approximately 3%. When asked to provide their teaching status, 34% of respondents indicated they were tenured, 9% indicated they were tenure-track, 54% indicated they were adjunct, and 3% indicated they were "other." In regard to teaching experience, 71% of respondents reported greater than six years of experience, 17% reported five to six years of experience, and 11% reported three to four years of experience. In regard to previous training, 83% of respondents indicated that they had received no previous training addressing working with students with ADHD and 16% reported that they had received between one and three hours of training.

The PLuS was sent via e-mail to all PR1 instructional faculty by the Disability Resources office. It is therefore estimated that approximately 130 faculty members received the survey. Of those faculty members, 27 (48% male, 52% female) completed the survey, resulting in a response rate of approximately 21%. In regard to teaching status, 23% of respondents reported that they were tenured, 57% reported that they were adjunct, and 20% reported that they were "other." Approximately 67% of respondents

indicated they had greater than six years of experience, 3% reported five to six years of experience, 7% reported three to four years of experience, and 23% reported two years of experience or less. In regard to previous training regarding working with students with ADHD, 48% of respondents reported that they had received no training, 17% reported that they had received one to three hours of training, 21% reported that they received four to eight hours of training, and 14% reported that they had received greater than eight hours of training.

The PLuS was sent via e-mail to 18 deans at PR2. Of those, eight deans (School of Gerontology, School of Education, School of Social Work, College of Letters, Arts, and Sciences, School of Accounting, Libraries, and School of Dentistry) agreed to distribute the survey to their faculty members. It is therefore estimated that approximately 800 faculty members received the survey. Of those faculty members, 59 (56% male, 44% female) completed the survey, resulting in an estimated response rate of approximately 7%. Approximately 67% of the respondents reported that they had greater than six years of experience, 10% reported that they had five to six years of experience, 14% reported three to four years of experience, and 10% reported that they had less than two years of experience. In regard to teaching status, 26% of respondents were tenured, 18% were tenure-track, 14% were adjunct, 22% were clinical-track, and 20% were "other." In regard to previous training regarding working with students with ADHD, 96% of respondents indicated they had received no training, 2% reported that they had received one to three hours of training, and 2% reported that they received more than eight hours of training.

The PLuS was sent via e-mail by the Office of the Provost to all instructional faculty members at PUB1. It is therefore estimated that approximately 2,396 faculty members received the survey. Of those faculty members, 183 (34% male, 66% female) completed the survey, resulting in a response rate of approximately 8%. Approximately 73% of the respondents indicated they had greater than six years of experience, 10% reported five to six years of experience, 10% reported that they had three to four years of experience, and 7% reported that they had less than two years of experience. In regard to teaching status, 32% of respondents were tenured, 16% were tenure-track, 36% were adjunct, and 16% were "other." When asked about level previous training in working with students with ADHD, 94% of respondents indicated that they had no prior training, 4% reported one to three hours of training, and 2% reported more than eight hours of training.

The PLuS was sent via e-mail to six deans at PUB2. Three of the deans (College of Business Administration, College of Natural and Behavioral Sciences, and the College of Extended and International Education) agreed to distribute the survey to their faculty members. It is therefore estimated that approximately 350 faculty members received the survey. Of those faculty members, 11 (40% male, 60% female) completed the survey, resulting in a response rate of approximately 3%. Approximately 80% of the respondents indicated they had greater than six years of experience and 20% reported that they had five to six years of experience. In addition, 20% of respondents reported that they were tenured, 20% reported that they were tenure-track, 50% reported that they were adjunct

faculty, and 10% reported "other." None of the respondents indicated that they had any prior training working with students with ADHD.

Analyses of Statistical Consistency

Internal Consistency of the Revised PLuS

Prior to aggregating individual scale items, internal consistency was assessed by computing Cronbach's alpha for each of the proposed measures. The factor analysis is provided in Table 4.1. The internal consistency of the "Performance Expectations," "Personal Action: Inviting Disclosure," "Willingness to Personally Invest," "Resource Constraints," and "Providing Accommodations" factors were found to be within acceptable limits. However, the factors of "Fairness and Sensitivity," "Willingness to Make Major Accommodations," "Willingness to Provide Exam Accommodations," and "Willingness to Make Teaching Accommodations" were found to be below the commonly used .70 benchmark for alpha (Salkind, 2006) and were within the moderate range between .60 and .69. Furthermore, the "Disclosure and Believability" factor was found to be poor and the "Knowledge of ADHD" factor was outside of the acceptable range.

Table 4.1
Cronbach's Alpha for Revised PLuS Factors

Factor	Reliability (alpha)
Fairness and Sensitivity	.62
Performance Expectations	.81
Disclosure and Believability	.59
Personal Action: Inviting Disclosure	.72
Knowledge of ADHD	.38
Willingness to Make Major Accommodations	.67
Willingness to Provide Exam Accommodations	.66
Willingness to Personally Invest	.77
Willingness to Make Teaching Accommodations	.68
Resource Constraints	.81
Providing Accommodations	.76

When comparing the internal consistency of the original PLuS (Murray et al., 2008) to the factors that were found to be moderate, poor, or low on the revised PLuS, the "Fairness and Sensitivity" factor was found to be relatively similar. The internal consistency of the "Disclosure and Believability," "Willingness to Make Major Accommodations," "Willingness to Make Exam Accommodations," and "Willingness to Make Teaching Accommodations" factors were found to be greater for the original PLuS. This was also true for the "Knowledge of Learning Disabilities" factor on the original survey when compared to the "Knowledge of ADHD" factor on the revised PLuS. These differences in internal consistency may be related to the fact that the original PLuS measured the construct of learning disabilities while the PLuS was revised to measure a different construct (ADHD) for the present study. In addition, some factors such as "Knowledge of ADHD," "Willingness to Make Teaching Accommodations," and "Disclosure and Believability" only consisted of two to three items. This may have significantly impacted the internal consistency of these factors (Salkind, 2006).

Analysis of Consistency Between Participating Community Colleges

In order to determine whether there were differences in any of the 12 PLuS factors between the two community colleges studied, a series of independent samples t-tests were conducted. In order to adjust for the large family-wise error rate resulting from this multiple testing, a Bonferroni correction was applied by dividing the standard alpha level by the number of comparisons being made. Thus, results were considered statistically significant only if they had a significance of $p \leq 0.004$ (.05/12 comparisons).

As shown in Table 4.2, no differences between the CC1 and CC2 faculty member responses were found to be statistically significant at the 0.004 level of significance.

Table 4.2
Summary of Independent T-Test Comparisons of Community College Faculty (n=24-33)

Variable	CC1[a]	CC2[a]	Test Statistic	Df	p[b]
Fairness and Sensitivity	21.40 (5.27)	19.17 (2.53)	1.47	27	.15
Performance Expectations	9.40 (0.89)	9.21 (1.07)	0.37	31	.72
Disclosure and Believability	7.33 (2.08)	6.62 (2.36)	0.50	22	.63
Personal Action: Inviting Disclosure	6.67 (2.31)	7.57 (2.73)	-0.55	29	.59
Knowledge of ADHD	8.25 (2.06)	6.73 (1.97)	1.43	28	.16
Willingness to Make Major Accommodations	30.25 (9.98)	27.38 (4.58)	0.56	3.24	.61
Willingness to Provide Exam Accommodations	20.80 (3.83)	20.00 (3.46)	0.46	27	.65
Willingness to Personally Invest	8.33 (1.51)	7.17 (2.42)	1.13	34	.27
Willingness to Make Teaching Accommodations	14.00 (1.55)	12.76 (2.30)	1.25	29	.22
Resource Constraints	5.33 (2.16)	4.23 (1.86)	1.27	30	.21
Insufficient Knowledge	2.50 (1.23)	2.42 (1.30)	0.13	30	.90
Providing Accommodations	8.50 (.84)	7.95 (2.03)	0.64	26	.53

[a] Reported as *M*(*SD*)

Analysis of Consistency Between Participating Private Four-Year Universities

In order to determine whether there were differences in any of the 12 PLuS factors for the faculty at the two private four-year institutions studied, a series of independent samples t-tests were conducted. In order to adjust for the large family-wise error rate resulting from this multiple testing, a Bonferroni correction was applied by dividing the standard alpha level by the number of comparisons being made. Thus,

results were considered statistically significant only if they had a significance of $p \leq 0.004$ (.05/12 comparisons). As shown in Table 4.3, no differences between the faculty at either of these institutions were found to be statistically significant at the 0.004 level of significance.

Table 4.3
Summary of Independent T-Test Comparisons of Private Four-Year University Faculty (n=35-61)

Variable	PR1[a]	PR2[a]	Test Statistic	Df	*p*[b]
Fairness and Sensitivity	19.69 (2.15)	18.75 (3.21)	1.17	43	.25
Performance Expectations	8.78 (1.21)	8.80 (1.40)	-0.06	59	.96
Disclosure and Believability	6.83 (2.68)	7.47 (1.91)	-0.81	33	.43
Personal Action: Inviting Disclosure	7.00 (2.69)	8.55 (2.04)	-2.22	51	.03
Knowledge of ADHD	6.93 (1.60)	7.71 (1.53)	-1.62	45	.11
Willingness to Make Major Accommodations	27.79 (4.98)	28.31 (5.24)	-0.33	42	.74
Willingness to Provide Exam Accommodations	18.68 (3.09)	20.56 (2.38)	-2.25	50	.03
Willingness to Personally Invest	7.68 (1.84)	7.76 (1.64)	-0.18	56	.86
Willingness to Make Teaching Accommodations	12.27 (2.66)	12.94 (2.04)	-0.95	53	.35
Resource Constraints	4.78 (2.00)	4.11 (1.75)	1.19	48	.24
Insufficient Knowledge	2.94 (1.18)	2.28 (1.23)	1.90	50	.06
Providing Accommodations	7.59 (2.62)	8.35 (1.93)	-1.03	42	.31

[a] Reported as *M*(*SD*) or n(%) unless otherwise noted.
[b] reported for independent samples t-tests or chi-square tests of independence as appropriate.

Analysis of Consistency Between Participating Public Four-Year Universities

In order to determine whether there were differences in any of the 12 PLuS factors for the faculty at the two public four-year universities studied, a series of independent samples t-tests were conducted. In order to adjust for the large family-wise

error rate resulting from this multiple testing, a Bonferroni correction was applied by dividing the standard alpha level by the number of comparisons being made. Thus, results were considered statistically significant only if they had a significance of $p \leq 0.004$ (.05/12 comparisons). As shown in Table 4.4, no differences between faculty in either of these institutions were found to be statistically significant at the 0.004 level of significance.

Table 4.4
Summary of Independent T-Test Comparisons of Public Four-Year University Faculty (n=70-137)

Variable	PUB1[a]	PUB2[a]	Test Statistic	Df	*p*[b]
Fairness and Sensitivity	19.15 (2.04)	19.67 (2.31)	-0.42	90	.67
Performance Expectations	8.89 (1.25)	9.00 (0.89)	-0.22	135	.83
Disclosure and Believability	6.82 (2.01)	8.25 (2.99)	-1.35	68	.18
Personal Action: Inviting Disclosure	7.77 (2.23)	8.00 (1.93)	-0.29	131	.77
Knowledge of ADHD	7.18 (1.93)	8.00 (1.55)	-1.02	121	.31
Willingness to Make Major Accommodations	28.11 (4.85)	29.75 (2.50)	-0.67	95	.50
Willingness to Provide Exam Accommodations	19.71 (3.51)	21.71 (3.15)	-1.47	117	.14
Willingness to Personally Invest	8.06 (1.75)	8.14 (2.04)	-0.13	132	.90
Willingness to Make Teaching Accommodations	12.10 (2.59)	14.40 (1.34)	-1.97	133	.05
Resource Constraints	4.17 (1.70)	4.12 (1.13)	0.08	117	.94
Insufficient Knowledge	2.31 (1.12)	2.86 (0.90)	-1.26	121	.21
Providing Accommodations	7.68 (2.28)	7.00 (3.46)	0.57	80	.57

[a] Reported as *M*(*SD*) or n(%) unless otherwise noted.
[b] Reported for independent samples t-tests or chi-square tests of independence as appropriate.

Analysis of Research Questions

Research Question One: Are the attitudes and beliefs of two-year college faculty toward students with ADHD significantly different than those of four-year university faculty?

The attitudes and beliefs of responding faculty members were measured using the "Fairness and Sensitivity," "Performance Expectations," "Disclosure and Believability," and "Personal Action: Inviting Disclosure" factors of the PLuS. A MANOVA revealed that there were no statistically significant differences in these factors between responding faculty from four-year versus two-year faculty ($F_{(4, 104)} = 1.10$, $p = .36$; Wilk's $\lambda = 0.96$, partial $\varepsilon^2 = .04$).

Research Question Two: Is the level of knowledge of two-year college faculty significantly different than the level of knowledge of four-year university faculty regarding the legal protections for students with ADHD?

The level of knowledge of responding faculty members regarding the legal protections for students with ADHD was measured using the "Knowledge of ADHD" factor of the PLuS. An independent samples t-test was conducted to examine whether there were differences in this factor between faculty from four-year universities ($M = 7.22$) and 2-year universities ($M = 6.93$). The test revealed no statistically significant differences between the two groups ($t_{(198)} = -0.77$, $p = .44$).

Research Question Three: Is there a significant difference between the willingness of two-year college faculty and four-year university faculty in regard to making testing and instructional accommodations for students with ADHD?

The willingness of respondents to make testing and instructional accommodations for students with ADHD was measured using the "Willingness to Make Major Accommodations, "Willingness to Provide Exam Accommodations," "Willingness to Personally Invest," "Willingness to Make Teaching Accommodations," "Resource Constraints," "Insufficient Knowledge," and "Providing Accommodations" factors on the PLuS. A MANOVA revealed that there were no statistically significant differences in these factors between responding faculty from four-year versus two-year faculty ($F_{(7, 84)} = 0.33$, $p = .94$; Wilk's $\lambda = 0.97$, partial $\varepsilon^2 = .03$).

Research Question Four: Are the responses to the above research questions significantly different depending on whether the faculty is from a four-year public or a four-year private institution?

In addressing attitudes and beliefs, a MANOVA revealed that there were no statistically significant differences in "Fairness and Sensitivity," "Performance Expectations," "Disclosure and Believability," or "Personal Action: Inviting Disclosure" factors of the PLuS between responding faculty from private four-year universities versus faculty from public four-year universities ($F_{(4, 85)} = 1.01$, $p = .41$; Wilk's $\lambda = 0.96$, partial $\varepsilon^2 = .05$).

In addressing the level of knowledge that faculty members have regarding the legal protections of students with ADHD, an independent samples t-test was conducted to examine whether there were differences between responding faculty from private four-year universities ($M = 7.21$) and faculty from public four-year universities ($M = 7.22$).

The test revealed no statistically significant differences between the two groups ($t_{(168)}$ = 0.02, p =.98).

In addressing faculty willingness to provide testing and instructional accommodations for students with ADHD, a MANOVA revealed that there were no statistically significant differences in the "Willingness to Make Major Accommodations," "Willingness to Provide Exam Accommodations," "Willingness to Personally Invest," "Willingness to Make Teaching Accommodations," "Resource Constraints," "Insufficient Knowledge," or "Providing Accommodations" factors of the PLuS between responding faculty from four-year private universities versus faculty from four-year public universities ($F_{(7, 66)}$ = 0.65, p = .71; Wilk's λ = 0.94, partial ε^2 = .07)."

Additional Analyses

While no significant differences were identified between types of postsecondary institutions, additional analyses were conducted in order to gain information outside the scope of the research questions that could be useful for practitioners. These analyses include an item analysis as well as regression analyses to determine whether significant differences in participant responses existed depending on level of teaching experience, amount of previous training the faculty member had received, the gender of the faculty member, or the teaching status of the faculty member.

Item Analysis

While no significant differences were identified between the types of postsecondary institutions, an item analysis was conducted in order to determine whether specific areas exist that may be in need of additional professional development. In

regard to knowledge of legal protections for students with ADHD, it was found that approximately 27% of all respondents indicated that they are not familiar with Section 504 of the Rehabilitation Act of 1973. In addition, approximately 17% of the faculty respondents (23% of community college respondents, 13% of public university respondents, and 14% of private university respondents) reported that they do not include a statement in their syllabi inviting students with disabilities to discuss accommodations with them.

In regard to faculty knowledge related to students with ADHD, an item analysis revealed that approximately 61% of faculty respondents indicated that they would like additional information about the needs of students with ADHD. Furthermore, approximately 49% of respondents indicated that they would like additional information about the referral procedures at their institutions for students with ADHD. In addition, approximately 9% of the respondents indicated that they are not familiar with their institution's Office of Disabilities Services (or equivalent office).

In regard to the amount of support that faculty feel they receive in addressing the needs of students with ADHD, an item analysis revealed that approximately 10% of the respondents "strongly disagree" or "disagree" that they receive adequate support from their Office of Disabilities Services to make appropriate teaching accommodations and approximately 11% of respondents indicated that they do not have sufficient knowledge to make adequate teaching accommodations. An additional 11% of respondents indicated that they do not have sufficient knowledge to make testing accommodations for students with ADHD. In addition, approximately 20% of the faculty respondents are uncertain

where to find additional support to assist students with ADHD who are having difficulties in the respondent's course. Finally, approximately 15% of the faculty respondents indicated that they feel that making teaching accommodations is unrealistic given their time constraints and other job demands.

In responding to specific accommodations that respondents may be opposed to, approximately 9% of faculty respondents indicated that they "disagree" or "strongly disagree" with providing copies of lecture notes to students with ADHD, approximately 8% indicated that they "disagree" or "strongly disagree" with providing additional time to complete assignments in the course, approximately 8% indicated that they "disagree" or "strongly disagree" with providing copies of overheads or Powerpoint presentations, approximately 54% indicated that they "disagree" or "strongly disagree" with providing extra credit assignments for students with ADHD, and approximately 60% indicated that they "disagree" or "strongly disagree" with reducing the reading load for students with ADHD. Furthermore, approximately 3% of respondents indicated that they "disagree" or "strongly disagree" with allowing students with ADHD to record class sessions, approximately 33% indicated that they "disagree" or "strongly disagree" with extending the due dates of assignments if needed, approximately 20% indicated that they "disagree" or "strongly disagree" with accommodating the method of responding to exams for students with ADHD, and approximately 25% of respondents indicated that they "disagree" or "strongly disagree" with allowing students with ADHD to use technology such as a laptop, calculator, or spell checker to complete tests.

Teaching Experience

A series of hierarchical linear regression models were examined in order to determine whether teaching experience predicted any of the factors under study and whether additional differences existed among different university types. In conducting these analyses, teaching experience and school types were dummy coded and examined in separate blocks in each regression model.

As shown in Table 4.5, no differences were detected between school types (community college, private four-year university, or public four-year university). However, teaching experience was found to be a statistically significant predictor of Willingness to Provide Exam Accommodations, Perceptions of Resource Constraints, and Providing Accommodations. Specifically, with each successive experience bracket (3-4 years, 5-6 years, and greater than six years, respectively) faculty reported significantly greater willingness to provide exam accommodations then the least experienced group (0-2 years; $p < 0.05$ for each category). In regard to resource constraints, the overall model was only marginally significant ($p = .054$) with only the highest level of teaching experience (greater than six years) proving to be significantly higher than the 0-2 years group ($p = .02$). Finally, in regard to willingness to provide accommodations, only the highest level of teaching experience (and greater than six years) proving to be significantly higher than the 0-2 years group ($p = .006$).

Table 4.5
Hierarchical Linear Regression Models – Teaching Experience

Outcome	R^2	F	*Df*	p^b
Fairness and Sensitivity				
Teaching Experience	.03	1.35	3,161	.26
School Type	.03	0.27	2, 159	.77
Performance Expectations				
Teaching Experience	<.01	0.29	3,225	.84
School Type	.02	1.60	2,223	.21
Disclosure and Believability				
Teaching Experience	.01	0.41	3,124	.75
School Type	.01	0.25	2,122	.78
Personal Action: Inviting Disclosure				
Teaching Experience	.03	2.11	3,211	1.00
School Type	.03	0.14	2,209	.87
Knowledge of ADHD				
Teaching Experience	<.01	0.21	3,195	.89
School Type	.01	0.28	2,193	.76
Willingness to Make Major Accommodations				
Teaching Experience	.01	0.25	3,162	.86
School Type	.01	0.05	2,160	.95
Willingness to Provide Exam Accommodations				
Teaching Experience	.04	2.83	3,194	.04
School Type	.05	0.32	2,192	.73
Willingness to Personally Invest				
Teaching Experience	<.01	0.09	3,222	.97
School Type	.02	2.23	2,220	.11
Willingness to Make Teaching Accommodations				
Teaching Experience	.01	0.45	3,216	.72
School Type	.02	1.51	2,214	.22
Resource Constraints				
Teaching Experience	.04	2.60	3,195	.05
School Type	.05	0.74	2,193	.48
Insufficient Knowledge				
Teaching Experience	.01	0.79	3,201	.50
School Type	.03	1.43	2,199	.24
Providing Accommodations				
Teaching Experience	.07	3.54	3,148	.02
School Type	.07	0.58	2,146	.56

Previous Training

A series of hierarchical linear regression models were examined in order to determine whether faculty training predicted any of the factors under study and whether additional differences existed amongst different types of postsecondary institutions (see

Table 4.6). In conducting these analyses, faculty training and school types were dummy coded and examined in separate blocks in each regression model.

Table 4.6
Hierarchical Linear Regression Models – Previous Training

Outcome	R^2	F	*Df*	p^b
Fairness and Sensitivity				
Training	.05	3.03	3,160	.03
School Type	.06	0/13	2,158	.88
Performance Expectations				
Training	.01	1.02	3,224	.38
School Type	.03	2.05	2,222	.13
Disclosure and Believability				
Training	.05	2.04	3,123	.11
School Type	.05	.24	2,121	.79
Personal Action: Inviting Disclosure				
Training	.01	1.00	3,210	.40
School Type	.02	0.44	2,208	.64
Knowledge of ADHD				
Training	.02	1.59	3,194	.19
School Type	.03	0.31	2,192	.74
Willingness to Make Major Accommodations				
Training	.03	1.84	3,161	.14
School Type	.04	0.43	2,159	.65
Willingness to Provide Exam Accommodations				
Training	.02	0.98	3,193	.40
School Type	.03	0.94	2,191	.39
Willingness to Personally Invest				
Training	.01	0.89	3,221	.45
School Type	.04	2.71	2,219	.07
Willingness to Make Teaching Accommodations				
Training	.03	1.94	3,215	.12
School Type	.04	1.88	2,213	.16
Resource Constraints				
Training	.01	1.39	3,194	.25
School Type	.01	1.54	2,192	.22
Insufficient Knowledge				
Training	.02	1.25	3,200	.29
School Type	.05	3.12	2,198	.05
Providing Accommodations				
Training	.04	1.79	3,147	.15
School Type	.04	0.38	2,145	.69

As shown in Table 4.6, only two differences were found to be statistically significant. Specifically, faculty with 1-3 hours of training displayed statistically

significantly higher scores on fairness and sensitivity than faculty members with no training. In addition, after controlling for faculty members' training, it was discovered that faculty at private four-year universities reported statistically significantly higher scores regarding their level of knowledge.

Gender

A series of independent samples t-tests were conducted in order to test whether any differences existed between male and female faculty members on the factors examined. As shown in Table 4.7, no statistically significant differences were detected.

Table 4.7
Summary of Independent t-test Comparisons of Male vs. Female Faculty (n=126-223)

Variable	Male	Female	Test Statistic	*Df*	*p*[b]
Fairness and Sensitivity	19.54 (3.27)	19.97 (3.39)	1.39	160	.20
Performance Expectations	8.87 (1.21)	8.96 (1.22)	-0.51	221	.61
Disclosure and Believability	7.24 (2.45)	6.75 (2.05)	1.81	124	.24
Inviting Disclosure	7.24 (2.69)	7.93 (2.09)	-1.92	121.34	.06
Knowledge of ADHD	6.86 (1.91)	7.40 (1.80)	-1.93	192	.06
Willingness to Make Major Accommodations	27.44 (5.0)	28.21 (4.2)	-1.00	161	.32
Willingness to Provide Exam Accommodations	19.31 (3.27)	19.97 (3.39	-1.34	194	.18
Willingness to Personally Invest	7.87 (1.90)	7.81 (1.85)	0.23	221	.81
Willingness to Make Teaching Accommodations	12.32 (2.63)	12.36 (2.48)	-0.12	214	.91
Resource Constraints	4.54 (1.86)	4.15 (1.69)	1.53	194	.13
Insufficient Knowledge	2.59 (1.15)	2.34 (1.19)	1.47	200	.14
Providing Accommodations	7.88 (2.34)	7.75 (2.22)	0.32	147	.75

Teaching Status

A series of hierarchical linear regression models were examined in order to determine whether teaching status predicted any of the factors under study and whether additional differences existed among different types of postsecondary institutions (see Table 4.8).

Table 4.8
Hierarchical Linear Regression Models – Teaching Status

Outcome	R^2	F	*Df*	*p*[b]
Fairness and Sensitivity				
Teaching Status	.01	0.34	4,161	.85
School Type	.01	0.45	2,159	.64
Performance Expectations				
Teaching Status	.02	0.93	4,224	.45
School Type	.03	1.54	2,222	.22
Disclosure and Believability				
Teaching Status	.09	3.06	4,124	.02
School Type	.09	0.11	2,122	.90
Inviting Disclosure				
Teaching Status	.04	2.34	4,211	.06
School Type	.05	0.31	2,209	.73
Knowledge of ADHD				
Teaching Status	.03	1.46	4,194	.22
School Type	.04	0.72	2,192	.49
Willingness to Make Major Accommodations				
Teaching Status	.03	1.32	4,161	.27
School Type	.03	0.15	2,159	.86
Willingness to Provide Exam Accommodations				
Teaching Status	.02	.93	4,194	.27
School Type	.02	.13	2,192	.86
Willingness to Personally Invest				
Teaching Status	.02	1.21	4,222	.31
School Type	.03	2.05	2,220	.13
Willingness to Make Teaching Accommodations				
Teaching Status	<.01	0.19	4,216	.94
School Type	.02	1.65	2,214	.19
Resource Constraints				
Teaching Status	.03	1.55	4,195	.19
School Type	.04	0.39	2,193	.68
Insufficient Knowledge				
Teaching Status	.02	0.99	4,201	.41
School Type	.03	0.74	2,199	.48
Providing Accommodations				
Teaching Status	.04	1.37	4,148	.25
School Type	.05	0.68	2,146	.51

To conduct the teaching status analyses, faculty members' teaching status and school types were dummy coded and examined in separate blocks in each regression model. As shown in Table 4.8, only one block of predictors was found to be statistically significant. Specifically, Tenure Track and Clinical Track faculty reported higher levels of Disclosure and Believability than Tenured faculty.

Summary

Overall, the results of the statistical analysis for the present study indicated no significant differences between types of institutions in regard to the research questions. However, valuable information was obtained from an item analysis, revealing that approximately 27% of respondents are not familiar with Section 504 of the Rehabilitation Act of 1973 and 17% of respondents do not include a statement in their syllabi inviting students with disabilities to discuss accommodations with them. Additional item analyses revealed specific accommodations that many faculty members are not willing to put into place for students with ADHD. However, faculty with greater than six years of experience were found to be most willing to put exam accommodations into place and provide other accommodations, although they were also the most likely to perceive resource constraints. In addition, faculty with 1-3 hours of previous training were found to be more fair and sensitive to the needs of students with ADHD than faculty members with no previous training. Finally, tenure and clinical track faculty were more likely to invite disclosure and to believe the difficulties that students with ADHD report than were faculty that are already tenured. These results will be further discussed along with practical implications in Chapter V.

CHAPTER V

Discussion of Results

The purpose of the present quantitative study was to identify differences between two-year community college and four-year university faculty in regard to their attitudes and beliefs about students with ADHD, their willingness to accommodate such students, and their knowledge of the legal protections for students with disabilities. In order to gain this information, electronic surveys were distributed to faculty members at two two-year community colleges, two four-year public universities, and two four-year private universities.

Discussion of the Data Analysis

The following is a discussion of the findings of the study based on a revised version of the Productive Learning University Strategies (PLuS) survey originally developed by Murray, Wren, and Keys (2008). The original PLuS was designed to survey faculty regarding their knowledge, attitudes, and willingness to provide accommodations to students with learning disabilities. The PLuS was revised for the present study in order to obtain the same information regarding students with ADHD.

Internal Consistency

The internal consistency of the "Performance Expectations," "Personal Action: Inviting Disclosure," "Willingness to Personally Invest," "Resource Constraints," and "Providing Accommodations" factors were found to be within acceptable limits. When comparing the internal consistency of the original PLuS (Murray et al., 2008) to the factors that were found to be moderate, poor, or low on the revised PLuS, the "Fairness

and Sensitivity" factor was found to be relatively similar. The internal consistency of the "Disclosure and Believability," "Willingness to Make Major Accommodations," "Willingness to Make Exam Accommodations," and "Willingness to Make Teaching Accommodations" factors were found to be greater for the original PLuS. This was also true for the "Knowledge of Learning Disabilities" factor on the original survey when compared to the "Knowledge of ADHD" factor on the revised PLuS. These differences in internal consistency may be related to the fact that the original PLuS measured the construct of learning disabilities while the PLuS was revised to measure a different construct (ADHD) for the present study. Therefore, future studies may wish to further revise the PLuS in order to better calibrate it to assess the construct of ADHD.

Research Question One

The first research question was: Are the attitudes and beliefs of two-year college faculty toward students with ADHD significantly different than those of four-year university faculty? This research question was developed in order to determine whether differences existed between how two-year college faculty and four-year university faculty felt about students with ADHD. If differences were identified, the causes of those differences would be investigated so that professional development opportunities could be targeted to address areas of need. However, the results of a MANOVA comparing the faculty responses of two two-year community colleges and four four-year universities (two public universities and two private universities) indicated no significant differences. These results are consistent with previous research (Vance & Weyandt, 2008).

Research Question Two

The second research question was: Is the level of knowledge of two-year college faculty significantly different than the level of knowledge of four-year university faculty regarding the legal protections for students with ADHD? This research question was developed to determine whether differences existed between how two-year college faculty and four-year university faculty knowledge of ADHD and the protections provided to students with ADHD by Section 504 of the Rehabilitation Act of 1973. If differences were identified, the causes of those differences would be investigated so that professional development opportunities could be targeted to address areas of need. The results of an independent samples t-test indicated that there were no statistically significant differences between the two two-year community colleges and the four four-year universities.

Research Question Three

The third research question was: Is there a significant difference between the willingness of two-year college faculty and four-year university faculty in regard to making testing and instructional accommodations for students with ADHD? This research question was developed to determine whether faculty at the college level were more willing than faculty at the university level to make major instructional and exam accommodations for students with ADHD, and to personally invest additional time for the students with ADHD. In addition, this research question explored whether differences existed in regard to whether faculty felt resource constraints when working with students with ADHD and whether they felt that they had sufficient knowledge to

assist students with ADHD. If differences were identified between the two types of faculty, the causes of those differences would be investigated so that professional development opportunities could be targeted to address areas of need. The results of a MANOVA revealed that there were no statistically significant differences between the faculty responses of the two types of universities.

Research Question Four

The fourth research question was: Are the responses to the above research questions significantly different depending on whether the faculty is from a four-year public or a four-year private institution? This research question was designed to determine whether significant differences in attitudes and beliefs toward students with ADHD, knowledge of ADHD and Section 504, or willingness to make accommodations for students with ADHD existed depending on whether the respondent was from a four-year public university or a four-year private university. The results of the statistical analyses indicated that no significant differences existed for any of the research questions explored.

Additional Analyses

While outside the scope of the research questions, additional analyses were conducted in order to gain additional information that may be useful for practitioners and administrators of postsecondary institutions. The results of these analyses indicate that approximately 27% of the faculty members surveyed are not familiar with Section 504 of the Rehabilitation Act of 1973. In addition, approximately 61% of faculty respondents indicated that they would like additional information about the needs of students with

ADHD and 49% of respondents indicated that they would like more information regarding referral procedures for students with ADHD. Finally faculty members may require additional information regarding accommodations and why certain accommodations may be needed for students with ADHD. For example, approximately 9% of faculty respondents indicated that they disagreed with providing students with ADHD with copies of lecture notes.

In regard to how demographic characteristics of faculty members may impact their actions, hierarchical linear regression models indicate that faculty members with more experience tend to be more willing to provide accommodations. Specifically, faculty members with greater than six years of experience were found to be more willing to provide exam accommodations as well as accommodations in general than were their counterparts with less experience.

In regard to how previous training impacts faculty actions, faculty members with 1-3 hours of training were found to display significantly higher scores in regard to fairness and sensitivity toward students with ADHD than were faculty members with no training. In addition, it should be noted that faculty members from private institutions were found to have statistically higher scores in regard to their level of knowledge. No other differences were identified on the PLuS in relation to how much previous training participants had. This is in contrast to Murray, Lombardi, Wren, and Keys (2009), who found that faculty members with previous training were more willing to provide exam accommodations, scored higher on fairness and sensitivity, and were more willing to personally invest time with students with learning disabilities, and to invite disclosure.

However, it should be noted that the Murray (2009) study was exploring these factors in regard to learning disabilities rather than ADHD. Therefore, it is possible that faculty members have different attitudes and beliefs regarding ADHD than they do learning disabilities.

In exploring how the gender of faculty respondents may impact their behaviors toward students with ADHD, the present study found no significant differences between the responses of males and females. This is in contrast to Murray, Wren, and Keys, 2008, which found that female faculty members were more likely to be willing to provide exam accommodations, score higher on the fairness and sensitivity domain, have greater knowledge of learning disabilities, and were more willing to personally invest in supporting students with learning disabilities. However, it should be noted that Murray (2008) utilized the PLuS to examine these factors in regard to faculty responses related to learning disabilities while the present study modified the PLuS to examine faculty responses related to ADHD. Therefore, as previously stated, it is possible that faculty members have different attitudes and beliefs regarding ADHD than they do learning disabilities.

Finally, faculty teaching status was examined in order to determine whether teaching status predicted any of the factors under study. The results indicate that Tenure Track and Clinical Track faculty tend to have higher levels in the Disclosure and Believability domain than do Tenured faculty. No other domains were found to be predicted by teaching status. This is consistent with previous research findings that indicate that lower ranking faculty members are more likely to invite disclosure of

disabilities (Murray, Wren, & Keys, 2008). However, Murray (2008) found a higher level of willingness for junior faculty to be willing to provide major accommodations to students while the present study did not find significant differences between higher ranking and lower ranking faculty members beyond the Disclosure and Believability domain. However, as previously mentioned, Murray (2008) utilized the PLuS to examine learning disabilities while the present study utilized the PLuS to examine ADHD. Therefore, it is possible that faculty members have different attitudes and beliefs regarding ADHD than they do learning disabilities. Future studies may wish to explore these differences.

Strengths and Limitations of the Study

The present study presented with several methodological strengths. First, the study included six postsecondary educational institutions of varying types, thereby adding breadth to the study. Second, while not designed specifically to address ADHD, the present study utilized the PLuS survey, which has been found to be valid and reliable in previous studies (Murray, Wren, & Keys, 2008).

In addition to the strengths listed above, the present study consisted of some limitations. First, due to institutional barriers, the survey was not distributed to all faculty members at all institutions. For example, CC1, PR2, and PUB2 declined to distribute the PLuS to all faculty members and as a result individual deans were contacted and were asked to distribute the survey. Only a minority of deans at each of these institutions agreed to participate in the study. Research by Vance and Weyandt (2008) found that professors who taught in the College of Sciences are most likely to feel that they should

not accept alternative assignments or provide lecture notes. In addition, the researchers found that the professors who felt that students with ADHD should not receive accommodations were mainly from the College of Education and Professional Studies, followed by the College of Sciences. Therefore, the results of the present study may have been impacted by departments from CC1, PR2, and PUB3 who agreed to distribute the survey. Future studies may wish to secure the participation of all departments at each institution.

A second limitation of the present study was the small sample size. The ultimate sample size was found to be small, with response rates ranging from 3% to 28%. This low response rate means that a large percentage of each faculty was not included in the results of the study and therefore it is not known whether the input of the non-respondents would have significantly changed the results. This is particularly true for faculty members who did not receive the survey because the dean of the department did not choose to participate in the study. Based on this, the response rate and overall results were likely negatively impacted by institutional barriers that prevented the survey from being distributed to all faculty members at each of the participating institutions. Therefore, future studies may wish to attempt to overcome such institutional barriers prior to conducting similar research or to select participating institutions that are willing to distribute the survey to all faculty members.

A third limitation of the study was that the participating institutions were isolated to Los Angeles County, California and therefore the results may not be able to be

generalized outside of the county. Therefore, future studies may with to broaden their research by including institutions across counties or states.

A fourth limitation of the study is the level of internal consistency found on the revised PLuS. The moderate to low levels of internal consistency on several of the revised PLuS factors is likely due to the original PLuS having been designed to assess the construct of learning disabilities while the revised PLuS adapted the original survey to measure the construct of ADHD. Therefore, future studies may wish to further calibrate and pilot the revised PLuS in order to better measure the construct of ADHD. This can be accomplished through increasing the number of items in each factor, standardizing the population that the PLuS is distributed to (only some departments chose to participate in the present study at some institutions), and deleting items that pilot participants report are unclear (Salkind, 2006).

A final limitation of the study is the possibility that despite the survey being anonymous, respondents may have responded based on social desirability, as discrimination toward students with disabilities is not considered acceptable legally or administratively. Therefore, future studies may wish to cross-validate faculty responses with direct classroom observations or by conducting interviews or surveys with students. Furthermore, the responses may be biased in that faculty members who were more willing to complete surveys or had a greater knowledge of ADHD may have been more likely to complete the revised PLuS. This was made evident by some faculty e-mails to the researcher indicating refusal to participate because they felt that the revised PLuS was more of a “test” of their knowledge than a survey.

Implications for Practice

While the present study did not identify any significant differences between the attitudes, knowledge, or practices regarding students with ADHD between types of institutions, the results did identify areas that may be in need of professional development. The following recommendations for professional development are based on such areas:

1. All types of institutions should familiarize their staff with Section 504 of the Rehabilitation Act of 1973 and its implications for students.

The results of the present study indicate that approximately 27% of faculty respondents are not familiar with Section 504. Section 504 requires institutions to provide reasonable accommodations that are individualized to eliminate or reduce the impact of a disability that impacts a major life activity (Jacob & Hartshorne, 2003; Wilhelm, 2003). According to Wilhelm (2003), the United States Supreme Court has been clear that reasonable accommodations are those that are individualized for the student but do not lower the academic standards of the program or require substantial program alteration. The results of the present study indicate that 17% of respondents do not include a statement in their syllabi inviting students with disabilities to discuss accommodations available to them. Therefore, it is recommended that the Disabilities Services office at each institution assist departments with developing template language to be included in all syllabi. This language should both invite students with disabilities to speak to the faculty member regarding accommodations and provide contact information for the Disability Services office.

2. Faculty should be provided with additional information about the needs of students with ADHD.

The results of the present study indicate that approximately 61% of faculty respondents would like additional information about the needs of students with ADHD. Furthermore, approximately 20% of faculty respondents do not know where faculty members find support to assist their students with ADHD. Therefore, postsecondary institutions may wish to provide professional development for faculty members that provide resources and information regarding students with ADHD and the services available to meet their needs. In addition to providing information to faculty members when they are hired, it is recommended that the Disability Services department make information readily available for staff members by posting it on the institution's website. Furthermore, the Disability Services department should work closely with the Section 504 coordinator or compliance office in order to ensure that both faculty and students have the most updated information available for various types of disabilities.

3. Types of appropriate accommodations for students with ADHD should be discussed with faculty.

The National Center for Education Statistics (NCES, 2011) reports that during the 2008-2009 school year approximately 77% of national postsecondary institutions that enrolled students with disabilities provided classroom note takers. While the present study did not address classroom note takers, an item analysis indicated that approximately 9% of faculty respondents disagreed with providing copies lecture notes to students with ADHD, approximately 8% disagreed with providing copies of overheads or

Powerpoint presentations, and approximately 3% disagreed with allowing students with ADHD to record class sessions. NCES (2011) also reported that 71% of national postsecondary institutions provide alternative exam formats for students with qualifying disabilities, although the present study indicates that approximately 20% of the faculty surveyed "strongly disagree" or "disagree" with changing the method of responding to exams. Furthermore, NCES (2011) reports that 70% of national postsecondary institutions provide adaptive equipment and technology for students with qualifying disabilities. However, the present study indicates that approximately 25% of faculty survey "strongly disagree" or "disagree" with allowing students with ADHD to use technology such as a laptop, calculator, or spellchecker to complete tests. In addition, the results of the present study indicate that approximately 15% of faculty respondents feel that making teaching accommodations for students with ADHD is unrealistic given the their time constraints and other job demands.

The areas of disagreement described above are particularly noteworthy because research by Kurth and Melard (2006) has shown that students report that the most effective accommodations to assist their disabilities include note-takers, extended time on tests, and the use of adaptive technology. Based on this information, it is recommended that postsecondary institutions provide professional development to faculty members addressing appropriate accommodations for students with ADHD and how students qualify for such accommodations.

4. Training should be provided to faculty members addressing the referral procedures for students with ADHD at each institution as well as what their equivalent to the Office of Disabilities Services provides.

The results of the present study indicate that approximately 9% of the faculty respondents surveyed are not familiar with their institutions equivalent to the Office of Disabilities Services. In addition, approximately 49% of faculty respondents indicated that they would like more information about the referral procedures for students with ADHD. It is essential that faculty members have this information in order to properly address the needs of their students with disabilities as well as to remain legally complaint with Title I of the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. Therefore, it is recommended that the Disability Services office at each institution provide information to faculty members when they are hired, send memos to faculty members at the beginning of each semester/quarter, and post information on the institution's website.

5. An additional needs assessment should be conducted at all institutions in order to determine what support faculty feel that they require in order to make appropriate teaching accommodations for students with ADHD.

The results of the present study indicate that approximately 11% of faculty respondents feel that they do not have sufficient knowledge to make testing or teaching accommodations for students with ADHD and approximately 10% of faculty respondents feel that they do not receive adequate support from their institution's equivalent to the Office of Disabilities Services to make such accommodations. Furthermore,

approximately 12% of faculty respondents indicated that they do not receive adequate support from their department/program regarding working with students who have ADHD. A needs assessment would further identify target areas for professional development in order to better meet the requirements of both faculty members and students.

Recommendations for Further Research

Due to the institutional barriers encountered during the present study, it is recommended that future studies exploring similar aspects of faculty perceptions of ADHD first secure institutions that are willing to distribute surveys to all instructional faculty members. It is also recommended that future studies broaden the geographic range of participating institutions so that the results can be generalized to a greater area. In addition, because of the low alpha level found for the "Knowledge of ADHD" factor in the present student, future researchers may wish to further modify the PLuS by dividing the "Knowledge of ADHD" factor into a "Knowledge of ADHD" factor and a "Knowledge of Legal Protections" factor. Researchers may also wish to include multiple items for each factor of the revised PLuS in order to further increase the internal consistency of the measure. Finally, due to the potential for faculty members to respond to surveys in a "socially acceptable" manner, future researchers may wish to cross-validate faculty responses with direct classroom observations as well as conduct interviews or surveys with students within the institutions being studied.

Conclusions

The results of the present study suggest that no significant differences exist between two-year and four-year post-secondary faculty attitudes and beliefs toward students with ADHD, knowledge of ADHD and Section 504, or willingness to make accommodations for students with ADHD. This is consistent with previous research conducted by Vance and Weyandt (2008) which explored faculty perceptions of students with ADHD at two four-year universities and one two-year college.

While the results of the present study related to the research questions were not found to be significant, a great deal of information was gained from the survey results that can be used to assist postsecondary institutions in creating professional development programs for faculty members. Such programs will not only assist institutions in remaining compliant with legal mandates, but will also assist students with disabilities to achieve within the postsecondary education environment.

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APPENDIX A

Institutional Review Board Approval of Study

Date:	Aug 08, 2011, 08:21am
Principal Investigator:	Derek Ihori
Faculty Advisor:	Patricia Tobey
Co-Investigators:	
Project Title:	ADHD and Postsecondary Faculty USC UPIRB # UP-11-00287

UNIVERSITY OF SOUTHERN CALIFORNIA
UNIVERSITY PARK INSTITUTIONAL REVIEW BOARD
FWA 00007099

Exempt Review

The iStar application and attachments were reviewed by UPIRB staff on **8/8/2011.**

The project was APPROVED.

Based on the information provided for review, this study meets the requirements outlined in 45 CFR 46.101(b)(2) and qualifies for exemption from IRB review. The study is not subject to further IRB review. IRB exemption of this study was granted on **8/8/2011.**

The following documents were reviewed and approved:
Certified Information Sheet, dated 08/08/2011
Certified Recruitment Script, dated 08/08/2011

Minor revisions were made to the recruitment and consent documents by the IRB Administrator (IRBA). The IRBA revised documents have been uploaded into the relevant iStar sections. Please use the IRBA revised documents if an amendment is submitted and future revisions are required.

To access IRB-approved documents, click on the “Approved Documents” link in the study workspace. These are also available under the “Documents” tab.

APPENDIX B

Demographic Data of Institutions in Sample

Appendix B
Demographic Data of Institutions in Sample

Institution	CC1	CC2	PR1	PR2	PUB1	PUB2
Total Students	22,334	29,960	921	13,899	33,416	35,000
Students With Disabilities (Registered with Disability Services)	5%	7%	13%	3%	3%	3%
Total Faculty	588	1,130	130	5,286	2,396	2,694
Estimated Number of Faculty Who Received the PLuS*	200	1,330	130	800	2,396	350
Number of Faculty Respondents	6	41	27	59	183	11
Estimated Response Rate	3%	3%	21%	7%	8%	3%

* Some institutions did not send the PLuS to all faculty members.

APPENDIX C

Revised PLuS Survey Items Divided by Factor

Appendix C
Revised PLuS Survey Items Divided by Factor

Factor	Item
Willingness to Make Major Accommodations	16. I am willing to reduce the overall course reading load for a student with verified ADHD even when I would not allow for a reduced reading load among students without ADHD. 15. I am willing to allow a student with verified ADHD to complete "extra credit" assignments if necessary for student success even when I do not provide this option to all students in my course. 28. I am willing to grade students with verified ADHD on a different curve than students without disabilities if needed. 13. I think it would be appropriate to allow a student with verified ADHD to substitute an alternative course for a required course if the substitution did not dramatically alter the program requirements. 29. If a student with verified ADHD did not adequately meet the course requirements despite receiving reasonable exam accommodations, I would give him/her the grade s/she earned. 30. I am willing to allow students with verified ADHD to take proctored exams in a supervised location outside of the normal exam location. 25. I am wiling to arrange extended time exams for students who have verified ADHD. 26. I am willing to change the method of responding to exams (e.g., from written to oral) for students with verified ADHD in my course(s). 31. I am willing to allow students with verified ADHD to use technology (e.g., laptop, calculator, spell checker) to complete tests even when such technologies are not permitted for use during testing by students without disabilities.

Appendix C continued *Revised PLuS Survey Items Divided by Factor*	
Factor	Item
Willingness to Provide Exam Accommodations	19. I am willing to allow students with verified ADHD to tape record class sessions when necessary. 30. I am willing to allow students with verified ADHD to take proctored exams in a supervised location outside of the normal exam location. 25. I am willing to arrange extended time exams for students who have verified ADHD. 26. I am willing to change the method of responding to exams (e.g., from written to oral) for students with verified ADHD in my course(s). 31. I am willing to allow students with verified ADHD to use technology (e.g., laptop, calculator, spell checker) to complete tests even when such technologies are not permitted for use during testing by students without disabilities.
Fairness & Sensitivity	32. Providing testing accommodations to students with verified ADHD is unfair to students without disabilities. 22. Providing teaching accommodations to students with verified ADHD is unfair to students without disabilities. 17. I believe that I make individual accommodations for students as necessary to those who have disclosed their ADHD to me. 20. I am willing to extend the "due dates" of assignments to accommodate the needs of students with verified ADHD when necessary. 6. I am sensitive to the needs of students with ADHD at my institution. 18. I believe that my overall teaching style permits all students to learn the materials regardless of their individual needs.

Appendix C continued
Revised PLuS Survey Items Divided by Factor

Factor	Item
Knowledge of ADHD	1. I am familiar with section 504 of the Rehabilitation Act of 1973 *and* the Americans with Disabilities Act (1990), and their implications for students with disabilities in institutions of higher education. Describe: _____ 2. I know what the term "Attention Deficit Hyperactivity Disorder (ADHD)" means. Describe: _____
Willingness to Personally Invest	27. I am willing to spend *extra* time (i.e., in addition to normal office hours) helping a student with verified ADHD prepare for an exam in my course. 14. I am willing to spend *extra* time (i.e., in addition to normal office hours) meeting with students with verified ADHD to clarify and/or review course related content.
Willingness to Make Teaching Accommodations	12. I am willing to provide students with verified ADHD with copies of my overheads and/or PowerPoint presentations. 10. I am willing to provide students with verified ADHD with copies of my lecture notes or outlines. 11. I am willing to provide students with ADHD with additional time to complete assignments in my course(s).
Resource Constraints	41. Making adequate *teaching* accommodations for students with verified ADHD in my courses is unrealistic given time constraints and other job demands. 43. Making adequate *testing* accommodations for students with verified ADHD in my courses is unrealistic given time constraints and other job demands.
Performance Expectations	3. I believe that students with ADHD can be successful at the university level. 7. Students with ADHD are able to compete academically at the university level.

Appendix C continued
Revised PLuS Survey Items Divided by Factor

Factor	Item
Disclosure & Believability	24. I believe that students use ADHD as an excuse when they are not doing well in my class. 49. I find that students with verified ADHD wait to talk to me until they are not doing well in the class and then it's too late to provide appropriate accommodations. 50. I find that students with ADHD wait to talk to me until they are not doing well in the class and then I find it hard to believe that they really have a disability.
Personal Action: Inviting Disclosure	48. I make a statement in class inviting students with disabilities to discuss accommodations with me. 47. I include a statement in my syllabus inviting students with disabilities to discuss accommodations with me.
Personal Action: Insufficient Knowledge	42. Currently, I do not have sufficient knowledge to make adequate *testing* accommodations for students with ADHD in my course(s).
Personal Action: Providing Accommodations	45. I have had students with ADHD in my course(s) and have provided *teaching* accommodations. 46. I have had students with ADHD in my course(s) and have provided *testing* accommodations.

Note: The above factors and corresponding items were described by Murray et al. (2008). The items in the above table represent the modified versions for the purpose of the present study.

APPENDIX D

E-mail to Participants

Dear Instructional Faculty Member,

My name is Derek Ihori and I am a doctoral student in the Rossier School of Education at USC. I am conducting a research survey as part of my dissertation, focusing on postsecondary faculty practices regarding students with Attention Deficit Hyperactivity Disorder (ADHD). As an instructional faculty member, you have been identified as someone who might be ideal for the survey. The survey takes approximately 15 minutes to complete. You may skip questions if you desire.

Participation in this survey is entirely voluntary and your responses will be completely anonymous. Your identity as a participant will remain unknown at all times during and after the study. Your relationship with your institution will not be affected whether or not you participate in this study. Continuing to the followng page indicates consent to participate in the study.

If you have questions, please contact me at dihori@usc.edu. Thank you in advance for your participation. Your perspective is extremely valuable!

Sincerely,

Derek Ihori

APPENDIX E

PLuS Factors Assigned to Research Questions 1-3

Appendix E *PLuS factors assigned to Research Questions 1-3*	
Research Question	Relevant Factors
1. Are the attitudes and beliefs of two-year college faculty toward students with ADHD significantly different than those of four-year university faculty?	Fairness and Sensitivity Performance Expectations Disclosure and Believability Personal Action: Inviting Disclosure
2. Is the level of knowledge of two-year college faculty significantly different than the level of knowledge of four-year university faculty regarding the legal protections for students with ADHD?	Knowledge of ADHD
3. Is there a significant difference between the willingness of two-year college faculty and four-year university faculty in regard to making testing and instructional accommodations for students with ADHD?	Willingness to Make Major Accommodations Willingness to Provide Exam Accommodations Willingness to Personally Invest Willingness to Make Teaching Accommodations Resource Constraints Insufficient Knowledge Providing Accommodations

APPENDIX F

Description of Analyses of Survey Data for Research Questions

Appendix F
Description of Analyses of Survey Data for Research Questions

Purpose of Analysis	Independent Variables	Dependent Variables	Test
Determine whether two-year college faculty have significantly different responses than four-year university faculty.	Type of Institution (Two-Year or Four-Year)	PLuS factors associated with: 1. Attitudes and Beliefs 2. Knowledge of Legal Protections 3. Willingness to Make Testing Accommodations	MANOVA t-test MANOVA
Determine whether four-year public faculty have significantly different responses than four-year private faculty.	Type of Institution (Public or Private)	PLuS factors associated with: 1. Attitudes and Beliefs 2. Knowledge of Legal Protections 3. Willingness to Make Testing Accommodations	MANOVA t-test MANOVA
Determine whether significant differences exist in the responses of faculty from different institutions of the same type (CC1 vs. CC2, PR1 vs. PR2, PUB1 vs. PUB2).	Institution 1 Institution 2	Factors: Fairness and Sensitivity Performance Expectations Disclosure and Believability Personal Action: Inviting Disclosure Knowledge of ADHD Willingness to Make Major Accommodations Willingness to Provide Exam Accommodations Willingness to Personally Invest Willingness to Make Teaching Accommodations Resource Constraints Insufficient Knowledge Providing Accommodations	Independent Samples t-tests