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Gehrman, Danielle R. ***General Education Teachers' Perceptions of Students with ADHD and Professional Development***

Abstract

A survey was conducted to examine general education teachers' perceptions and views of students who exhibit Attention-Deficit Hyperactivity Disorder (ADHD) characteristics and how they may impact student instruction and learning. This study also investigated general education teachers' self-reported perceptions of pre-service and in-service training they received on ADHD and instructional strategies. Finally, the study examined general education teachers' beliefs regarding support staff (special education teachers, school psychologists, etc.) as a viable resource in helping teaching a student with ADHD, their views of classroom interventions being successful and the willingness to implement interventions. Approximately 300 general education teachers were surveyed in four school districts within rural Northwestern Minnesota. Results confirmed previous research that suggests general education teachers perceive students with ADHD as challenging to work with. Significant differences were noted between respondents based on years of teaching experience (20 years or less; 21 years or more). The results also supported previous research indicating that general education teachers self-reported having little to no pre-service training on teaching students with ADHD. Results also indicated that general education teachers surveyed found support staff to be available, interventions used to be useful and were willing to implement interventions. Implications for research and practice are discussed.

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Chapter I: Introduction

Attention-Deficit Hyperactivity Disorder (ADHD) is one of the most frequent diagnoses in schools today. According to the National Association of Mental Illness (NAMI), ADHD is defined as "an illness that is characterized by inattention, hyperactivity and impulsivity" (2013, para.1). ADHD is the most commonly diagnosed behavior disorder among children and adolescents. There are three different types of ADHD, which are: predominate hyperactivity/impulsivity type, inattention type, and combined type.

ADHD is clinically diagnosed using a variety of techniques. These may include parent and teacher questionnaires, behavioral rating scales, computerized assessments (continuous performance tests), and observations in different environments. Behavioral rating scales such as the Behavior Assessment System for Children (2nd Edition) (BASC-2) and the Conners' 3rd Edition require parents, teachers and the individual to rate the frequency of ADHD-like (e.g., disruptive behaviors, lack of focus) displayed by the individual in question (Western Psychological Services, 2013). Computerized assessments such as the Conners' Continuous Performance Test II are also used to clinically diagnose ADHD. The Conners' Continuous Performance Test II is a task-oriented assessment that measures different parts of an individual's attention such as sustained attention, selective attention, and impulsivity. The individual is required to react to stimuli such as letters and numbers. This assessment measures the individual's response rate, reaction time, changes in reaction time speed, consistency, and omission and commission errors (Multi-Health Systems, 2013).

There are no conclusive causes of ADHD, however a number of theories abound (American Psychiatric Association (APA), 2013). These theories include brain development, genetic predisposition, traumatic brain injury, environmental factors prenatal care as potential factors associated with causes and/or risks for ADHD. Research has shown that it affects males

at higher rates than females. Research has also shown a genetic correlation with the display of ADHD. There is an increased likelihood of an individual exhibiting ADHD when a first-degree biological relative of the individual has ADHD (APA, 2013).

Research shows that there is a definite difference in the size of the brain in the areas that deal with impulse control and transferring information from short-term to long-term memory. By adulthood, the brain size and capacity are in the normal ranges compared to any normal healthy adult (NIMH, 2007, Brieber et al., 2007, Bullmore, Ellison-Wright, & Ellison-Wright 2008).

According to the Centers for Disease Control and Prevention (2013), ADHD affects "9 percent of children ages 4-17" (para. 4). With this many students exhibiting this disorder, any given teacher in the United States will likely teach one or more student(s) who displays ADHD like behaviors but has not been diagnosed yet or a student who has already been clinically diagnosed with ADHD. For teachers to work effectively with these students, they need to understand how this diagnosis presents itself in the classroom. Teachers also need to work through the frustration and behaviors evidenced by these students. Teachers need to be provided with tools that will allow these students to learn and lower the frustration level in the classroom.

According to the Attentive Deficit Disorder Association (ADDA) "Approximately one-half to two-thirds of children with ADHD will continue to have significant problems with ADHD symptoms and behaviors as adults, which impacts their lives on the job, within the family, and in social relationships" (1998, para. 4). Understanding ADHD as fully as we can then, becomes ever more important with the recognition that this is a disorder that impacts the individual across the lifespan. The way teachers perceive and the tools they have to intervene with students with ADHD type behaviors effects the students being successful in a classroom setting and how the

students perceive themselves in their abilities in school and outside of school. The way we teach our students today will affect their future in many ways. These include how they view themselves as an individual, their choice and ability in their occupation and in personal relationships.

"Students with ADD/ADHD pay the price for their problems in low grades, scolding and punishment, teasing from peers, and low self-esteem" (Benedicitis et al., 2007, para. 5). The effects of teachers' frustrations with students who exhibit ADHD are seen every day. A teacher's frustration can be seen in the way teachers approach the students' capability to learn and the unique learning style of these types of students. As will be discussed in later chapters, the effects of traumatic brain injuries that have been connected to the cause of ADHD makes it more difficult for the child to learn with their counterparts. That does not necessarily mean that there is inability to learn given time for the injuries to heal and the brain to re-wire. This research suggests that ADHD should be considered as a learning style rather than a deficit.

Since ADHD is not always diagnosed in the early grades, a student may be labeled as being difficult and uncontrollable therefore impacting their education. This then impacts teachers' view of this student, their ability to learn, the students belonging in the classroom, how much time spent helping the student learn and the teacher's frustration level. According to Beszterczey, Greene, Goring, Katzenstein, and Park (2002) "general education elementary school teachers rated students with ADHD as significantly more stressful to teach than their classmates without ADHD" (para. 1). With these types of students being reported as stressful, it is reasonable to assume then that some teachers may develop negative perceptions about students with ADHD which can exacerbate the difficulties. This exaggeration of the difficulties can filter into the diagnostic process for ADHD.

The clinical diagnosing of ADHD looks into how a child displays disruptive-like behaviors within several settings including the school setting. This data is collected through behavioral rating scales filled out by the teacher. A teacher who may have developed negative perceptions of students with ADHD may unknowingly rate behavior of a student worse than what is actually occurring.

The recommended teaching of ADHD students does not prepare a teacher for the reality of having ADHD students in the classroom. The reality is that students with ADHD can distract everyone including the teacher. According to Benedictis et al. (2007) the following profile represents the challenges that students with ADHD encounter in the classroom setting:

> They demand attention by talking out of turn or moving around the room, they have trouble following instructions, especially when they're presented a list, they often forget to write down homework assignments, do them, or bring completed work to school, they often lack fine motor control, which makes note-taking difficult and handwriting a trial to read, they often have trouble with operations that require ordered steps, such as long division or solving equations, they usually have problems with long-term projects where they were is no direct supervision, they don't pull their weight during group work and may even keep a group form accomplishing its task. (para. 4)

Teachers should be given the tools in their educational careers that are proven to be successful with ADHD type behaviors. These tools should not be just provided for special education professionals since there is such a high statistical likelihood of the amount of students with ADHD general educational classrooms. These tools should also be provided for the general educational professionals. Some types of tools that create successful learning environments for students with ADHD are token economies and behavioral modifications.

Statement of the Problem

The purpose of this study is to examine general education teachers' perceptions and views of students who exhibit Attention-Deficit Hyperactivity Disorder (ADHD) characteristics and how they may impact student instruction and learning. Another focus of this study will look at general education teachers' perceptions of the amount of training they received in their licensure program and/or continuing education on ADHD, student profiles and instructional strategies. Finally, this study will also examine general education teachers' beliefs regarding support staff (special education teachers, school psychologists, etc.) as a viable resource in helping teaching a student with ADHD, their views of classroom interventions being successful and their willingness to implement interventions in the classroom. This study will be conducted through an online survey.

Purpose of the Study

The rationale for conducting this research is to draw awareness to the challenges that teachers may encounter in working with students with ADHD. Also, providing awareness to the licensure programs and continuing education within the school districts to focus more on classes and in-services to ADHD and what interventions can be used in the classroom. This will help alleviate general education teachers' difficulties, and provide tools that can be used in the classroom to teach these types of students.

Assumptions of the Study

The current study included a review of relevant literature and a survey of K-12 teachers. It is assumed that the research reviewed had been thorough and comprehensive, and included primary search terms and resources. During data collection it is assumed that all participants completed the survey on a voluntary basis, and there was no risk nor benefit to participants. It is

assumed that the participants answered truthfully and that the statistical analysis was completed correctly.

Research Questions

There are four questions this study will attempt to answer. They are:

1. Do general education teachers have pre-conceived expectations and/or stereotypes about students who exhibit Attention-Deficit Hyperactivity Disorder (ADHD)?
2. Does the amount of training during licensure programs and/or continuing education on ADHD affect general education teachers' expectations and/or beliefs about student who exhibit ADHD?
3. Do teachers perceive support staff in the school environment (School Psychologists, Special Education Teachers) as a viable resource to use for help in teaching a student with ADHD?
4. How do general education teacher perceptions of support staff in the school environment impact willingness to implement interventions in class?

Definitions of Terms

There are terms that need to be defined for clarity and understanding. These are:

ADHD. The American Academy of Pediatrics (AAP) defines Attention-Deficit/Hyperactivity Disorder (ADHD) as: ADHD is a condition of the brain that makes it difficult for children to control their behavior. It is one of the most common chronic conditions of childhood (para. 1).

Hyperactivity. "More active than is usual or desirable" (Merriam-Webster Inc., 2013, para.1).

Impulsive. "Acting momentarily" (Merriam-Webster Inc., 2013, para. 1).

Inattention. "Failure to pay attention" (Merriam-Webster Inc., 2013, para. 1).

Learning. "A relatively permanent change in an organism's behavior due to experience" (Myers, 2007, p. 313).

Limitations

There are several limitations in this study in multiple areas. Within the review of the literature, the paucity of research literature on this topic and relying that the information given is current and accurate. There are a number of limitations in this study regarding the selection of participants and overall sample. The potential overall sample and the likelihood of obtaining a sample that represented each participating school district was impacted by the study due to the requirement of the principals in each participating school district to send out the survey link to all the general education teachers within their buildings. It is unknown if all of the principals did in fact distribute the email to the general education teachers within their buildings. Also, since the sample for the study was obtained from only four districts solely within rural Minnesota and only 30 individuals, it is hard to generalize the findings from this study to the general public.

There are limitations within the survey instrument used in this study as well. The survey instrument used in this study was created by the researcher and therefore there were not measures of validity and reliability for this instrument. Also, the survey may elicited participants to respond in socially favorable ways since the survey instrument was centered on having individuals evaluate their abilities in teaching students with ADHD and working with supportive staff in their building. Within the data analysis, a number of survey items were analyzed by frequency and percentages which leads to an open interpretation instead of identifying if true significant correlations and differences exist.

Methodology

The twenty-three question qualitative online survey was distributed to each principal in four school districts within rural Northwestern Minnesota. The principals then forwarded an email to their general education staff, approximately 300 individuals. In this email, potential respondents were introduced to the researcher, given a brief description of the study, information about informed consent and that participation was voluntary. A link to the study was also included for those who chose to participate. Of the 300 individuals who received the email, 30 participants completed the survey. Of the 30 participants (24 female; 6 male), 27 reported working in an elementary school setting (Kindergarten – 8th grade) and 4 reported working in a Secondary school setting (9th grade – 12thgrade).

Chapter II: Literature Review

This chapter will include a comprehensive overview of Attention-Deficit Hyperactivity Disorder (ADHD), prevalence among school aged children, its causes, diagnostic criteria, and the behavioral manifestations within the classroom. Additionally, the effects of labels and biases toward children with ADHD will be discussed. The chapter will conclude with an analysis of teachers' perceptions of individuals and stereotypes of students who exhibit Attention-Deficit Hyperactivity Disorders, and why these differences may appear. Also, a discussion of the effects of the amount of knowledge teachers have of ADHD on the teacher and student relationship as well as the effects on teachers' views of support staff will be discussed. Furthermore, effective school-based interventions for students with ADHD will be described.

Definition of ADHD

Attention Deficit Hyperactivity Disorder is a condition that chronically affects an individual's ability to pay attention and control impulses in a variety of different settings.

The American Academy of Pediatrics (AAP) defines Attention-deficit/hyperactivity disorder (ADHD) as: "A condition of the brain that makes it hard for children to control their behavior. It is one of the most common chronic conditions of childhood" (2007, para. 1).

The American Psychological Association (2013) defines Attention-Deficit/Hyperactivity Disorder as: "A behavioral condition that makes focusing on everyday requests and routines challenging. Children with ADHD can be defiant, socially inept or aggressive" (para. 1).

Prevalence of ADHD

The most recent study conducted by Center of Disease Control and Prevention (CDC) reports that "over 5 million children 3-17 years old were diagnosed with ADHD and boys are twice as likely as girls to be diagnosed in 2009" (Bloom, Cohen, & Freeman, 2009, p. 5). A national survey of children's health conducted in 2007 by the CDC found that as reported by

parents, in Wisconsin, 9.9 % of children within the ages of 4-17 years of age have been diagnosed with ADHD. Of children in Minnesota within the ages of 4 and 17 years old, 7.8% are diagnosed with ADHD as reported by parents (CDC, n.d.). The CDC stated that "rates of ADHD diagnosis increased an average of 3% per year from 1997 to 2006 and an average of 5.5% per year from 2003 to 2007" (CDC, 2013, para. 3). With these numbers, it is likely that a teacher in any given classroom or school will have to teach a student who exhibits ADHD.

Etiology of ADHD

Through many theories on the topic of ADHD have moved into the forefront of medical and scholarly debate, definitive causes have yet to be determined. A publication by the National Institute of Mental Health (2012) on ADHD provides theories into its causes. The causes consist of genetic factors, environmental factors, brain development, diet and nutrition.

Genetic factors. A prominent theory on the cause of ADHD is that it is genetically inherited. Research to date suggests the possibility of the existence of certain gene(s) that may make it more likely for an individual to develop ADHD. "From such studies, it has become clear that ADHD is one of the most strongly genetic influenced of the common behavioral disturbances seen in children" (Swanson et al., 2001 as cited in Asherson et al., 2005, p. 115). A study conducted by Tharper et al. reviewed studies on possible risk factors including genetic risk factors for developing ADHD. There are many known genes that have been linked to a higher chance of developing ADHD. A few of the known genes deal with carrier proteins related to the reuptake in neurotransmitters such as Dopamine and Serotonin (Gizer et al., 2009 as cited in Tharper et al., 2013, p. 6).

Additional research examines selected gene variants and DNA sequence pathways. The theory behind this research is to determine if there are any unidentified risk pathways (Tharper et

al., 2013). Another area Tharper et al. discuss in their study consists of rare chromosomal structural variants. This area of research investigates deletions of genes that can lead to a higher risk of ADHD. Also in this area, there is research being completed in structural or copy number variants, an even more detail of deletion and duplications of genes (2013, p. 6-7). Additional research has to be completed in order to determine predictive value of these genes and actual diagnosis of ADHD.

Environmental factors. Another theory with a mounting evidence base focuses on the influence of environmental factors. This theory suggests that an individual being exposed to some environmental toxins such as cigarette smoking, alcohol during pregnancy and the exposure to high levels of lead may have a higher likelihood of developing ADHD. A study conducted by Rodreguez and Bohlin, found that" prenatal exposure to stress and smoking is independently associated with later symptoms of ADHD in children, especially in boys. Associations did not reach significance for girls" (2005, p. 250). Bohlin and Roderguez measured the amount of stress and smoking a mother had endured during the pregnancy and then the ADHD symptoms of the babies at the age of seven years. The results from this study concluded that exposure to prenatal stress were independently linked to the predicted outcome of ADHD symptoms based on the Diagnostic Statistical Manual (4^{th} edition) (DSM-IV) criteria, but only in boys. The effects of prenatal smoking did not have similar findings; there was not a significant link independently from stress to ADHD symptoms.

Brain development. Research on the neurological basis for ADHD informed our understanding of potential causal factors related to ADHD. Studies have shown that children who exhibit ADHD have a smaller brain size, structure, and other abnormalities. Preliminary studies have shown that the brains of children with ADHD "mature in a normal pattern but are

delayed three years on some regions on average when compared to youth without this disorder" (NIMH, 2007, para. 1). Studies have also shown differences within the fronto-striatal circuits of children with ADHD as compared to children without ADHD. The abnormalities in this area could explain the main symptoms of ADHD that are manifested by inattention and hyperactivity/impulsivity (Brieber et al., 2007). Furthermore, individuals who have undergone traumatic brain injuries exhibit similar behaviors as children with ADHD. Bullmore, Ellison-Wright, and Ellison-Wright (2008) concluded that children who have experiences traumatic brain injuries develop ADHD- like symptoms that were not apparent before. The appearances of ADHD-like symptoms seem to be dependent upon the location in the brain and the severity of the injury.

Diet and nutrition. Diet and nutrition has also been considered as an influential determinant of ADHD development. This theory looks into nutrition, diet, and the consumption of artificial food additives and the development of ADHD. "The brains critical need for adequate nutrition is demonstrated by the effects of malnourishment on the developing brain, including reduced DNA synthesis, cell division, mylination, glial cell proliferation and dendrictic branching" (Sinn, 2008, p. 558). This theory poses that the lack of nutrition to the brain leads to ADHD symptoms being exhibited in its host. Sinn states two areas of nutrition correlate with the development of ADHD. The areas are the lack of the consumption of zinc and magnesium. Sinn found that after looking in various parts of the world that areas that consisted of children who exhibited ADHD had lower levels of zinc (2008). Sinn also found that the lower levels of zinc correlated with how severe the ADHD symptoms were (Sinn, 2008). Along with the severity of the symptoms, Sinn also found that "behavioral and emotional symptoms also deteriorated in hyperactive children in association with changes in zinc levels" (Sinn, 2008, p.

559). Also, research has determined possible connections between high magnesium levels and distractibility (Sinn, 2008).

Burshteyn, Cea-Aravena and Schnoll (2003) provided a comprehensive review of theories of ADHD based on diet, nutrition, food allergies and fatty acids. The first theory was based on Fiengold, who theorized that "food additives, specifically synthetic food colors and flavors, and naturally occurring salicylates were responsible for hyperactive behaviors in some children" (Fiengold, 1975; as cited in Burshteyn, Cea-Aravena & Schnoll, 2003, p .64). He then created a diet called the "Kaiser-Permanente diet that eliminated all artificial additives, coloring and food that contained salicylates. His diet and theory has been questioned since and found that "In general, the specific elimination of synthetic food colors from the diet did not appear to be a major factor in the reduction of hyperactive behavior in the majority of children" (Silver, 1986) (as cited in Burshteyn, Cea-Avarvena, & Schnoll, 2003, p. 65).

The consumption of sugar has also been questioned as a cause for ADHD. Multiple studies have been completed to determine a link between the consumption of sugar and ADHD (Dengate, 1997; Wender, & Solanto, 1991). The studies have included the consumption of sucrose and artificial sweeteners such as aspartame. In general, these studies have been unable to make a link of causation between ADHD symptoms and the consumption of sugar because of the many limitations within the studies. Research in this area remains inconclusive.

Food allergies have also been researched as a possible cause of ADHD symptoms. Eggers (1985) (as cited in Burshteyn, Cea-Aravena & Schnoll, 2003, p. 72) found that "food sensitivities or allergies can be involved in provoking behavior problems." The allergies ranged in types of foods and additives. More research has to be completed in this area to determine whether or not a definitive link between food allergies and ADHD symptoms exists. Though

studies are inconclusive at this time, researchers are also attempting to determine the impact of omega 3 and omega 6 fatty acids on ADHD symptoms (Burshteyen, Cea-Aravena & Scholl, 2003).

Diagnostic Criteria and Methods

Though typically diagnosed in childhood ADHD can also be diagnosed in adults. The Diagnostic and Statistical Manual of Mental Disorders - Fifth Edition (DSM-5) (2013, p. 59-61), is used to clinically diagnose ADHD. According to the DSM-5, the criteria individuals must meet in order to be diagnosed with ADHD are:

A. A persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development, as characterized by (1) and/or (2):

    1. Inattention: Six (or more) of the following symptoms have persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities:

        a. often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
        b. often has difficulty sustaining attention in tasks or play activities
        c. often does not seem to listen when spoken to directly
        d. often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace
        e. often has difficulty organizing tasks and activities
        f. often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)

g. often loses things necessary for tasks or activities (e.g. toys, school assignments, pencils, books, or tools)

h. is often easily distracted by extraneous stimuli

i. is often forgetful in daily activities

2. Hyperactivity and impulsivity: Six (or more) of the following symptoms have persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities: (Note: The symptoms are not solely a manifestation of oppositional behavior, defiance, hostility, or a failure to understand tasks or instructions.)

a. often fidgets with or taps hands or feet or feet or squirms in seat

b. often leaves seat in situations when remaining seated is expected (e.g. leaves his or her place in the classroom)

c. Often runs about or climbs in situations where it is inappropriate (Note: In adolescents or adults, may be limited to subjective feeling of restless)

d. Often unable to play or engage in leisure activities quietly

e. is often "on the go," acting as if "driven by a motor"

f. often talks excessively

g. often blurts out an answer before question has been completed

h. often has difficulty waiting his or her turn

i. often interrupts or intrudes on others (e.g. butts into conversations or games)

B. Several inattentive or hyperactive-impulsive symptoms were present prior to age 12 years.

C. Several inattentive or hyperactive-impulsive symptoms are present in two or more settings (e.g. at school [or work] and at home).

D. There is clear evidence that the symptoms interfere with, or reduce the quality of, social, academic, or occupational functioning.

E. The symptoms do not occur exclusively during the course of schizophrenia or another psychotic disorder and are not better explained by another mental disorder (e.g. mood disorder, anxiety disorder, dissociative disorder, personality disorder, substance intoxication or withdrawal).

There are three subtypes; the DSM-5 defines these subtypes as:

Combined presentation:

If both Criterion A1 (inattention) and Criterion A2 (hyperactivity-impulsivity) are met for the past 6 months.

Predominately inattentive presentation:

If Criterion A1 (inattention) is met but Criterion A2 (hyperactivity-impulsivity) is not met for the past 6 months.

Predominately hyperactive-impulsive presentation:

If Criterion A2 (hyperactivity-impulsivity) is met and Criterion A1 (inattention) is not met for the past 6 months. (p. 60)

There are three severities; the DSM-5 defines these severities as:

Mild:

> Few, if any, symptoms in excess of those required to make the diagnosis are present and symptoms result in no more thank minor impairments in social or occupational functioning.
>
> *Moderate:*
>
> Symptoms or functional impairment between "mild" and "severe" are present.
>
> *Severe:*
>
> Many symptoms in excess of those required to make the diagnosis, or several symptoms that are particularly severe, are present, or the symptoms result in marked impairment in social or occupational functioning. (p. 60-61)

As illustrated by the continuum of diagnostic categories, a variety of ADHD student profiles emerge, and it is difficulty to characterize all students with ADHD succinctly. For example, a child could be overly disruptive in the classroom and squirm in his/her chair. Another student with a label of ADHD could appear to be working on an assignment but are really planning what they are going to do during recess. These differences must be kept in mind when suspecting ADHD and working with students, who have been diagnosed with ADHD (DuPaul & Stoner, 2006).

There are multiple methods used in clinically diagnosing individuals with ADHD. Since the behaviors have to be seen across many different environments, many tools and school personnel along with medical professionals are used to aid in diagnosis. In the school environment, a student can be assessed for ADHD tendencies and the effects of tendencies on their success in the educational environment. According to NASP (2005), methods that are used are "formal observations in multiple settings, interviews with the student and relevant adults, rating scales completed by family, teachers, and the individual, developmental, school and

medical histories, and finally formal tests to measure attention, persistence, and related characteristics" (para. 3).

A common measure of behavioral rating scales used in assessing ADHD is called the Behavioral Assessment System for Children (BASC-2). The BASC-2 consists of behavior rating scales to be completed by individuals suspected of having ADHD, their parents, and teachers. The teacher completes a Likert Scale questionnaire that ranges from "Never" to "Almost Always" frequencies of certain behaviors, such as adaptive and maladaptive behaviors observed in the school setting. The parent completes a similar questionnaire that focuses on the frequencies of the behavior at home or in the community. The individual in question also completes a questionnaire that contains true or false questions and some Likert Scale questions. All three of these questionnaires are then graphed (Pearson Education Ltd, 2009).

Another common measure used in the diagnostic assessment of ADHD is the Conner's Rating Scale (Pearson Education Ltd, 2009). The Conner's Rating Scale is an instrument that consists of observer rating and self-rating reports that help assess ADHD. This rating scale also evaluates problem behavior in children and adolescents. It is more focused on ADHD behaviors compared to the BASC-II. Along with help determining if a student is exhibiting ADHD type behaviors, the Conners Rating Scale can also be used as a screener. This rating scale is completed by a variety of individuals. The individuals can include the parents, teachers, care givers and the individual themselves. The school teacher, parent and individual complete a Likert rating scale that is similar to the BASC-II. The results from each rating scale are then compared to determine whether or not the student exhibits ADHD like behaviors or other behavioral disorders that the Conners Rating Scale measures (Pearson Education Ltd, 2009).

Another measurement that is used to assess ADHD includes a computerized task-oriented assessment such as the Conner's Continuous Performance Test (2nd Edition), that measures different parts of an individual's attention such as sustained attention, selective attention, and impulsivity. The individual is required to react to stimuli such as letters and numbers by pressing a space bar or mouse when the stimulus is presented. The stimuli are presented in different intervals. This assessment measures the individual's response rate, reaction time, changes in reaction time speed, consistency, and omission and commission errors. These results are compared to ADHD-like behavior profiles (MHS, 2013).

ADHD in the Classroom

Many of the behaviors that are associated with ADHD are observed in and out of the classroom. The Center of Disease Control and Prevention (CDC) states that children with ADHD might display these types of behaviors in and out of the classroom:

> A hard time paying attention, day dream a lot, not seem to listen, be easily distracted from schoolwork or play, forget things, be in constant motion or unable to stay seated, squirm or fidget, talk too much, not be able to play quietly, act or speak without thinking, having trouble taking turns, and interrupting others. (2006, para. 3)

According to Abikoff et al. (2002 as cited in Hay, Kos, & Richdale, 2006), "While boys with ADHD show significant behavioral problems in the classroom, girls with the disorder are more likely to have predominately inattentive symptoms and are little more disruptive than typically developing children" (p. 148). Though it is typical for children at certain ages to exhibit these types of behaviors, most children will usually outgrow them. The issue arises when it is no longer developmentally typical for these behaviors to be exhibited. Gender differences also exist. In sum, behaviors that are displayed create significant difficulties in functional areas.

ADHD is strongly correlated with academic underachievement, high rates of noncompliance and aggression, and disturbances in peer relationships (DuPaul & Stoner, 2003, p. 75).

Academic performance. Students who exhibit ADHD tend to underachieve academically. They are less engaged academically and exhibit higher rates of off-task behavior especially in independent work time. These students frequently do not achieve to their academic potential, as a result are at a higher risk for grade retention and dropping out of school. They are also less likely to pursue post-secondary education (Clearly et al, 2006).

There are two common hypotheses for why students who exhibit ADHD tend to have lower achievement rates. According to McGee and Shar (1988) (as cited in DuPaul & Stoner, (2003) if a student has difficulties learning, the difficulties lead to ADHD. The authors hypothesize that those children who have difficulties learning in school leads to "chronic academic failure over time causes a child to develop a poor academic self-concept" (DuPaul & Stoner, 2003, p. 77). Because of this poor academic self-concept the student will become less motivated to achieve in the classroom and start to exhibit ADHD tendencies which then leads to an increased amount of underachievement.

The second hypothesis suggests that subsequent behaviors that are displayed by students lead to academic problems. This hypothesis states that because of the lower rates of on-task behaviors during instruction and work time leads to a harder time understanding the topic or concept. This then leads to difficulties in learning. The lack of on-task behavior also leads to the inability to answer questions about the material and unable to complete the material appropriately compared to their same aged peers.

Social difficulties. Students' who exhibit ADHD often times have other difficulties in the school environment in addition to their academic struggles. These students have a hard time

making and maintaining friends. "Some studies have suggested that children diagnosed with ADHD are more likely to be rejected by peers than children with other disruptive behavior disorders" (Feinberg & Frankel, 2002, p. 125-128). A study conducted by Hosa indicated that "children with ADHD were nominated as nonfriends by children of higher social preference and who were better liked by others" (2005, p. 411). These difficulties are related to the problems with impulse control and inattention.

DuPaul and Stoner provide some examples of how the symptoms of ADHD can result in difficulty in making friends. They offer that a student who exhibits ADHD may enter an ongoing activity impulsively without asking permission or not taking inconsideration of the other player. It can also be hard for these types of students to be patient with turn taking which can discourage others from playing with them (2003). Feinberg and Frankel indicated social deficits a child who exhibits ADHD may have:

> Child interviews about hypothetical social situations have revealed that children diagnosed with ADHD think about less friendly and effective, more assertive and impulsive solutions to social problems than their non-ADHD peers. Similarly, they tend to attribute hostile intent, expect future aggression but are prone to gather less information before making their conclusions. (2002, p. 132)

Similarly, it has also been found that children with ADHD are "less likely to change their behavior to fit the social situation (Feinberg & Frankel, 2002, p. 133).

Effects of the ADHD Label on a Student

Corin (as cited in Cornett-Rutz and Hendericks (1993) suggests, "teachers, even without their awareness, may convey negative messages about labeled children to peers, parents, other teachers, and to the labeled child" (p. 349). A study conducted by Cornett-Rutz and Hendericks

(1993, p. 349-355) found that a label of ADHD did not have an effect on teachers and peer evaluations of students rather the behaviors presented by the student seemed have a greater effect on the evaluations. Viewing a tape that had stereotypical behaviors of ADHD seemed to have a more persuasive effect on their evaluations of the students. The peers were able to identify who was different from the other students. The reactions of the teachers and peers were mainly on the individual rather than if they had a label of ADHD. This could have resulted from the fact that the teachers are more educated than teachers from previously completed studies, and that the schools where the participants were taken from had students who exhibited ADHD mainstreamed into the general population classroom. The results from of this study shows that the label of ADHD is not impactful on the evaluation of individuals who have that label, but, the behaviors that are exhibited by students who have ADHD are not ignored and can still have a negative effect when others such as teachers and peers are judging them.

Teachers Perceptions

Several common themes have emerged, related to teacher perceptions of students diagnosed with ADHD, as illustrated in a study by Harrison and Rush (2008). In this study, teachers were given a questionnaire to complete that included possible biases towards ADHD students and the teachers' abilities to educate this population in a mainstream classroom. The teachers indicated certain biases of students who exhibit ADHD. The item that represented this bias was that "I feel forced to inflate grades and/or promote adolescents with ADHD" (Harrison & Rush, 2008, p. 215).

Along with the academic biases, there was also evidence of teachers' general perceptions of students who exhibit ADHD. The perceptions in this area varied from biological aspects of ADHD to how the symptoms manifest in the classroom. Some teachers indicated that ADHD is

biological and that these students are unable to control their behaviors, while other teachers indicated that they believed that students would grow out of ADHD. Other opinions and sentiments expressed by teachers included; students who exhibit ADHD change their behaviors and feelings from class to class and that the students use their diagnosis as an excuse as well as these type of students are not smart enough to take advantages of their services that are being provided.

Harrison and Rush formed two primary conclusions from their study. The first was that teachers develop negative perceptions through the frustrating classroom experiences with these types of students. These perceptions include teachers feeling inadequate in their ability to teach these students in structured classroom. These perceptions also impacted their effectiveness to teach these types of students. "Teachers with negative perceptions about working with adolescents with ADHD may be conceptualizing that the task of working with such students is difficult and uncomfortable because they have not received adequate training on ADHD" (Harrison & Rush, 2008, p. 219). Some of the items on the questionnaire relating to this implication are, that teachers know that these students need more help that they are unable to provide them; they lack helpful materials to help these types of students and are frustrated with amount of challenging students within their classroom (Harrison & Rush, 2008). It was also found that teachers with positive points of view of students with ADHD wanted to have more training in teaching and behavioral management skills for students with ADHD. Responses in this area included "It's a challenge for me to teach adolescents with ADHD" (Harrison & Rush, 2008, p. 214), and "I need more training specifically on adolescents with ADHD" (Harrison & Rush, 2008, p. 215).

The second conclusion was determined from the survey responses that referred to teachers feeling of inadequacy in the special education system itself. The researchers reported an implication from these particular findings that related to the fact that teachers stated that they lack of education related to general training and classroom management strategies when working with these students. "Teachers with negative perceptions about working with adolescents with ADHD may be conceptualizing that the task of working with such students is difficult and uncomfortable because they have not received adequate training on ADHD" (Harrison & Rush, 2008, p. 219). It was also found that teachers with positive point of view of students with ADHD wanted to have more training in teaching and behavioral management skills for students with ADHD.

The frustration reported by teachers in this study on the special education system itself was indicated through the responses "more recommendations for interventions for adolescents with ADHD would be helpful" (Harrison & Rush, 2008, p. 214), and "more communication with the school psychologist would be useful teaching adolescents with ADHD" (Harrison & Rush, 2008, p. 214). The teachers also reported that the interventions that are provided and discussed during the IEP meeting are minimally effective, and cites a lack of communication and understanding between the teacher and school's support staff such as the school psychologist as a possible culprit. This miscommunication may serve as "to quell some of the more negative conceptualization of teachers with more pessimistic views about adolescent students with ADHD as well as propel further more effective efforts by teachers, who have more willingness for working with students with ADHD" (Harrison & Rush, 2008, p. 219).

Additional research supports Harrison & Rush's finding that teachers become frustrated when working with students who exhibit ADHD in the classroom. A study conducted by

Beszterczey et al. (2002) found that general education high school teachers reported greater stress overall in their interactions with students who exhibit ADHD compared to students who do not exhibit ADHD. Of these interactions, there were significantly higher rates of negative interactions with students who exhibit ADHD. Due to behavioral interactions, teachers were required to attend and interact more frequently with these students than the rest of the class. This indicates that teachers show a higher percentage of attention to these students compared to students who do not exhibit ADHD.

Other factors may also play into teachers' perceptions of students with ADHD. The study concluded that the amount of stress displayed by the teachers depended on the behaviors that were displayed by the students with ADHD. The behaviors that created higher levels of stress for teachers were associated with students who exhibit ADHD with higher levels of aggression and oppositional behaviors and/or poor social interaction skills compared to others who exhibit ADHD who do not exhibit those behaviors.

Beszterczey et al. (2002) indicates that these findings could only partially account for the higher levels of stress reported by teachers because of the behaviors that were displayed by students who exhibit ADHD. Another contributing factor for the stress presented by the teachers could have resulted from the compatibility between the student and the teacher instead of the student's ADHD behaviors.

Teacher Training on ADHD

A number of studies have explored the lack of education of teachers in the area of ADHD. Jerome, Gordon, and Hustler (1994) compared American and Canadian practicing teachers amount of knowledge on ADHD and found that both groups had little in-service training on ADHD. Research conducted in Florida examined three different sources general elementary education teachers have access to on ADHD. The three sources included exposure to ADHD, self-study, formal training (pre-service; in-service). It was discovered that half of the 365 participating elementary teachers reported not have some pre-service training on ADHD and one fourth had not received in-service training on ADHD (Bussing, Gary, Leon, Garvan, & Reid, 2002). In the Bussing et al. study, "the 94% of the participants wanted more ADHD training." The teachers also reported low confidence in dealing with the stress related to instructing students with ADHD. The researchers concluded based on their findings that "general education teachers should receive pre-service and in-service ADHD training, including skill-based teaching and stress management." (Bussing et al., 2002, p. 327).

Preschool teachers were assessed on their education, knowledge and perceptions of ADHD through a survey in a study done by Stormont and Stebbins. Of these participants the most common answers for how they learned about ADHD was through a magazine or a journal article. The least common answer was through taking a course specifically on ADHD. Fewer than half reported that they attended an in-service or a workshop on ADHD. This finding is important since "without quality educational experiences, including reading journal articles, with summaries of scientific research, teachers may only be exposed to information from the popular media" (Stormont & Stebbins, 2005, p. 59). The higher amount of education acquired by the individual teacher, the more knowledge the teachers knew of ADHD. The teachers knew some

information about ADHD generally, but did not know as much on the identification process of ADHD. This suggests that the teachers were not trained on how to identify ADHD (Stormont & Stebbins, 2005).

Another study showed the impact of the amount of education and their perceptions of students with ADHD and the services these students use. A teacher's knowledge of ADHD also has an impact on their perceptions of students with ADHD and the type of services that these students receive. Results from a study conducted by Cormier et al. (2008) indicated that teachers who have high to average knowledge of ADHD reported that they were more likely to seek helpful strategies and information to help these types of students as well as seeing the benefit in the services such as interventions being provided. However, these teachers reported that a student with ADHD was more likely to interfere with the classroom and peer relationships compared to other peers. These teachers also indicated that they felt less confident in their ability to manage these children.

School-based Intervention Strategies

School-based interventions are plans or strategies that are used within the classroom and school setting to help reinforce positive behavior that are evidenced-based. There are two types of school-based interventions, classroom and school-wide. Classroom behavioral interventions involve making changes to the events that happen before the target behavior and /or the activities that follow the target behavior (NASP, 2005). Of these interventions the most successful interventions include equal used of antecedent based and consequence based procedures.

School wide interventions are interventions that are established and implemented throughout the whole school. According to DuPaul and Stoner, when an intervention is being constructed for a student who exhibit ADHD, certain guidelines should be followed. The first

guideline suggests that the intervention development, evaluation, and revision are data based activities (DuPaul & Stoner, 2003). When choosing an intervention technique, school personnel should seek empirically supported intervention strategies for students who exhibit ADHD. Additionally, the success of the intervention technique should be monitored and evaluated on an ongoing basis (DuPaul & Stoner, 2003).

Child advocacy is the second guideline to consider when choosing and implementing an intervention. The primary goal of the intervention has to be focused on the child's well-being, rather than making the environment for the teacher easier to teach in. Interventions procedures must be thoroughly identified and defined, as well as implemented with integrity by personnel with clearly delineated responsibilities. The third guideline is that responsibilities should be clearly delineated amongst all parties involved. This ensures that the intervention is being implemented appropriately. The promotion of increased rates of appropriate behavior and/or improved rates of learning is the fourth guideline. This means that the intervention must provide the individual the appropriate way of acting or gain a better understanding of a topic/subject. The intervention should not just decrease inappropriate behavior such as blurting out answers in class (DuPaul & Stoner, 2003). The causes for the behaviors of the identified child, teacher and on the classroom should be unknown is the final guideline. This means that it must not be determined before the intervention is implemented on how it will affect the student, teacher or the classroom environment.

Evidence-based classroom interventions for students with ADHD include; token contingency management strategies such as token economies and behavioral contracts. Contingency management strategies "focus on altering target behaviors primarily through the manipulation of consequences following the occurrence of targeted problem and appropriate

behaviors" (Dupaul & Stoner, 2003, p. 163). The main aspects of behavioral reinforcement include involving secondary reinforcers (token reinforcement) that provide the reward immediately. Specifically, rewards are given when the replacement behavior being presented, and effectiveness that is needed for students who exhibit ADHD. This can increase appropriate classroom behavior and/or academics (DuPaul & Stoner, 2003).

According to DuPaul and Stoner (2003), certain steps must be followed in order to implement a behavioral reinforcement intervention appropriate. The first step includes consulting with the school psychologist and classroom observations to help identify the specific problematic behavior and identify a target behavior. Target behaviors are the behaviors that a teacher would like to replace with a more appropriate behavior. Target behaviors are specific actions the teacher would like the student to take. An example of this could be raising their hand when wanting to ask a question or providing an answer instead of blurting out the question or answer.

Once the target behavior is selected, the types of tokens chosen and "cost" is established. Tokens may include; stickers, poker chips, or points given for tasks completed. The number of tokens that a student may get has to be determined based on the difficulty of the task. The more difficult a task is or the larger amount of time the task should take to complete is worth more tokens then an easier task.

When the type and the value of the tokens are decided, the teacher and the student discuss appropriate activities the student may trade the earned tokens for. A teacher may benefit from discussing this activity with the student's parent to coordinate this intervention at home. The student could then earn tokens at school or at home that could be used in either environment.

In this discussion, the teacher should also explain and demonstrate the appropriate actions to be completed to earn a token. The expectations should be at a very reasonable level in the beginning to ensure early success and buy-in to the intervention. The completion of 50% of a required task for the first couple days of the intervention may be efficient to use and then slowly increase the percentage of completion as time goes by (DuPaul & Stoner, 2003).

The effectiveness of the intervention has to be monitored and evaluated in an ongoing basis. This is done by using multiple outcome measures and consultation between the school psychologist and teacher who are involved in the intervention implementation. These results can then determine if other secondary reinforcers or activities should be added into the program, if any previously determined secondary reinforcers should be eliminated and identify any new target behaviors need to be added into the program as well (DuPaul & Stoner, 2003).

Another type of intervention that has been proven by research to work well with students who exhibit ADHD is having a contingency contract. This type of contract is between the student and the teacher and consists of what is seen as appropriate and inappropriate within the classroom setting. A token reinforcement program is used along with this intervention to help ensure the agreed upon behaviors are exhibited. The reinforcement within this intervention is more delayed than in a (token-reinforcement-only) intervention between the completion of the replacement behavior and the reinforcement (DuPaul & Stoner, 2003).

Self-management strategies are also beneficial for students who exhibit ADHD (DuPaul & Stoner, 2003). These strategies help the student learn self-control. Self-monitoring is the method of teaching the child how to notice and record their own behavior. For example, a student may record how many items he completed on his math assignment during independent work time. The teacher would then check in on the student and provide them with attention for

completing the work. DuPaul and Stoner (2003) state that self-monitoring can also be beneficial for adolescents and organizational skills.

In conclusion, ADHD is a medical diagnosis and is common within the school environment. Medical and scholarly research has recently focused on the causation(s) of ADHD but as yet to determine a definite link to any of the possibilities. Within the diagnostic process of ADHD, multiple tools and school personnel along with medical personnel are involved. School personnel conduct observations and complete rating scales of the student's behavior within the school environment. Overall, there is a higher frequency of ADHD among boys than girls as well as difference between symptoms of ADHD that are typically exhibited.

In the school environment, students who exhibit ADHD can have difficulties learning. There are two possible explanations for the link between the learning difficulties and ADHD. A student may exhibit ADHD because of having difficult time learning. The difficult time learning in the classroom leads to less motivation to achieve. This less motivation to achieve leads to exhibiting ADHD like symptoms in the classroom. The other possibility is that the symptoms that are exhibited by students with ADHD lead to learning difficulties. The inability to pay attention and staying on task leads to the child missing important information which leads to the learning difficulties. Students who exhibit ADHD also tend to have trouble forming as well as maintaining friendships among peers. These difficulties have been reported to result from the exhibited ADHD symptoms and not paying attention to social cues.

There is limited research of how and what teachers' perceptions are of students who exhibit ADHD. Research has shown that the label of ADHD does not lead to teachers and peers having negative views of the student. Rather it is the student's actions that lead to the teachers and peers having a negative view of them.

Teacher's negative perceptions and biases seemed to be linked to their knowledge of ADHD, educational experience and system-wide support they receive in their school district. Research has shown that students who exhibit ADHD are more frustrating and stressful for teachers to teach. These frustrations and stress lead to negative biases and perceptions of these types of students. The frustrations and stress with working with these types of students are based off of having limited knowledge and a perception of an inadequate system-wide support tended to have more negative perceptions and biases against student who exhibit ADHD.

When implemented correctly, there are techniques that teachers can use in the classroom that can be effective with students who exhibit ADHD. Reward-based contingency management strategies such as token economies and behavioral contracts have been seen to be beneficial with students who exhibit ADHD. These strategies require the student to complete a certain amount of tasks that is designated by the teacher in order to earn a prize or a privilege. These strategies reinforce positive behavior exhibited by the student and deemphasize negative behavior. These strategies help rewire the brain to more appropriate behavior. These strategies are helpful for both behavioral and academic issues.

Further understanding and implications of this literature will be identified and discussed through a critical analysis in Chapter Five. Recommendations derived from the literature review and study will also be discussed.

Chapter III: Methodology

Attention and focus issues impact both learning and instruction in the classroom. Most general education teachers deal with students at risk for, or identified with attention-related disorders on a frequent basis in the classroom. However, less is known regarding the amount of training teachers are exposed to, and how this may impact their perceptions of students with ADHD and related issues. This chapter will include a description of the methods used to conduct an online survey of teachers related to perceptions and training for ADHD will be discussed, including participant selection, survey development and distribution. The chapter will conclude with a description of how the data was analyzed, as well as potential limitations of the study.

Participant Selection

The selection of the participants was random and self-selected through an email being sent out to general education teachers in four school districts in the upper rural area of Minnesota in the fall of 2011. Total enrollment for the four districts chosen ranged in number from 600 to 4,000 students. Principals of each school within the four districts were contacted via email. After reviewing the online survey instrument, each principal agreed to distribute the survey among the general education staff in their elementary, middle/intermediate and high schools. In total, the survey was distributed to approximately 300 general education teachers throughout the four districts.

Instrumentation

The online qualitative survey utilized for this study was created with the Qualtrics online survey program, available through the University of Wisconsin-Stout. The researcher developed both multiple choice and Likert Scale items. The multiple choice questions were designed to gather demographic information about the participants. Demographic information that was

requested consisted of gender, level of education, level of grades taught, years of teaching experience, and amount of classes specifically pertaining to teaching students with ADHD in their licensure program and in-services/workshops. Likert Scale styled statements asked about the amount of information the participant knew about Attention Deficit Hyperactivity Disorder (ADHD), their confidence in teaching students with ADHD in the general education classroom, their views on their licensure program preparing them to teach student with ADHD, the support staff (School Psychologists, Special Education teachers, etc.) in their buildings, and the interventions implemented in their classrooms.

Data Collection Procedures

The twenty-three question qualitative online survey was distributed to each principal in the four school districts. The principals then forwarded an email to their general education staff, approximately 300 individuals. Potential respondents were introduced to the researcher and given a brief description of the study. A link to the study was included for those who chose to participate. Participants were also given information related to informed consent (Appendix A), which described in detail, each part of the study (e.g., description of the study, the risks and benefits of taking the online survey, time commitment, the right to withdraw and the confidentiality of their answers). Participants were also assured that their participation in the study was voluntary and confidential. The participants were informed that, by clicking the link, the participant was giving consent to taking the online survey. Of the 300 individuals who received the email, 30 participants completed the survey. Of the 30 participants, 27 reported working in an Elementary school setting (Kindergarten – 8th grade) and 4 reported working in a Secondary school setting (9th grade – 12thgrade).

Data Analysis

Analysis of data collected was conducted using the Statistical Program for Social Sciences (SSPS) version 17.0. Frequencies and percentages were used to analyze survey questions regarding; demographic information such as years worked in an educational setting, grades taught, level of education achieved, and gender. Frequencies and percentages were also used to analyze survey questions regarding the participants' perceptions of their licensure program or continuing education preparing them to teach students with ADHD, their perceptions of teaching students with ADHD, supportive staff being a viable resource and their willingness to use and the success of an intervention in their classroom. Independent T-tests were used to analyze survey questions comparing the participants' perceptions of students with ADHD, views of support staff being a viable resource, and the participants' perceptions of interventions being successful and the willingness to implement an intervention in their classroom regards to years taught in an educational setting, level of education achieved and licensure programs attended having classes specifically focused of ADHD. Cross-tabulations were used to determine if there was a difference between the amounts of classes taken specifically focused on ADHD with participants who have a Bachelor's degree and participants with a Master's degree.

Limitations

There are a number of limitations in this study regarding the selection of participants and overall sample. The study required the principals of the four districts to distribute the email with the survey link within to the general education teachers within their buildings. It is unknown if all of the principals did in fact distribute the email to the general education teachers within their buildings. Therefore, this impacted both the potential overall sampling available to respond to the survey, as well as the likelihood of obtaining a sample that was representative of each of the

four districts. Also, since the sample for the study was obtained from only four districts solely within rural Minnesota and only 30 individuals, it is hard to generalize the findings from this study to the general public.

There are limitations within the survey instrument used in this study as well. The survey instrument used in this study was created by the researcher. Consequently, there are not measures of validity or reliability for this instrument. Also, the survey instrument was centered on having individuals evaluate their abilities in teaching students with ADHD and working with supportive staff in their building. This may have elicited the participants to feel uncomfortable in evaluating their abilities to teach student with ADHD and the support staff they work with, resulting in responding in a socially favorable way. Within the data analysis, a number of survey items were analyzed by frequency and percentages which leads to an open interpretation instead of identifying if true significant correlations and differences exist.

Chapter IV: Results

The purpose of this study was to examine teachers' expectations and possibly stereotypes of students who exhibit Attention-Deficit Hyperactivity Disorder (AD/HD) and that may in turn impact student instruction and learning. Another focus of this study included general education teachers' perceptions of the amount of training they received in their licensure program and/or continuing education on ADHD student profiles and instructional strategies. Finally, this study also examined general education teachers' beliefs regarding supportive staff (special education teachers, school psychologists, etc.) as a viable resource in helping teaching a student with ADHD, their views of classroom interventions being successful and their willingness to implement interventions in the classroom.

An online survey was distributed to approximately 300 general education teachers within four school districts within rural Minnesota. A total of 30 general education teachers completed the survey, indicating a 10% response rate. Survey responses were analyzed both as a whole and after being filtered by specific responses on the demographic questions, depending on the research question being answered. This chapter will report demographic data collected, as well as the statistical analyses that were conducted for each research question.

Demographic Information

The participants in this study consisted of 30 General Education teachers (24 female, 6 male). Of the 30 participants, 7 participants had a Bachelor's Degree and 23 participants had a Master's Degree. At the time of taking the survey, 27 participants were working in an elementary school setting (Kindergarten-8th grade) and 4 participants were working in a secondary school setting (9^{th} grade – 12^{th} grade). 12 participants reported having over 21 years of teaching experience, 3 participants having 15-20 years of teaching experience, 11 participants

having 11- 15 years of teaching experience, 2 participants having 6 -10 years of teaching experience and 2 participants having 1-5 years of teaching experience. Please refer to Table 1 for a complete listing of demographic information.

Research Questions

Research question 1. Do general education teachers have pre-conceived expectations and/or stereotypes about students who exhibit Attention-Deficit Hyperactivity Disorder? Survey questions 13 – 23 contributed to analysis of Research Question 1. To answer this question, the researcher looked at three different categories; the general education teacher's view of the classroom behavior displayed by students with ADHD, the teacher's overall perception of students with ADHD, and the teacher's view of students with ADHD and future success. Each category required participants to rate each item on a 4 point Likert scale from Strongly Disagree to Strongly Agree. All participants answered each items within each of the three categories (n = 30). Each category will be discussed separately.

The first category included the teacher's views of the classroom behavior displayed by students with ADHD. The items that were involved in this category included: #14, #16, #18 and #21. As displayed in Table 4**,** 21 (70%) of participates agreed that students with ADHD are difficult to teach, 2 (6.7%) strongly agreed. The remaining 7 (23%) disagreed. Of the 30 participants, 22 (73%) participants agreed that students with ADHD disrupt others in their classrooms, 6 (20%) participants strongly agreed, while 2 (7%) participants disagreed. 18 (60%) of participants agreed that students with ADHD take more energy to teach, 8 (26.7%) strongly agreed. Three (3) (10%) of participates disagreed, and 1 (3.3%) strongly disagreed. Of the 30 participants, 19 (63.3%) of participants disagreed that students with ADHD will struggle in their classroom when medicated, 11 (36.7%) strongly disagreed. Overall, the majority of participants

reported that students with ADHD are difficult to teach, disrupt others in the classroom, take more energy to teach, and are more successful in their classroom when medicated.

The second category pertained to teacher's overall perceptions of students with ADHD. The following items represented this category: #15, #17, #19, and #23. The results from this category showed that 26 (86.7%) of participants strongly agreed that students with ADHD are successful in the general education classroom and 1 (3.3%) participant agreed. The remaining 3 (10%) participants disagreed that students with ADHD are successful in the general education classroom. Of the 30 participants, 15 (50%) agreed and 1 (3.3%) strongly that students with ADHD tend to be male, while the remaining 14 (47%) of participants disagreed with that statement. All 30 of participants either disagreed (30%) or strongly disagreed (70%) that students with ADHD are not smart. Similarly, all of the participants either disagreed (46.7%) or strongly disagreed (53.3%) that all students with ADHD are in Special Education. In summary, vast majority of participants believe that students with ADHD have potential for academic success, while they were less likely to endorse gender or special education stereotypes for students with ADHD (Table 5).

The final category dealt with the participants' views of students with ADHD and potential for future success. The following items are part of this category: #20 and #22. Results indicated that all of the 30 participates either disagreed (50%) or strongly disagreed that students with ADHD will not be successful in post-secondary education. In the ability to maintain a job in the future, 20 (66.7%) of participants disagreed that students with ADHD will struggle to maintain a job in the future, 7 (23.3%) participants strongly disagreed. There were 3 (10%) participants that agreed that students with ADHD will struggle to maintain a job in the future. To recap, all participants disagreed that students with ADHD will not be successful in post-

secondary education. The majority of the participants disagreed that students with ADHD will struggle maintaining a job in the future (Table 6).

The final analysis of Research Question 1 examined whether or not there was a difference in the average ratings of the general education teachers' expectations and beliefs of students who exhibited ADHD based on years of experience. Participants' answers were split into two different groups and compared (1 – 20 years of teaching experience; 21 years or more of teaching experience). Independent samples t-tests were conducted on each one of the items regarding this research question. Results were considered significant at the .05 level. Results revealed statistical significance between the two groups. The following results have been deemed as statistically significant. Refer to **(**Table 7; Table 8; Table 9) for the full comparison between both groups of all the items. General education teachers' with 21 years or more of teaching experience reported with more frequency and intensity (agree or strongly agree) that students with ADHD are more difficult to teach and will struggle to maintain a job in the future, compared to general education teachers with 1-20 years of teaching experience.

Research question 2. Does the amount of training during licensure programs and/or continuing education on ADHD affect general education teachers' expectations and/or beliefs about student who exhibit ADHD? Survey questions #5, #6 and #9 contributed to analysis of Research Question 2. To answer this question, the study first examined the number of classes taken in the general education teacher's licensure program and/or continuing education that focused on ADHD, and whether or not the participant felt that the licensure program prepared them to teach students with ADHD. All 30 participants answered each item regarding this topic, and responses were analyzed. Frequencies and percentages were calculated for each of these items.

Of the 30 participants, 66.7% reported no ADHD-related classes in their licensure program. There were 26.7% of participants who reported 1 to 3 ADHD-related classes in their licensure program. One participant reported taking 4 to 7 classes on ADHD in their licensure program and one participant reported taking 8 to 10 classes on ADHD. All survey participants were also asked questions relating to continuing education related to ADHD, 50% of participants reported having attended 1 to 3 classes/in-services/seminars addressing ADHD, 23.3% reported having attended 4 to 7 classes/in-services/seminars, and 13.3% of participants reported having attended 8 to 10 classes/in-services/seminars. In total, 86.7% of participants reported having taken some form of continuing education addressing ADHD, while 13.3% of participants reported not having attended any classes/in-services/seminars that addressed ADHD (Table 2).

Question 6 addressed the beliefs about preparedness to teach students with ADHD. 80% of all participants disagreed (50%) or strongly disagreed (30%) that their licensure program had prepared them adequately for teaching students with ADHD. A total of 20% agreed (16.7%) or strongly agreed (3.3%) that their licensure programs did adequately prepare them.

Additional analysis of Research Question 2 was to examine differences between the level of education achieved and the number of classes taken specifically focused on ADHD. Data was again filtered into two different groups based on level of education. A cross-tabulation was calculated for these items between participants with a Bachelor's degree and participants with a Master's Degree or higher. As illustrated on Table 13, cross-tabulation indicated that of the participants' with a Bachelor's Degree, 13.3% reported having no classes specifically addressing ADHD in their licensure programs, while 10% reported 1 to 3 classes. None of the participants with a Bachelor's Degree had more than 3 classes specifically addressing ADHD in their licensure program. Of the participants with a Master's Degree or higher, 53.3% reported having

had no classes in their licensure program specifically addressing ADHD, 16.7% reported 1 to 3 classes, 3.3% reported 4 to 7 classes and 3.3% reported 8 to 10 classes. Overall, survey participants with Master's degrees or higher reported having had more classes pertaining specifically to ADHD in their licensure programs; however, the majority of participants in both groups reported they did not have any classes specifically pertaining to ADHD in their licensure programs.

Further analysis of question 2 examined the amount of classes a general education teacher had specifically focused on ADHD and their views of students with ADHD. Responses were filtered by the number of ADHD-related classes reported (0 classes taken; 1 or more classes taken) and compared. Independent sample t-tests again were used to analyze the data. Results were considered significant at the .05 level. The results indicated no statistical difference perceptions of students who exhibit ADHD between groups based on the amount of classes focused on ADHD (Table 10; Table 11; Table 12).

Research question 3. Do teachers perceive support staff in the school environment (School Psychologists, Special Education Teachers) as a viable resource to use for help in teaching a student with ADHD? Survey questions #25 contributed to analysis of Research Question 3. In order to address this question, the participants answered Likert type questions based on their perceptions of support staff in their buildings as related to support with ADHD-related classroom or student issues. Results indicated that 66.7% of participants agreed that support staff in their building were available to help with a student with ADHD, 20% strongly agreed. There were 10% that disagreed and 3.3% that strongly disagreed. Over half of the participants agreed that support staff in their building were available to help with a student with ADHD (Table 14).

The next analysis of Research Question 3 examined differences between the average ratings of teachers' perceptions of support staff being a viable resource to use for help in teaching a student with ADHD based on the total years of teaching experience. The data was filtered into two different categories (1 – 20 years of teaching experience; 21 years or more of teaching experience). Independent sample t-tests were conducted of both groups. Results were considered significant at the .05 level. Results from the independent sample t-test concluded no statistically significant differences in the average ratings between general education teachers with 1 – 20 years of teaching experience and general education teachers with 21 years or more of teaching experience. This indicates that there was no statistical difference between the amount of years taught and whether or not the participant viewed support staff (school psychologists, special education teachers) as being a viable resource in helping teaching students with ADHD (Table 14).

Final analysis of Research Question 3 examined difference in the average ratings based on the view of support staff being a viable resource for working with students with ADHD and the amount of ADHD- related classes taken. Independent sample t-test was conducted on this item. Results were considered significant at the .05 level. The results from the independent sample t-test were not statistically significant. This indicates that there is no statistical difference based on the amount of ADHD-related classes and the participant's view of support staff in their school as being a viable resource in helping teaching a student with ADHD (Table 16).

Research question 4. How do general education teacher perceptions of support staff in the school environment impact willingness to implement interventions in class? Survey questions 24 and 26 contributed to analysis of Research Question 4. Researchers examined general education teachers' willingness to implement an intervention in their classroom and how

successful the participants thought interventions implemented were. Frequencies and percentages were calculated for each item (Table 17; Table 18**).** Sixty-three point three percent (63.3%) of participants strongly agreed to be willing to try an intervention in their classroom for a student with ADHD suggested by support staff, 36.7% agreed. When asked if the participant found the intervention to be successful, 73.3% of participants agreed that they had found interventions suggested by support staff to be helpful in teaching students with ADHD, 3.3% strongly agreed. There were 16.7% of participants that disagreed and 6.7% that strongly disagreed. Overall, all participants either agreed or strongly agreed that they are willing to try an intervention in their classroom with a student with ADHD. The majority reported that they found the interventions suggested by their support staff being helping in teaching a student with ADHD.

Additional analysis examined differences in the average ratings of willingness to implementing an intervention in the classroom and their views of interventions being successful based on years of teaching experience. Data was filtered into two different groups, 1-20 years of teaching experience and 21 years or more of teaching experience. To determine if there was a difference in average ratings of willingness to implement an intervention in the classroom, independent sample t-test was conducted on both groups. The results indicated that general education teachers with 1-20 years of teaching experience had a higher average rating of willingness to try an intervention in their classroom for a student with ADHD when compared to the general education teachers with 21 years or more of teaching experience, the results were significant at the 0.05 level. This would conclude that a participant with 1 – 20 years of teaching experience would be statistically more willing to implement an intervention in their classroom

for a student with ADHD than a participant with 21 years or more of teaching experience (Table 19).

To examine if there was a difference in average ratings of viewing an intervention implemented being successful based on years of teaching experience, an independent t-test was completed using same groupings (1-20 years of teaching experience; 21 years or more of teaching experience). Results were considered significant at the .05 level. Results from the independent t-test concluded no statistically significant differences in the average ratings between general education teachers with 1-20 years of teaching experience and general education teachers with 21 year or more of teaching experience. This indicates that there was no statistical difference between the amount of years taught and whether or not the participant viewed the implemented intervention as being successful or not (Table 21).

Final analysis of Research Question 4 examined differences in the average ratings of teacher's willingness to implement an intervention and their views of interventions implemented being successful based on amount of ADHD-related classes taken. Groups were filtered by participants who reported no ADHD-related classes in their licensure program and those who reported having at least 1 ADHD-related class in their licensure program. An independent sample t-test was conducted with both groups. Results were considered significant at the .05 level. The results from the independent sample t-test were not statistically significant. There were no differences between the number of classes a participant took in their licensure program that was ADHD-related and the participant's willingness to implement an intervention in their classroom (Table 20; Table 22).

Using the same groups, an independent sample t-test between both groups was conducted. Results were considered significant at the .05 level. Results from this t-test were not

statistically significant. This indicates that there was no difference between the amount of ADHD-related classes a participant took in their licensure program and the participant's opinion on whether or not an implemented intervention was successful or not.

Summary

In conclusion, results from research question #1 found that the majority of participants agreed that students with ADHD are difficult to teach, disrupts others in the classroom, take more energy to teach, and are more successful in their classroom when medicated. Participants with 21+ years of experience rated higher in agreeing statistically that students with ADHD are more difficult to teach and will struggle to maintain a job in the future. There was no statistical significant difference between the amount of classes taken in a licensure program that were ADHD-related and a participant's expectations and/or stereotypes of a student with ADHD.

Results from research question 2 concluded that half of the participants reported attending 1 to 3 classes/in-services/seminars regarding ADHD. Cross-tabulations were calculated between participants with a Bachelor's degree and participants with a Master's degree with the amount of classes taken in their licensure program that had ADHD-related classes. Results found that overall, in both groups; the majority of participants had no ADHD-related classes. However, participants with a Master's degree did have more ADHD-related classes.

The results generated for research question 3 indicated that over half of the participants agreed that support staff in their building were available to help with a student with ADHD. There was no statistical difference between the amount of years of teaching experience and their view of support staff being a viable resource in helping teach a student with ADHD.

The results from research question 4 concluded that the majority of participants reported that they found the interventions suggested by their support staff being helpful in teaching a

student with ADHD. There was a statistical significance in that participants with 21+ years of experience had a lower level of agreeing of their willingness in implementing an intervention in their classroom. There was no statistical significant difference between the amount of ADHD-related classes taken in a licensure program and whether or not an implemented intervention was seen as successful or not. A discussion of the findings and a comparison to the literature will be conducted in Chapter Five.

Chapter V: Discussion

This chapter will summarize the general findings of this research project. Research findings in teachers' expectations and possibly stereotypes of students who exhibit Attention-Deficit Hyperactivity Disorder (AD/HD) and general education teachers' perceptions of the amount of training they received in their licensure program and/or continuing education on ADHD student profiles and instructional strategies will be summarized. Also, general education teachers beliefs regarding support staff (special education teachers, school psychologists, etc.) as a viable resource in helping teaching a student with ADHD, their views of classroom interventions being successful and their willingness to implement interventions in the classroom will also be summarized. Limitations of this study, implications for further research, implications for practice, and research conclusions will also be discussed.

Discussion of Findings

This particular study focused on a random selected group of general education teachers from upper rural Minnesota. An approximately total of 300 general education teachers were invited to participate and a total of 30 completed the survey, a response rate of 11%. There were four research questions within this study. The first research question examined general education teachers' expectations and possible stereotypes of students who exhibited ADHD. The three categories analyzed within this research question included general behaviors displayed by students with ADHD, general education teachers' overall perceptions of students with ADHD and views of students with ADHD and their potential for future success. Findings showed that within the classroom behavior displayed by students with ADHD, the majority of the participants agreed that students with ADHD are difficult to teach, disrupt others in the classroom, take more energy to teach and are more successful in the classroom when medicated. Within the category

of overall perceptions of ADHD, findings showed that a vast majority of participants believe that students with ADHD have potential for academic success and were less likely to endorse any gender or special education stereotypes for students with ADHD. When looking at the general education teachers' views of students with ADHD and potential future success, all participants disagreed with the statements that students with ADHD will not be successful in post-secondary education and struggle to maintain a job in the future. These participates continue to support the research of teaching students with ADHD being difficult and stressful (Harrison & Rush, 2008; Beszterczey et al., 2002), however, the positive response on the outlook for a student with ADHD's future may indicate some changes in the overall perceptions of these individuals potential. Further analysis was conducted comparing years of experience within this research question and were deemed statistically significant. General education teachers with 21 years of experience or more reported with more frequency and intensity (agree or strongly agree) that students with ADHD are more difficult to teach and will struggle to maintain a job in the future compared to general education teachers with 20 years of experience or less.

The second research question looked into general education teachers' training and if it impacted their expectations and/or beliefs of students with ADHD. Findings found that 66.7% of participants reported no ADHD-related classes in their licensure program. In total, 86.7% of participants reported not having attended any classes/in-services/seminars that addressed ADHD. When looking at the beliefs of preparedness to teach students with ADHD, 80% of the participants either disagreed or strongly disagreed that their licensure program prepared them to teach students with ADHD. Further analysis was conducted to see if there was a difference between the level of education achieved and the amount of ADHD-related classes taken. The results from the cross-tabulation indicated that participants with a Master's degree or higher

reported having more classes pertaining to ADHD; however, majority of the participants reported not having any classes specifically focused on ADHD. These findings further support the growing need of ADHD training in general education pre-service training (Bussing et al., 2002; Harrison & Rush, 2008; Jerome et al., 1994). Analysis was also completed to determine if there was a correlation between the amount of ADHD-related classes and views of students with ADHD which deemed no statistical difference between the two groups.

The third research question looked into general education teachers' perceptions of their support staff (School Psychologists, Special Education teachers) as a viable resource to use to help in teaching students with ADHD. Results found that 66.7% of the participants agreed that their support staff were available to help with a student with ADHD. Analysis was also completed to examine the differences between the average ratings of teachers' perceptions of support staff being a viable resource based on years of experience and based on the amount of ADHD-related classes. In both cases, results did not reveal any statistical difference.

The fourth and final research question examined within this study examined how the perceptions of the support staff in the school environment impacted willingness to implement interventions in class. Results indicated that 63.3% strongly agreed to be willing to try an intervention in their classroom and 73.3% found the interventions to be successful. Additional analysis was conducted to examine the differences in the average ratings of willingness to implement an intervention in the classroom and their views of interventions being successful based on the years of experience. Statistical significant results concluded that general education teachers with 1-20 years of experience are statistically willing to implement an intervention in their classroom for a student with ADHD compared to general education teachers with 21 or more years of experience. There was no statistical difference found between the amount of

teaching experience and the participants' view of an implemented intervention being successful. Overall, general education teachers continue to request education and support with teaching students with ADHD and indicate willingness to implementing interventions (Harrison & Rush, 2008; Bussing et al., 2002).

Limitations

There are a number of limitations in this study regarding the selection of participants and overall sample. The study required the selection of the participants through a survey link sent out by the principals in the four participating school districts. The inability to guarantee if the survey link was distributed impacted both the potential overall sampling available to respond to the survey, as well as the likelihood of obtaining a sample that was representative of each of the four districts. The sample for the study was obtained from only four districts solely within rural Minnesota and only 30 individuals; it is hard to generalize the findings from this study to the general public.

There were also limitations within the survey instrument used in this study. The survey instrument used in this study was created by the researcher. Consequently, there are not measures of validity or reliability for this instrument. Also, the survey instrument was centered on having individuals evaluate their abilities in teaching students with ADHD and working with supportive staff in their building. This may have elicited the participants to feel uncomfortable in evaluating their abilities to teach student with ADHD and the support staff they work with, resulting in responding in a socially favorable way. Within the data analysis, a number of survey items were analyzed by frequency and percentages which leads to an open interpretation instead of identifying if true significant correlations and differences exist.

Implications for Future Research

There are many areas of research that can be continue to be further analyzed. Due the small sample in this survey and limitations around generalizability, conducting a similar study with a larger wide –spread sample would provide a better understanding of general education teachers' perceptions of students with ADHD, support staff and the implementation of interventions when working with students with ADHD. Gaining knowledge in these areas will help other school personnel such as school psychologists be able to determine more effective ways to consult and help general education teachers be more effective in the classroom when working with students with ADHD.

Research should also be conducted in the training of general education teachers in the area of ADHD. This research could lead to a better understanding of the difficulties general education teachers are faced with children with AD/HD type behaviors in the classroom. By gaining a better understanding, training programs would then be able to start tailoring pre-service programs fill the void that has become apparent by adding appropriate classes on interventions strategies, stress management, etc.

Implications for Practice

The results from this study have provided a variety of different implications for practice. School district personnel should provide general education teachers more training and education in the area of AD/HD. This education and training can be provided through in-services with professionals who specialize in AD/HD in general, the diagnostic process, IEP, and interventions. Research has shown that teachers with more education are more confident in their ability to teach these types of students. Also, these confident teachers are also more willing to

seek information and strategies to use with these students. By providing this knowledge, frustration levels may reduce and can lead to more positive perceptions of students with ADHD.

Another recommendation is for support staff such as school psychologists and special education teachers to provide more support for the general education teachers. The support staff such as the school psychologist should have an active role with consulting and working with the teacher in interventions strategies and the implementation of the interventions. School psychologists should also be in an active role in the modification of the interventions strategies to make them more effective and successful.

Finally, within the licensing programs, general education teachers should be taught about ADHD and how to teach these kinds of students such as basic difficulties these students deal with in the classroom, types of interventions and who to consults with if having issues. With the prevalence of students with ADHD being in the general education setting, general education teachers need to be provided the tools to be able to teach students with ADHD successfully even before being in their own classroom. This would create a more educated and capable teacher who can provide a better education for students with AD/HD and other students

Conclusion

Overall, ADHD is the most commonly diagnosed behavior disorder among children and adolescents. Current research found that teaching these types of students in the general education classroom come with a variety of unique challenges for the general education teacher. This study investigated general education teachers' perceptions of students with ADHD. The participants reported that student with ADHD were more difficult to teach, took more energy and disrupted the classroom.

Through reviewing the literature, it was discovered that general education teachers are not always provided the appropriate information and tools to help them teach students with ADHD by either their pre-service licensure program or in-service programs. This lack of information can create a higher frustration level in teaching students with ADHD and can lead to possibly developing a negative perception of students with ADHD. The study found that over half of the participants did not take any ADHD-related classes in their pre-service programs and 80% reported that their licensure program did not prepare them to teach students with ADHD.

Support staff such as school psychologists and special education teachers is critical in helping general education teachers with teaching students with ADHD in creating a successful learning environment with the implementation of interventions. The participants in this study reported their support staff were available to help them with teaching students with ADHD. The majority of the participants were also willing to implement interventions in their classroom and found them to be successful. General education teachers with 1-20 years of teaching experience reported statistically higher amount of willingness to implement an intervention.

Conducting a similar more wide-spread study would provide a better understanding of general education teachers' perceptions of students with ADHD, support staff and the implementation of interventions when working with students with ADHD would be beneficial. Support staff such as school psychologists would be able to use the information to determine more effective ways to consult and help general education teachers be more effective in the classroom when working with students with ADHD. Also, research in training of general education teachers in the area of ADHD would also be beneficial to better understanding of the difficulties general education teachers are faced with teaching students with ADHD. This

research could also lead to reshaping the licensure programs and in-service programs to better prepare general education teachers in teaching students with ADHD.

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Appendix A
Online Survey

General Education Teachers' Views and Perceptions of Students who Exhibit Attention Deficit Hyperactivity Disorder

The following questions will ask you to complete some demographic information

Gender

Male Female

Highest Level of Education achieved

Bachelor's Master's Doctorate

In your licensure program, how many classes did you have on Attention Deficit Hyperactivity Disorder?

None 1-3 4-7 8-10 <11

Your licensure program prepared you to teach students with Attention Deficit Hyperactivity Disorder

Strongly Disagree Disagree Agree Strongly Agree

How many years total have you taught in a K-12 setting?

1 – 5 6-10 11-15 15-20 >21 years

Please circle the grade level you are currently teaching (circle all that apply)

Elementary (K-8) Secondary (9-12)

In your teaching career, how many classes/in-services/seminars have you attended that specifically addressed Attention Deficit Hyperactivity Disorder (ADHD)?

0 1–3 4-7 8-10 >11

These next questions relate to you own views and perceptions about students with ADHD. Please read each statement and then mark the description that best matches your opinion

You are very knowledgeable about Attention Deficit Hyperactivity Disorder (ADHD)

Strongly Disagree Disagree Agree Strongly Agree

You are knowledgeable about Attention Deficit Hyperactivity Disorder (ADHD)

Strongly Disagree Disagree Agree Strongly Agree

You are not knowledgeable about Attention Deficit Hyperactivity Disorder (ADHD)

Strongly Disagree Disagree Agree Strongly Agree

Students with Attention Deficit Hyperactivity Disorder are difficult to teach

Strongly Disagree Disagree Agree Strongly Agree

In your classroom, students with Attention Deficit Hyperactivity Disorder are successful

Strongly Disagree Disagree Agree Strongly Agree

Students with Attention Deficit Hyperactivity Disorder disrupt others in your classroom

Strongly Disagree Disagree Agree Strongly Agree

Students with Attention Deficit Hyperactivity Disorder tend to be male

Strongly Disagree Disagree Agree Strongly Agree

Students with Attention Deficit Hyperactivity Disorder take more energy to teach

Strongly Disagree Disagree Agree Strongly Agree

Student with Attention Deficit Hyperactivity Disorder are not smart

Strongly Disagree Disagree Agree Strongly Agree

Students with Attention Deficit Hyperactivity Disorder will not be successful in post-secondary education

Strongly Disagree Disagree Agree Strongly Agree

Students with Attention Deficit Hyperactivity Disorder will struggle to maintain a job in the future

Strongly Disagree Disagree Agree Strongly Agree

Students with Attention Deficit Hyperactivity Disorder are successful in your classroom when medicated

Strongly Disagree Disagree Agree Strongly Agree

All students with Attention Deficit Hyperactivity Disorder are in Special Education

Strongly Disagree Disagree Agree Strongly Agree

You are willing to try an intervention in your classroom for a student with Attention Deficit Hyperactivity Disorder

Strongly Disagree Disagree Agree Strongly Agree

The support staffs in your building (School Psychologists, Special Education Teachers) are available to help with a student with Attention Deficit Hyperactivity Disorder

Strongly Disagree Disagree Agree Strongly Agree

You have found that an intervention suggested by support staff to be helpful in teaching students with Attention Deficit Hyperactivity Disorder

Strongly Disagree Disagree Agree Strongly Agree

Appendix B
Tables

Table 1

Participant Demographics

Demographic	n	%
Gender		
Male	6	20
Female	24	80
Highest Degree Held		
Bachelors	7	23
Masters	23	77
Doctorate	0	0
Current Teaching Placement		
Elementary (K-8th)	27	90
Secondary (9th-12th)	4	13
Years Worked in an Educational Setting		
1 -5 year(s)	2	7
6-10 years	2	7
11-15 years	11	37
15-20 years	3	10
>21 Years	12	40

Table 2

Amount of classes taken in licensure program specifically related to ADHD

Amount of classes taken in licensure program	n	%
0 classes	20	67
1 – 3 classes	8	27
4-7 classes	1	3
8-10 classes	1	3
>11 classes	0	0

Table 3

Amount of classes/in-services/seminars attended specifically addressed ADHD

Amount of classes/in-services/seminars attended	n	%
0	4	13
1 -3	15	50
4-7	7	23
8-10	4	13
>11	0	0

Table 4

General Education Teachers' views of the classroom behavior displayed by students with ADHD

Classroom Behavior	n	%
Students with ADHD are more difficult to teach		
Disagree	7	23.3
Agree	21	70
Strongly Agree	2	6.7
Students with ADHD disrupts others in the classroom		
Disagree	2	6.7
Agree	22	73.3
Strongly Agree	6	20
Students with ADHD take more energy to teach		
Strongly Disagree	1	3.3
Disagree	3	10
Agree	18	60
Strongly Agree	8	26.7
Students with ADHD will struggle in your classroom when medicated		
Strongly Disagree	15	50
Disagree	15	50

Table 5

General education teachers' overall perceptions of students with ADHD

Overall perceptions of students with ADHD	n	%
Students with ADHD are successful		
Disagree	3	10
Agree	26	86.7
Strongly Agree	1	3.3
Students with ADHD tend to be male		
Disagree	15	50
Agree	14	46.7
Strongly Agree	1	3.3
Students with ADHD are not smart		
Strongly Disagree	21	70
Disagree	9	30
Students with ADHD are in Special Education		
Strongly Disagree	16	53.3
Disagree	14	46.7

Table 6

General Education teachers' views of students with ADHD and being successful in their future

Views of students with ADHD and being successful in their future	n	%
Students with ADHD will not be successful in post-secondary education		
Strongly Disagree	15	50
Disagree	15	50
Students with ADHD will struggle to maintain a job in the future		
Strongly Disagree	7	23.3
Disagree	20	66.7
Agree	3	10

Table 7

Independent t-test Results: General Education Teachers' views of the classroom behavior displayed by students with ADHD based on years of teaching experience*

Classroom Behavior	n	Mean	Sig. (2-tailed)
Students with ADHD are more difficult to teach			
1 – 20 Years	18	2.67	.033
21 Years or more	12	3.08	**.017**
Students with ADHD disrupts others in the classroom			
1 – 20 Years	18	3.06	.312
21 Years or more	12	3.25	.296
Students with ADHD take more energy to teach			
1 – 20 Years	18	2.94	.146
21 Years or more	12	3.33	.111
Students with ADHD will struggle in your classroom when medicated			
1 – 20 Years	18	1.56	.295
21 Years or more	12	1.75	.284

* Results highlighted in bold indicate statistically significant results at 0.05 level

Table 8

Independent t-test Results: General education teachers' overall perceptions of students with ADHD based on years of teaching experience*

Overall perceptions of students with ADHD	n	Mean	Sig. (2-tailed)
Students with ADHD are successful			
1-20 Years	18	3.00	.227
21 Years or more	12	2.83	.242
Students with ADHD tend to be male			
1-20 Years	18	2.56	.799
21 Years or more	12	2.50	.811
Students with ADHD are not smart			
1-20 Years	18	1.17	.053
21 Years or more	12	1.50	.073
Students with ADHD are in Special Education			
1-20 Years	18	1.33	.077
21 Years or more	12	1.67	.080

* Results highlighted in **bold** indicate statistically significant results at 0.05 level

Table 9

Independent t-test Results: General Education teachers' views of students with ADHD and being successful in their future based on years of teaching experience*

Future views of students with ADHD	n	Mean	Sig. (2-tailed)
Students with ADHD will not be successful in post-secondary education			
1-20 Years	18	1.39	.146
21 Years or more	12	1.67	.146
Students with ADHD will struggle to maintain a job in the future			
20 Years	18	1.67	.016
21 Years or more	12	2.17	**.009**

* Results highlighted in **bold** indicate statistically significant results at 0.05 level

Table 10

Independent t-test Results: General Education Teachers' views of the classroom behavior displayed by students with ADHD based on amount of classes taken in licensure program specifically focused on ADHD*

Classroom Behavior	n	Mean	Sig. (2-tailed)
Students with ADHD are more difficult to teach			
0 Class	20	2.80	.635
1 Class or more	10	2.90	.647
Students with ADHD disrupts others in the classroom			
0 Class	20	3.20	.317
1 Class or more	10	3.00	.401
Students with ADHD take more energy to teach			
0 Class	20	3.05	.595
1 Class or more	10	3.20	.573
Students with ADHD will struggle in your classroom when medicated			
0 Class	20	1.55	.193
1 Class or more	10	1.80	.169

* Results highlighted in **bold** indicate statistically significant results at 0.05 level

Table 11

Independent t-test Results: General education teachers' overall perceptions of students with ADHD based on amount of classes taken in licensure program specifically focused on ADHD*

Overall perceptions of students with ADHD	n	Mean	Sig. (2-tailed)
Students with ADHD are successful			
0 Class taken	20	2.95	.730
1 Class taken or more	10	2.90	.711
Students with ADHD tend to be male			
0 Class taken	20	2.55	.826
1 Class taken or more	10	2.50	.818
Students with ADHD are not smart			
0 Class taken	20	1.35	.4.16
1 Class taken or more	10	1.20	.394
Students with ADHD are in Special Education			
0 Class taken	20	1.40	.317
1 Class taken or more	10	1.60	.327

* Results highlighted in **bold** indicate statistically significant results at 0.05 level

Table 12

Independent t-test Results: General Education teachers' views of students with ADHD and being successful in their future based on amount of classes taken in licensure program specifically focused on ADHD*

Future views of students with ADHD	n	Mean	Sig. (2-tailed)
Students with ADHD will not be successful in post-secondary education			
0 Class taken	20	1.55	.456
1 Class taken or more	10	1.40	.461
Students with ADHD will struggle to maintain a job in the future			
1 Class taken	20	1.90	.659
1 Class taken or more	10	1.80	.614

* Results highlighted in **bold** indicate statistically significant results at 0.05 level

Table 13

Cross-tabulation Results: Differences in amount of classes taken specifically focused on ADHD based on education level

Level of Education		0 Classes taken	1 or more classes taken
Bachelors Degree	n	4	3
	%	13.3	10
Masters Degree	n	16	7
	%	53.3	23.3

Table 14

General Education teachers' view of support staff (School Psychologist, School Counselors) being available to help with teaching students with ADHD

Teachers' view of support staff being available	n	%
Strongly Disagree	1	3.3
Disagree	3	10
Agree	20	66.7
Strongly Agree	6	20

Table 15

Independent t-test results: General Education teachers' view of support staff (School Psychologist, School Counselors) being available to help with teaching students with ADHD based on years or teaching experience*

Teachers' view of support staff being available	n	Mean	Sig. (2-tailed)
1-20 Years	20	3.06	.828
21 Years or more	10	3.00	.807

* Results highlighted in **bold** indicate statistically significant results at 0.05 level

Table 16

Independent t-test results: General Education teachers' view of support staff (School Psychologist, School Counselors) being available to help with teaching students with ADHD based on amount of classes taken in licensure program specifically focused on ADHD*

Teachers' view of support staff being available	n	Mean	Sig. (2-tailed)
0 Class taken	20	3.05	.851
1 Class taken or more	10	3.00	.827

* Results highlighted in **bold** indicate statistically significant results at 0.05 level

Table 17

General Education teachers' willingness to implement an intervention in their classes

Teachers' willingness	n	%
Agree	11	36.7
Strongly Agree	19	63.3

Table 18

General Education teachers' perceptions of interventions implemented being successful

Teachers' perceptions of successful interventions	n	%
Strongly Disagree	2	6.7
Disagree	5	16.7
Agree	22	73.3
Strongly Agree	1	3.3

Table 19

Independent t-test results: General Education teachers' willingness to implement an intervention based on years of teaching experience*

Teachers' willingness	n	Mean	Sig. (2-tailed)
1-20 Years	18	3.78	**.046**
21 Years or more	12	3.42	.058

* Results highlighted in **bold** indicate statistically significant results at 0.05 level

Table 20

Independent t-test results: General Education teachers' willingness to implement an intervention in their classroom based on amount of classes taken in licensure program specifically focused on ADHD*

Teachers' willingness	n	Mean	Sig. (2-tailed)
0 Class taken	20	3.65	.797
1 Class taken or more	10	3.60	.802

* Results highlighted in **bold** indicate statistically significant results at 0.05 level

Table 21

Independent t-test results: General Education teachers' perceptions of interventions implemented being successful based on years of teaching experience*

Teachers' perceptions of successful interventions	n	Mean	Sig. (2-tailed)
1-20 Years	18	2.67	**.**494
21 Years or more	12	2.83	.441

* Results highlighted in **bold** indicate statistically significant results at 0.05 level

Table 22

Independent t-test results: General Education teachers' perceptions of interventions implemented being successful based on amount of classes taken in licensure program specifically focused on ADHD*

Teachers' perceptions of successful interventions	n	Mean	Sig. (2-tailed)
0 Class taken	20	2.70	.694
1 Class taken or more	10	2.80	.692

* Results highlighted in **bold** indicate statistically significant results at 0.05 level