LEADERSHIP INITIATIVES FOR SCHOOL REFORM:

MODIFICATIONS TO SCHOOL PRACTICE

TO COMBAT "ATTENTION-DEFICIT

HYPERACTIVITY DISORDER

LIKE" BEHAVIOR

Lynda B. Leavitt, B.S., M.A.

A Project Presented to the Faculty of the Graduate
School of Saint Louis University in Partial
Fulfillment of the Requirements for the
Degree of Doctor of Education

2003

UMI Number: 3102910

ProQuest Information and Learning Company
300 North Zeeb Road
P.O. Box 1346
Ann Arbor, MI 48106-1346

LEADERSHIP INITIATIVES FOR SCHOOL REFORM: MODIFICATIONS TO SCHOOL PRACTICE TO COMBAT "ATTENTION-DEFICIT HYPERACTIVITY DISORDER LIKE" BEHAVIOR

Lynda B. Leavitt, B.S., M.A.

An Abstract Presented to the Faculty of the Graduate
School of Saint Louis University in Partial
Fulfillment of the Requirements for the
Degree of Doctor of Education

2003

ABSTRACT

Three to five percent of the United States school population or approximately two million children and adolescents are labeled as having Attention-Deficit Hyperactivity Disorder. Individuals who are diagnosed with this disorder have had six or more symptoms of inattention and hyperactivity, impulsivity over a period of at least six months. Many of these children have difficulty completing their assignments, seem to display the urge to fidget with their hands or feet, and at times tend toward impulsive and aggressive behavior.

In Thom Hartmann's book, *Beyond ADD, Hunting for Reasons in the Past and Present*, he cites school design as a major factor in the increase of children being diagnosed with Attention-Deficit Hyperactivity Disorder. Hartmann states, "It's no surprise that children are coming out of American public schools deprived of their critical thinking skills and missing the ability to analyze complex problems or understand the details of far-reaching political issues." Dr. Sousa in his book, *How the Special Needs Brain Learns*, writes that "Some children diagnosed with Attention-Deficit Hyperactivity Disorder simply have the symptoms which mimic the disorder, but they do not have the disorder. There are some other factors that produce Attention-Deficit Hyperactivity Like symptoms. Their behavior looks like Attention-Deficit Hyperactivity Disorder, but these children may benefit more from being taught the appropriate behavior than from medication."

The intent of this research was to show a correlation between the independent variables of teacher demographics, teaching style, school environment, demographics of the classroom, and teacher knowledge with the dependent variable, Attention-Deficit Hyperactivity Disorder Like behavior. Teachers completed a sixty-question survey that addressed the five independent variables. The Pearson Product correlation analysis was used to explore the relationship between the dependent and independent variables.

COMMITTEE IN CHARGE OF CANDIDACY:

Professor Richard Breslin,
Chairperson and Advisor

Associate Professor Hisako Matsuo

Professor Ronald Rebore

DEDICATION

To Dan, Shelby, Kelly and Andrew; thank you for your unwavering support.

TABLE OF CONTENTS

LIST OF TABLES

Chapter I

SUMMARY OF THE PROBLEM

Background of the Research

During the last two decades, children have increased their need to rush. They hurry to get ready for school in the morning, they hurry to get their work completed at school, they hurry to eat lunch, and they hurry to catch the bus to go home. When they get home they hurry to get to their next activity: sports, music lessons, etc. After their activity, they drive through the fast-food restaurant to get something to eat in a hurry, then they hurry to get their homework done so they can hurry to get some rest so they can wake up and begin all over again! As DeGrandpre (1999) states, "We're either in a rush, or rushing to rush some more."

This constant state of excitement leads to what Elkind (1988) refers to as "the hurried child." In today's society more and more children are incapable of staying still for more than a few minutes; have difficulty concentrating on one task for an extended length of time, and exhibit difficulty in organizing materials and task completion Even during their "down-time," children partake in high-stimulation activities such as computer games, video games, and television, sometimes for hours at a time. As a society we have to wonder if all of this excitement has produced children who are physically incapable of slowing down.

With all of this rushing and opportunity for "rapid-fire" (DeGrandpre, 1999) stimulation so prevalent in our society today, we are finding teachers and administrators

encountering more and more children who are incapable of performing in the factory-model environment of education. (DeGrandpre, 1999)

Attention-Deficit Hyperactivity Disorder, (ADHD), is included within the special education services category of Other Health Impaired. There has been a substantial increase in this category which includes ADHD students over the past twelve years in the United States. In 1988-1989 there were only 50,000 students diagnosed as Other Health Impaired compared to 253,000 students in the 1999-2000 school year. (National Center for Education Statistics, 2002)

The educational system in the new millennium is the same system of the fifties and sixties. Most of the classrooms have desks set in rows and teachers that are lecturing in the front of the classroom while twenty-five students are trying their best to sit still, listen, and learn. Many of these children have had difficulty completing their in-class and homework assignments. They also have had a difficult time keeping track of their assignments, displayed the urge to fidget with their hands or feet, and at times tend towards impulsive and possibly aggressive behavior. They are what teachers and administrators refer to as children with Attention-Deficit Hyperactivity Disorder; children who, more often than not, have received medication to "control" themselves so they are better able to stay on task and complete assignments. Our educational system today has failed so many of our children. We are not looking at the needs of today's children but are thinking of the way school was, what worked back then. As school leaders we must remember that "doing school" is not about what worked when we grew up, but about what type of school practices will work for the children of this generation.

Thom Hartmann in, *Beyond ADD, Hunting for Reasons in the Past and Present*, cited school design as a major factor in the increase of children being diagnosed with Attention-Deficit Hyperactivity Disorder. He stated "That it's no surprise that children are coming out of American public schools deprived of their critical thinking skills, and missing the ability to analyze complex problems or understand the details of far-reaching political issues." He stated that "Our system was designed to do exactly as it does today. There is the need to remind ourselves that at one time the public school system produced women to be homemakers and men to take roles in the military; our world is much different today, and so are our students." (Hartmann, 1996)

Our educational system frowns upon nonconformists. Talented children, due to their giftedness, have difficulty with sitting in the same room, in the same chair, listening to the same teacher lecture day after day. Students of today are struggling with the current educational system. Because our system has had difficulty with these high-spirited (some may refer to them as hyperactive) children, we felt the need to label them with Attention-Deficit Hyperactivity Disorder and prescribe medication to help them comply with our educational system. (Hartmann, 1996)

Another reason teachers as well as administrators have found the need to diagnose and refer students for medication is that our educational system is overworked, overcrowded, understaffed, and underpaid. It becomes much easier to blame the child--"Johnny is having difficulty completing his assignments because he has a neurological disorder"-- than to look to ourselves for answers. Classroom management becomes easier for the teacher after the child has been medicated. It is much easier to deal with conformity than to deal with hyperactivity, impulsivity, and inattentiveness. "Educators

have found it both convenient and useful to label, blame and medicate students rather than pay to teach them." (Hartmann, 1996)

There have been improvements in modifying the factory-model to meet the needs of our students. Incorporating new theories of education: differentiation, learning styles, hands-on instruction, and working in cooperative groups are a start, but these are just touching the tip of the iceberg. To understand today's student, we need to look at the whole child. We need to understand what is different; we need to understand the dynamics and makeup of the child labeled Attention-Deficit Hyperactivity Disordered.

Administrators and teachers as well as the medical profession diagnose our children with Attention-Deficit Hyperactivity Disorder. There have been no proven medical studies linking the symptoms of Attention-Deficit Hyperactivity Disorder to a brain malfunction. What is labeled as a disorder is nothing more than a neurological development. There is no particular area of the brain to which we can point and say, "Look, there is the disorder." "Although researchers continue to search for the Holy Grail of a definitive test for ADHD, success has eluded them. "Brain imaging, tests for lead and thyroid hormone levels and computerized tests of continuous performance have all been touted as diagnostic, but none of them yield a definitive picture." (Baron, 1996)

The environment is capable of producing changes in the brain and nervous system. (Breggin, 1998) Sydney Walker III, M.D., in *The Hyperactivity Hoax* cited that "Hyperactivity is not a disease, it's a hoax perpetuated by doctors who have no idea what's really wrong with these children." Walker stated that Hyperactivity and attention deficits are merely symptoms and that we should all be asking ourselves what is causing so many of our children to be hyperactive or to have attention deficits. "The assumption

that disease exists is important because it has major implications for the way we approach treatment. If we assume there is a disease, treatment takes the direction of medication coupled with the assistance of a few behavioral helping aids. If we assume no disease, medication isn't really necessary and well-designed behavioral methods should work alone." (Stein, 1999) Instead of asking these questions, administrators and teachers refer parents to doctors who diagnose more and more children each year with Attention-Deficit Hyperactivity Disorder and prescribe Type II medications, which have serious and harmful side effects. Using drugs to mask children's symptoms allows the underlying conditions to perpetuate and sometimes even become worse. (Walker, 1998) Stein said, that "Mind-altering drugs are not the right way to teach children to learn and behave." Educators, parents, and medical professionals contribute to the diagnosis of a disorder that is an alternative neurological makeup dependent upon the changing makeup of today's society and "rapid-fire" culture. (DeGrandpre, 1999)

The number of students who are diagnosed with Attention-Deficit Hyperactivity Disorder, who are under the care of a psychiatrist/psychologist, and who are currently taking menthylpenidate (Ritalin) as a cure for this perceived disorder has risen over the last ten years. Teachers and administrators have bought into a pharmacological- and psychological- induced hysteria, leading to an increased phenomenon of labeling children with ADHD and encouraging the use of the stimulant drug Ritalin. "On any given day in Virginia Beach, nearly 20% of the young and privileged are on Ritalin, many of them needlessly, says pediatric psychologist, Gretchen LaFever, Ph.D." (Carle, 2000) As teachers and administrators who participate in the identification of this disorder through checklists and behavior rating scales, it seems the question should be, are educators "bent

in explaining, medicating, and accommodating manipulative behavior or do they want to change it." (Donovan, 2000)

A mind-shift will need to occur in parents and educators before there is a decrease in "Attention-Deficit Hyperactivity Disorder Like" (ADHD Like) behavior in the classroom setting. (Sousa, 2001) Characteristics such as inattentiveness, hyperactivity, and impulsivity become the normal characteristics of children. These normal characteristics of children have been raised in a society filled with the constant bombardment of stimulation. In his book *Ritalin Is Not the Answer* David Stein changes the names of children who are labeled Attention-Deficit Hyperactivity Disordered to "IA" and "HM," IA an abbreviation for "inattentive" and HM for "highly misbehaving." This has been a change of perception. Stein (1999) says that "merely changing our descriptions of problems can change the way we perceive them."

"Lack of teacher knowledge about Attention-Deficit Hyperactivity Disorder has been identified as one of the greatest obstacles in attending to the needs of children identified as having this disorder." (Sciutto, 2000) "Teachers generally have had a poor grasp of the nature, course, causes, and outcomes of Attention-Deficit Hyperactivity Disorder, and they harbored substantial misperceptions about appropriate interventions for the population. (Sciutto, 2000) As educators it is up to us to become as knowledgeable as we can regarding this overwhelming onslaught of children who have been unable to stay on task, who have been incapable of completing in-class and homework assignments, and who at times displayed inappropriate behavior. Instead of labeling, we need to be looking at our current school practice that is not meeting the needs of students. It is up to educators to learn as much as they can regarding this

diagnosis and to arm themselves with effective alternative methods to use in the classroom.

Educational research supports the premise that students do best when they are engaged in an inquiry based setting and "when the teacher does not do the learning any more than a coach scores goals or shoots baskets. He or she is the facilitator, the manager of instruction, who creates the proper learning context and helps the student to take responsibility for his or her own learning." (Fiske, 1991) School change, developed through leadership initiatives is necessary to actualize school reform.

The talk of school change is everywhere. Current educational periodicals are filled with articles about school reform. School leaders are defining themselves by the change that is created during their leadership. As school leaders we must continually search for those variables that impact our students in a positive way and develop initiatives around current educational research and knowledge.

The Atlas Communities is a school reform initiative based on the integration of four previously developed research reform initiatives; School Development Program, Project Zero, The Coalition of Essential Schools and the Education Development Center. The ideas of James Comer, Howard Gardner, Theodore Sizer and Janet Whitla have provided the foundation of research that supports the Atlas Communities. The Atlas Communities Approach is "based on the belief that all students can and must reach their full potential". (Atlas Communities, 2000). Components of this program include: effective, research-based methods and strategies, comprehensive design with aligned components, professional development, measurable goals and benchmarks, support within the school, parental and community involvement, external technical assistance and

support, evaluation strategies and coordination of resources. Measured success has been documented in the areas of science, math, and history. (Atlas Communities, 2000)

Other leadership initiatives such as *Smart Schools* developed by Edward Fiske and *Professional Learning Communities* developed by Rick Dufour have begun the process of developing schools that are very different than the factory-school model.

Purpose of the Research

The purpose of this research was to identify school practice that will initiate school reform to combat "Attention-Deficit Hyperactivity Disorder Like" behavior in the classroom setting. This study associated school practice currently being used in the classroom with "Attention-Deficit Hyperactivity Disorder Like" behavior. (Sousa, 2001)

Knowledge is power, and research has stated that the way we perceive our students is crucial to their success. The rapid rise of students being diagnosed with this disorder substantiates the fact that teachers and administrators have had little time to thoroughly investigate the history, causes, and medications involved in the treatment. (Sciutto, 2000) There is great concern that the teachers and administrators have lacked current and correct knowledge regarding what is truly Attention-Deficit Hyperactivity Disorder and what they have seen in the classroom as "ADHD Like" behavior. Input from teachers is a critical element in the diagnosis of students labeled Attention-Deficit Hyperactivity Disordered. Lack of knowledge has lead to misperceptions that can result in inappropriately labeling children and inappropriately

prescribing psychotropic medications to our children, which in turn have affected the students' health and academic success.

Interacting Variables

In order to identify school practice to combat "Attention-Deficit Hyperactivity Disorder Like" behavior in the classroom setting, the following parameters served as independent variables:

1. Demographics of the Teacher
2. Teaching Style
3. Demographics of the Classroom
4. Classroom Environment
5. Teacher Knowledge of Attention-Deficit Hyperactivity Disorder

Section Three, Attention-Deficit Hyperactivity classroom data, questions twenty-eight through thirty-two of the survey were calculated as the dependent variable. The entire survey consisted of sixty-questions divided into six sections.

These five independent variables were chosen after reading Dr. Sousa's work, *How the Special Needs Brain Learns*. Sousa, (2001) listed the following school characteristics as contributors to the "ADHD Like" behavior:

- Teachers are under pressure to cover curriculum and move too fast (even with the realization that some students need more time)
- The main mode of instruction is teacher talk (when we know that more students have visual and kinesthetic learning preferences)

- Room arrangements allow students to hide from the teacher and create mischief (the classic row-by-row formation is more conducive to isolation than collaboration)
- Discipline is arbitrary and perceived as unfair (students in secondary schools encounter six to eight teachers daily, each with a different set of rules and expectations)
- There are few or no opportunities to get up and move around (too much material to cover, so students just sit and listen)
- The classroom is too hot or too dark (studies show students achieve more in rooms that are well lit with plenty of natural light)
- There are few opportunities for students to interact with each other (interactive learning reduces boredom and increases stimulation)
- The classroom emotional climate is neutral or tense (positive emotional climate enhances learning)

Modification of these school practices "have often changed "ADHD Like" behavior into more positive student participation and academic success."

Hypothesis

Current school practices, particular teaching styles, classroom environments, and teacher knowledge of ADHD are hypothesized to have lead to an overdiagnosis of students with Attention-Deficit Hyperactivity Disorder and to a misuse of psychotropic medications used by these students. What teachers have been witnessing in the classroom is not the medically defined ADHD, but a society-induced "ADHD Like"

behavior. This behavior can be reduced by the implementation of alternative school practices developed by leadership initiatives of school reform.

Research Questions

In order to test the independent variables, The following research questions were addressed:

1. Is there a correlation between teacher knowledge of "ADHD and ADHD Like" behavior?
2. Is there a correlation between classroom environment and "ADHD Like" behavior?
3. Is there a correlation between teaching style and "ADHD Like" behavior?
4. Is there a correlation between demographics of the teacher and "ADHD Like" behavior?
5. Is there a correlation between the demographics of the classroom and "ADHD Like" behavior?

Limitations of the Research

To best utilize this study, the following limitation was considered:

This study was limited geographically to the county of St. Louis and the state of Missouri. A more comprehensive study could be achieved by taking a sample from the total school district population in the state of Missouri and beyond.

Definitions

The following terms are used in this study:

Administrator: Assistant Principal or Principal

Attention-Deficit Hyperactivity Disorder: Defined according to the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychological Association, 1994) Can be defined as symptoms from either section (1) or section (2):

(1) Six (or more) of the following symptoms of inattention have persisted for at least six months to a degree that is maladaptive and inconsistent with the developmental level of the individual.

(a) often fails to give close attention to details or makes careless mistakes in schoolwork 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 (not due to oppositional behavior or failure to understand instructions)

(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) Six or more of the following symptoms of hyperactivity-impulsivity have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level of the individual.

(a) often fidgets with hands or feet, or squirms in seat

(b) often leaves seat in classroom or in other situations in which remaining in seat is expected

(c) often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings or restlessness)

(d) often has difficulty playing or engaging in leisure activities quietly

(e) is often "on the go" or acts as if "driven by a motor"

(f) often talks excessively

Impulsivity

(g) often blurts out answers before questions have been completed

(h) Often has difficulty awaiting turn; often interrupts or intrudes on others (e.g., butts into conversations or games

"Attention-Deficit Hyperactivity Disorder Like" Behavior: Behaviors that manifest themselves in the student's incapacity to regulate his/her own activity level or inhibit his/her behavior and attend to tasks in developmentally appropriate ways. (Sousa, 2001)

Psychotropic Medications: Psychotropic medications, oftentimes referred to as psychostimulant medications, are those Class II medications used to treat psychiatric conditions.

School Practice: The educational components of teacher demographics, teaching style, classroom environment, demographics of the classroom and teacher knowledge that have a direct effect on student behavior.

School Reform: The transformation of our educational system from the factory school model to a model built upon the following nine components: "effective, research-based methods and strategies, comprehensive design with aligned components, professional development, measurable goals and benchmarks, support within the school by faculty, administrators and staff, parental and community involvement, external technical support, evaluation strategies and coordination of resources." (Block, Everson & Guskey, 2000)

Teacher: Individuals who are certified to teach in the state of Missouri. "Teacher" in this research excludes librarians and counselors.

Chapter II

RELATED RESEARCH

Introduction

This chapter includes a review of the literature regarding philosophical, theoretical and empirical trends with regard to Attention-Deficit Hyperactivity Disorder. A review of the related research includes the history of Attention-Deficit Hyperactivity Disorder, the biological and culturally induced theories of the disorder, the psychotropic medications used in the treatment of Attention-Deficit Hyperactivity Disorder, "Attention-Deficit Hyperactivity Disorder Like" behavior, and an introduction to the leadership initiatives in school reform to change our current school practices. (Sousa, 2001)

Philosophical Trends of Attention-Deficit Hyperactivity Disorder

The history of Attention-Deficit Hyperactivity Disorder has been divided into six definitive categories: Brain Damage Syndrome, Minimal Brain Dysfunction, Hyperkinetic Impulse Disorder, Attention-Deficit Disorder With Hyperactivity/Without Hyperactivity (ADDH), Attention-Deficit Hyperactivity Disorder/Undifferentiated Attention-Deficit Disorder (ADHD, U-ADD), Attention-Deficit Disorder (ADD), and Attention-Deficit Hyperactivity Disorder (ADHD). Each of these distinct categories is based on previous research and the cultural characteristics of the eras starting in the early 1900s.

During the early 1900s, Still and Tredgold wrote the first medical literature discussing the characteristics of children who seemed to have, according to Still, "morbid defects in moral control." (Barkley, 1990) The children that Still and Tredgold observed for their study all appeared to have physical deformities in their physical appearance. Some displayed a large head size, malformed palate, or increased epicanthal fold. (Barkley, 1990)

An outbreak of encephalitis in North America in 1917 left doctors with many children who survived the brain infection but were left with significant behavior and cognitive impairments. These behavioral and cognitive impairments were characterized by "impairment in attention, regulation of activity and impulse control." (Barkley, 1990) These characteristics were very much like those we use today to identify children with attention-deficit disorders.

Strauss and Lehtinen in the late 1940s "surveyed a population of mentally defective, institutionalized children using case histories and neurological examinations." (Lerner, Lerner & Lowenthal, 1995) Through their research they found these children to display characteristics of hyperactivity and attributed this to some form of brain damage. They believed these children had to have sustained brain damage before, during, or shortly after birth. "These children were described as hyperactive, distractible, impulsive, emotionally labile and perservative." (Lerner, Lerner & Lowenthal, 1995) This idea of children's behavior being directly related to some type of brain damage would lead to a new concept, minimal brain damage. Many of these children, who had been diagnosed with brain damage, displayed characteristics noted above, but had no visible signs of brain-damage. Individuals in the medical profession were discontent with

labeling children brain damaged with no clear evidence for a diagnosis. Thus the term minimal was added to the definition for a select group of children displaying signs of hyperactivity, distractibility, and impulsivity where no visible signs of brain damage existed.

Early recommendations for education included children with MBD (minimal brain dysfunction) are taught in small, regulated classrooms where the amount of stimulation in the environment could be reduced. These original classrooms would become models for appropriate settings under the mandates of special education law in the mid-seventies.

Most of the research completed in the field of hyperactivity and impulsivity occurred in the 1970s. "Over 2,000 published studies existed by the end of the decade." (Barkley, 1990) The hyperkinetic syndrome now included associated characteristics of impulsivity, short attention span, low frustration tolerance, distractibility, and aggressiveness. During this time MBD almost entirely fell to the wayside with no conclusive evidence linking brain damage to the above characteristics.

Up until this point, the emphasis was placed on hyperactivity. Virginia Douglas in 1972 argued that "deficits in sustained attention and impulse control were more likely to account for the difficulties seen in these children than was hyperactivity." (Barkley, 1990) Through her clinical and scientific studies, she found that "hyperactive children were not necessarily more reading- or learning-disabled, did not perseverate on concept learning tasks, did not manifest auditory discrimination tasks, and had no problems with short-term memory." (Barkley, 1990) She was able to demonstrate that "hyperactive children were not more distractible than normal children and that the sustained attention

problems could emerge in conditions where no significant distractions existed." (Barkley, 1990) "With the focus shifting from hyperactivity problems, the term Attention-Deficit Hyperactivity disorder was established." (Lerner, Lerner & Lowenthal, 1995)

The Diagnostic and Statistical Manual of Mental Disorders, DSM-II, DSM-III, DSM-III-R, and the current DSM-IV all have updated versions of Attention-Deficit Disorder. The DSM-II began with the disorder of Hyperkinetic Reaction to Childhood. The DSM-III, published in 1980, developed two types of attention-deficit disorders, one with hyperactivity (ADDH) and one without hyperactivity (ADD/noH). The diagnosis of ADD/noH was for children who exhibited symptoms of inattention and impulsivity but not hyperactivity. Other diagnostic criteria for ADDH and ADD/noH included onset of the problem prior to seven years of age and duration of at least six months. (Lerner, Lerner & Lowenthal, 1995)

The DSM-III was revised and renamed DSM-III-R in 1987. Revisions included the terminology Attention-Deficit Hyperactivity Disorder (ADHD). This change reflected current research showing that even though distractibility was primary in this disorder, hyperactivity was also an important factor. The diagnosis now allowed any eight symptoms to be present from a category of 14. Onset would still need to be prior to seven years of age and with duration of symptoms for at least six months.

DSM-IV, published in 1994, modified not only the diagnostic criteria for ADHD, but also the classification and the diagnosis for Attention-Deficit Hyperactivity Disorder. Three different subtypes were introduced: ADHD-IA, Attention-Deficit Hyperactivity Disorder primarily inattentive subtype; ADHD-HI, Attention-Deficit Hyperactivity Disorder primarily hyperactive-impulsive subtype; and ADHD, combined subtype. The

purposes to each of the subtypes were to clearly identify a specific number and set of symptoms for each subtype. Following the three subtypes stated, children could display symptoms primarily of inattention, children could display behaviors that are primarily hyperactive-impulsive, or they could display symptoms of both inattention and hyperactivity.

In 1991, any child with the diagnosis of ADD/ADHD could qualify for special education services under the guise of the Individuals with Disabilities Education Act, under the category of "Other Health Impaired." Education credibility was now given to this disorder. If a child did not qualify for special education under IDEA, they were now covered under section 504 of the Rehabilitation Act of 1973. Section 504 stipulates that the student's education must be within the regular classroom.

The diagnosis of Attention-Deficit Hyperactivity Disorder has developed and been modified many times over the last 100 years. As early as the 1900s medical evidence alerted us to children who had difficulty with hyperactivity and impulsivity, but these characteristics were due to brain damage. As the research developed, classifications such as minimal brain dysfunction emerged due to the large number of children who showed signs of inattention and hyperactivity but had no visible signs of brain damage. Research during the surge of the seventies led us to look at inattention versus hyperactivity as the main characteristic of the disorder. The research of the eighties and early nineties found reclassifications and subtypes that linked both inattention and hyperactivity as defining the disorder. The history of attention-deficit disorders shows the complexity and, at times the perplexing need to define and redefine a

diagnosis with both environmental and biological factors contributing to the development of this disorder.

Theoretical Trends of Attention-Deficit Hyperactivity Disorder

There are three different theories that address the cause of Attention-Deficit Hyperactivity Disorder, one with a neurobiological base and the second based on changes in our society or as DeGrandpre (1999) refers to as "a rapid-fire culture." Dr. Jane Healy views the third theory as a sudden surge of children who can't seem to pay attention as a combination of both biological brain wiring and a culture built upon "toxic substances, noisy environments, sedentary lifestyles and failure by adults to act as constructive, thoughtful, coaches for children." (Healy, 1990) The one statement consistent throughout all three theories is that a "subtle alteration in the complex organ of the brain can cause problems in inattention, impulsivity and hyperactive behavior." (Lerner, Lerner & Lowenthal, 1995) It's the cause of this "subtle alteration" that is the difference in theories.

The biological cause for ADHD is based on the lack of the chemical transmitters, norepinephrine and dopamine. Characteristics of this disorder are evident due to a lack of these chemicals. "There is enough evidence that neurochemical systems are altered in people with ADHD to state that the problem derives from the chemistry of the brain." (Hallowell and Ratey, 1994) Norepinephrine and dopamine are credited for the stimulation of the brain. "These neurotransmitters are thought to affect a wide variety of behaviors, including the regulation of attention, inhibition, and motor responses. They are involved in the transmission of such messages as: 'ignore distractions,' 'stay focused,'

'don't fidget,' 'be efficient,' 'reflect', 'don't overreact'. (Busch, 1993) The deficiency of the neurotransmitter occurs in the brain stem. Other areas of the brain can be affected through the neurons, those nerve cells that transmit the messages from one area of the brain to another. "Alan Zametkin and his colleagues at the National Institutes of Mental Health may not have defined how it happened, but they did demonstrate that there is a different biological dance in the brains of people with ADHD and the people without ADHD." (Hallowell and Ratey, 1994) This difference in brain activity can clearly be seen with the use of PET images.

DeGrandpre (1999) in his book *Ritalin Nation: Rapid-fire Culture and the Transformation of Human Consciousness* asked the question, "Is Attention-Deficit Hyperactivity Disorder really a newly discovered medical disease or is it a culture-induced brain dysfunction that results from our growing addiction to speed?" Looking back to the fifties, sixties, even the seventies, levels of daily activity were at a much slower pace. Children had time to come home from school, do their homework, and go outside to play while dinner was being cooked. The family would then have time to sit down together and eat. After dinner there would be time to finish homework and even have an opportunity to talk and communicate about the days' events. Our society has drastically changed. Children at the turn of the century now come home after time spent in daycare or other organized child care; tired. Many days, frustrated parents rush them home to make a quick dinner; the child quickly does his homework so they can all go to a practice of some sort and then rush home to get to bed, to wake up the next day and begin again. We all feel the need to be in constant motion.

It has become a status symbol: busyness has become a sign of an upwardly mobile family. Over a period of time this constant state of rushing becomes the norm. We must continue to feed ourselves once this constant state of being in a hurry becomes the norm.

Our nation's rapid increase in technology has fed our need for speed. Children can hardly stand to wait for dinner if it takes longer than a drive-thru to make. Microwaves, touch-tone dialing, and the Internet have contributed to our society's need for a constant state of speed. Our society is quickly moving from the idea of quality (that takes time) to quantity. The grab-at-anything-that-is-fast-and cheap mentality.

"Rapid-fire culture gives rise to a rapid fire consciousness, an unsettling temporal disturbance of the self that then motivates an escape from slowness that keeps us forever in the grip of the hurried society." (DeGrandpre, 1999) Our children are constantly bombarded with stimuli. They require a high state of excitement to hold their attention.

Hallowell and Ratey in *Driven to Distraction* describes culture-induced Attention-Deficit Hyperactivity Disorder as a "Pseudo-Add." Hallowell and Ratey believed that "American society tends to create Attention- Deficit Disorder-like symptoms in all of us. We live in an ADHD-ogenic culture."

When children are unable to regulate their own behavior, sensory addictions develop, motivating them to engage in more stimulus-seeking behavior. At the heart of this developmental problem lies the emergence of a phenomenological experience of unsettledness, characterized by feelings of restlessness, anxiety, and impulsivity. Hyperactivity and the inability to attend to mundane activities exemplify the types of escape behavior that the sensory-addicted child or adult uses in order to maintain his or her needed stream of stimulation (DeGrandpre, 1999). When classroom activities are

developed where students are engaged, the Attention-Deficit Hyperactivity child suddenly vanishes.

When children grow up in a culture that has been saturated with opportunities for stimulation, their baseline is a constant stream of stimuli. This is normal for them. When these children go to school and the teacher is standing in the front of the class lecturing, when the expectation for them is to sit still and be quiet, they find it difficult to keep still and in a relaxed state. "What educators are seeing in the classroom is not a disorder but a child who is simply trying to feed him/herself the necessary amount of stimuli that his/her body has become adjusted to receiving." (Block, 1996)

There is no doubt that we live in a stimulus rich-environment. The children that we see in our schools today are much different than when we were in school. The rise of the number of single parents, the increase of both parents working outside the home, the growing number of children in day care, and the onslaught of Nintendo, Sega, computer games, and the internet have contributed to the development of a child's brain wired differently than the adults in our society today.

Diane McGuiness cited in her book, *When Children Don't Learn: Understanding the Biology and Psychology of Learning Disorders*, about the skepticism regarding the validity of the diagnosis Attention-Deficit Disorder. She stated that problems could arise from a deficiency in the central nervous system. A child, who has difficulty paying attention, is distracted, and displays levels of impulsivity could also be created by an "environment that is too overwhelming or insufficiently compelling." (McGuiness, 1985)

There is an inconsistency in the symptoms of Attention-Deficit Hyperactivity Disorder. If there is a true medical disorder in our children, it should show up

everywhere. Children, who show signs of Attention- Deficit Hyperactivity Disorder can, depending on the situation, control their levels of inattentiveness, impulsivity, and hyperactivity. When Attention-Deficit Hyperactivity Disordered children are doing what they like, they don't have ADHD symptoms. "We must acknowledge that a child's environment helps determine how the problem is expressed." (Barkley, 1990)

"Both physical and mental environments help develop the ability to pay attention." (Healy, 1990) Our brains process information in both hemispheres. Dr. Jane Healy in her book *Endangered Minds: Why Children Don't Think and What We Can Do About It* stated, "that if children have not had the chance to develop strong connections between the two sides or enough practice using left-hemisphere systems for careful listening, they certainly might have more trouble concentrating." They will also find it difficult to get their brains quickly and efficiently into gear for school tasks and find the best way to study and remember things they are supposed to learn.

Children who grew up in a stimulus-enriched environment learned to control the use of the frontal lobes of the cortex that are responsible for planning and regulating behavior. But if a child grew up in a stimulus-saturated environment, he/she may develop poorly this area of the brain, leading to problems with self-regulation. (Healy, 1990)

The home culture is a fundamental arena where the child develops his/her neural wiring. Parents modeling what is appropriate for children to pay attention to, and how to pay attention, have played a key role in the ability to self-regulate. Home environments are a better predictor of educational outcomes than are biological factors (Rutter, 1983). Well-ordered, organized environments can compensate to a surprising extent.

(Healy, 1990) Parents are their children's greatest teachers. As a society we need to stop and ask ourselves what we are teaching our children.

Our children's brains began their development at conception and continued on through adolescence. What we do and how we do it can make definite changes in the brain development of our children. If we ran with the "rapid-fire culture", our children would have developed neural connections in need of a steady stream of stimuli (DeGrandpre, 1999). If we chose to lead an organized, slower-paced existence where value is placed on quality and not quantity, our children would develop neural connections that would lead to self-regulation and the ability to focus their attention.

Empirical Trends of Attention-Deficit Hyperactivity Disorder

"Teachers have been in the position of providing critical diagnostic information because problem behaviors characteristic of ADHD are most likely to occur in the school environment." (Sciutto, 2000) It is critical that teachers understand general information pertaining to Attention-Deficit Hyperactivity Disorder so that, as they assess students using the rating scale, they have the necessary knowledge to assess students correctly. (Sciutto, 2000)

The following criteria should be used to identify Attention-Deficit Hyperactivity Disorder in children according to *Developmental Neuropsychology*, edited by Michael Rutter, University of London Institute of Psychiatry:

1. Parent/teacher complaints of inattention, impulsivity, restlessness, and poor compliance and self-control.

2. On a standardized rating scale of hyperactive behavior, a score of at least two standard deviations above the mean for normal children.
3. Reported age of onset of symptoms by age five.
4. Symptom duration of at least 12 months.
5. Pervasiveness of symptoms across at least 50% of the situations on the Home Situations Questionnaire.
6. An IQ of at least 70.
7. Exclusion of autism, psychosis, severe language delays, blindness, deafness, or gross neurological disease. (Rutter, 1983)

Symptoms of inattention, impulsivity, and over-activity needed to be present for the teacher or administrator to refer a student for testing, both special education tests and the referral to a neurologist for Attention-Deficit Hyperactivity Disorder testing. These three characteristics must have interfered significantly with all major life activities in all three major areas of their life: in the home, at school, and in social situations.

Three to five percent of our school population, or approximately two million children and adolescents, are affected by the labeling of ADHD (Lerner, Lerner and Lowenthal, 1995)." The symptoms of ADD/ADHD have changed over time. It's critical that teachers and administrators do not confuse appropriate developmental characteristics with the symptoms of inattention, impulsivity, or overactivity. A medical diagnosis has lead to medical treatment for ADD/ADHD, a proper referral to parents is critical. No one would want to place children on psychotropic medications such as Adderal and Ritalin (methylphenidate) if what the teacher has seen is simply developmentally appropriate or society-induced over-stimulation.

"Teachers are an important part of the multidisciplinary team. "General education teachers have been largely responsible for the education of students with Attention-Deficit Hyperactivity Disorder." (Barkley, 1990) Elementary and lower middle school teachers who have had experience with Attention-Deficit Hyperactivity Disorder in their classrooms had a significantly different attitude, based on their level of ADHD experience (Grynkewich, 1996).

"Teachers with basic or moderate/extensive experience had significantly more positive attitudes than teachers with no experience." (Grynkewich, 1996) "Educational researchers frequently concluded that teachers held negative attitudes toward students whom they believed to be difficult to manage in a classroom." (Henry, 1985) Ecoff reported in her study "Meeting Individual Needs-A Program Designed to Increase Teacher Effectiveness and Promote Student Learning" that when teaching students with ADHD, teachers can have a high level of frustration due to a lack of significant knowledge of Attention-Deficit Hyperactivity Disorders. Teachers also need to consider when working with their students are whether or not there are practices currently in place, in their classroom or school that could be producing "ADHD Like" behavior. (Sousa, 2001)

Regular education teachers and other personnel need training to develop a greater awareness of the differences between ADHD and "ADHD Like" behavior. Current adaptations could be implemented in regular education programs to address the instructional needs of all children. Many times children who have experienced educational difficulties, whether from ADHD or "ADHD Like" behavior have failed to receive any assistance until after difficulties such as distractibility, disorganization or

inability to complete assignments on time have caused them to fall significantly behind their classmates. Teachers and administrators with high levels of knowledge regarding the difference between ADHD and "ADHD Like" behavior were able to detect the difference earlier and, in turn, avoid school failure that could have lead or contributed to a student's feelings of low self-esteem, depression, or anxiety.

An administrator and teacher with correct knowledge and perceptions of Attention-Deficit Hyperactivity Disorder, psychotropic medications, the difference between ADHD and school practices that lead to the same characteristics, can avoid making a diagnostic mistake. Their knowledge can avoid situations where children "may indeed be displaying signs of ADHD but they may not be—they may be deliberately troublesome. Children can on occasion deliberately display challenging behavior. Teachers and administrators who lack knowledge may refer this type of student to their parents for possible Attention-Deficit Hyperactivity evaluation when it could be a learned behavior ("Attention-Deficit Hyperactivity Disorder Like" behavior) that is being displayed." (Dawson, 1997) "Since psychiatric assessment of ADHD and subsequent psychoeducational and medical management is heavily dependent on teacher information, an understanding of teachers' knowledge and myths regarding this condition is likely to be important in developing effective collaboration between professional groups." (Jerome, Laine, Segal, and Washington, 2000)

Psychotropic Medications in the Treatment of Attention-Deficit Hyperactivity Disorder

Three to five percent of school-age children are currently taking the psychotropic medication Ritalin in the treatment of Attention-Deficit Hyperactivity Disorder. Ritalin is the most commonly prescribed drug for ADHD symptoms and one of many drugs being used. Other drugs used for the treatment of Attention-Deficit Hyperactivity Disorder are Dexedrine, Cylert, Adderall, Tofranil, Norpromin, and Clonadine (Block, 1996). Teachers and parents have seen improvement in attitude, behavior, and work habits in the children who take stimulants. Studies have shown that these drugs are not paradoxical, and even those children who do not exhibit signs of Attention-Deficit Hyperactivity Disorder will react the same as those who do have the ADHD characteristics.

These drugs only treat the symptoms of the disorder. "If you discontinue the drugs the symptoms will return. If you become tolerant to the drug, the symptoms will return. Drugs are a short-term answer to treating long-term symptoms and they carry the potential for side effects." (Block, 1996) Stimulants subdue behavior by impairing mental function; they often cause the very problems they are supposed to correct. (Breggin, 1999)

Side Effects in the Use of Stimulants

It is important to remember that all drugs have side effects. Breggin in his book *Your Drug May Be Your Problem: How and Why To Stop Taking Psychiatric Medications* lists the following as possible stimulant side effects:

- Excessive stimulation of the brain
- Insomnia
- Seizures
- Agitation
- Irritability
- Nervousness
- Confusion, disorientation
- Personality changes
- Apathy
- Social isolation
- Sadness
- Depression
- Mania
- Paranoia
- Flattened Emotions
- Robotic Behavior
- Suppression of the Growth Hormone
- Multiple Biochemical Imbalances in the Growing Brain
- Permanent Tics (Breggin, 1999)

Breggin (1999) also rates the estimated amounts of these side effects:

Ritalin – 17.3% rate of irritability and stimulation, 8.7% rate of depression, 6.7% rate of agitation and restlessness, 2.10% rate of confusion and dopiness, less than 1% rate of psychoses

Adderall and Dexedrine – 39% rate of depression, 25% rate of irritability and stimulation, 10% rate of dopiness, confusion, agitation and restlessness, with less than 1% psychosis

Stimulants should only be prescribed as a piece of a multi-model plan of treatment, if at all (Lerner, Lerner, & Lowenthal, 1995). For those who are exhibiting the symptoms of ADHD, but are in reality "ADHD Like" (Sousa, 2001), drugs should never be given. Administrators and teachers need to look at their own classroom practice first to see if they are contributors to the behaviors that their students are exhibiting. Changes in the practices being used in the classroom can lead to an amazing drop of "ADHD Like" symptoms. Other forms of treatment, such as behavior management strategies, family and child counseling, and good parenting and home management, should be used (Lerner, Lerner & Lowenthal, 1995).

"Attention-Deficit Hyperactivity Disorder Like" Behavior

Dr. Sousa's research, documented in his book *How the Special Needs Brain Learns*, is the platform for the hypothesis. He states that there are school practices used in today's learning environment that "inadvertently exacerbates ADHD Like behavior in students." "As we gain a greater understanding of the human brain, we may discover that some students designated 'learning disabled' may be merely 'schooling disabled'."

Sometimes these students are struggling to learn in an environment that is designed to inadvertently frustrate their efforts. "Just changing our instructional approach, one type of school practice, may be enough to move these students to the ranks of successful learners. (Sousa, 2001)

Many would agree that children today are growing up in a very different social structure than what we did. But, the factory-school model for education is still very much alive and well grounded. A walk through many schools, particularly at the middle and high school level, would still be the direct-instruction teaching model. "Schools can no longer function as filling stations to which young people drive up, receive the knowledge they need for a working lifetime and then drive away. Students must be taught to think and to solve problems." (Fiske, 1991) Public education is a system that is no longer meeting the needs of our students. John Goodlad estimates that as much as 90% of the activity that goes on in America's classrooms consists of what he calls "teacher talk." (Fiske, 1991) This situation is too passive for today's students.

Practice and Behavior

Instructional practice influences behavior. Our current school practices, i.e., particular teaching styles, classroom environment, and teachers' knowledge of Attention-Deficit Hyperactivity Disorder, have a direct effect on the identification of ADHD and the misuse of psychotropic medication. If new school practices could be developed, the epidemic of ADHD students as well as "ADHD Like" behavior teachers are witnessing in the classroom would drop dramatically.

The independent variables within this study are influencing children's behavior over time. The influence is so dramatic that we are now seeing children who struggle in the factory-school model of education. If these children are taken into a learning environment that is inquiry-based, stimulating, and engaging, "ADHD Like" behavior disappears...a change in school practice brings about a change in a child's behavior.

Chapter III

RESEARCH PROCEDURE

Research Description

Labeling a student with a disorder and treating that disorder with Class II psychotropic medications should never be taken lightly. Too many children in Missouri schools and throughout the United States are being classified with a handicap, due to the practices currently in place within our schools and the lack of knowledge and misperceptions of administrators and teachers within these schools. Teachers have been directing parents to seek help from the students' pediatricians due to behaviors exhibited in the classroom. The most frequent behaviors of non-compliance, difficulty staying seated, inability to stay on task, and task completion are many times age-and developmentally appropriate. Due to outdated school structures that hold students hostage to the curriculum and classroom, uneducated administrators and teachers who have misperceptions about what Attention-Deficit Hyperactivity Disorder is, and about the powerful medications used to treat this disorder, could be doing the children more harm than good. Students and, many times, the parents, begin to use the disorder as an excuse for non-compliance and have an adverse reaction to the medication.

This study was designed to identify and explore current school practices in the classroom and their association with "Attention-Deficit Hyperactivity Disorder Like" behavior (Sousa, 2001).

This chapter provides the (a) description of the research, (b) research questions, (c) description of the population, (d) sampling technique, (e) procedures for

implementing the data collection, (f) data collection technique and (g) procedure for analyzing the data.

Research Questions

The independent variables of this study were Demographics of the Teacher, Teaching Style, Demographics of the Classroom, Classroom Environment and Teacher Knowledge of Attention-Deficit Hyperactivity Disorder. The dependent variable was formulated by combining the data results within the survey category of "Attention-Deficit Hyperactivity Classroom Data". The following research questions were formulated from those variables.

1. Is there a correlation between Teacher Knowledge of ADHD and "ADHD Like" behavior?
2. Is there a correlation between Classroom Environment and "ADHD Like" behavior?
3. Is there a correlation between Teaching Style and "ADHD Like" behavior?
4. Is there a correlation between the Demographics of the Teacher and "ADHD Like" behavior?
5. Is there a correlation between Demographics of the Classroom and "ADHD Like" behavior?

Population Description

This project's target population consisted of school teachers currently employed in public school districts in the county of St. Louis and state of Missouri. The population was found in the Missouri School Directory, 2000-2001, printed by the Department of Secondary and Elementary Education. There were a total of 24 school districts included in the population.

Sampling Technique

A statistical report was requested from the Department of Elementary and Secondary Education. The numeric total was 8,227 teachers. From the 8,227 teachers, a random sample of 768 teachers was taken. The survey sample included 768 surveys. A power analysis suggested that 384 subjects (fifty- percent rate of return) would be required with a significance level of 0.05 and a statistical power of 0.8 to conduct statistical analysis (Gall, Borg & Gall, 1996).

Instrumentation

The survey consisted of sixty questions divided into six sections: Section One – Demographics of the Teacher; Section Two – Teaching Style; Section Three – Attention-Deficit Hyperactivity Classroom Data; Section Four – Classroom Environment; Section Five – Demographics of the Classroom; Section Six – Teacher Knowledge of Attention-Deficit Hyperactivity Disorder.

Section One included eleven questions that identified the demographics of the teachers who responded to the survey. The demographic information included the

teacher's gender, age, years of experience within the public school system, race, current employment status, amount of education completed, type of education certification, type of school the teacher is currently teaching in, teaching philosophy, marital status and if they are a parent or step-parent. Frequency tables were tabulated for each variable along with percent, valid percent and cumulative percent. Mean and standard deviation were calculated for question number three, the number of years of experience.

Section Two of the survey included sixteen questions that identified the teaching style of the respondents. To analyze this section of the survey, questions 12, 14, 15, 16, 17, 18, 20, 22 and 23 were considered to be "good" characteristics of an effective teaching style. Survey questions 13, 19, 21, 23, 24, 25 and 27 were characteristics of a "bad" teaching style. The total percentage was calculated for "good" teaching style as well as the total percentage for "bad" teaching style. The mean and standard deviation was calculated for each variable within this section.

Section Three of the survey included five questions, two that identified the dependent variable of "ADHD Like" behavior (Sousa, 2001) in the classroom. Each question within this section was divided into the total of male and female students. Frequencies were developed for the number of males and females within the classroom setting that were diagnosed with ADHD. Frequencies were calculated for the number of students in the classroom that were diagnosed with Attention-Deficit Hyperactivity Disorder and had in place an Individualized Education Plan or a 504 plan. Frequencies were calculated for the number of students labeled as Attention-Deficit Hyperactivity Disordered and were also labeled with another disorder. Question thirty-one revealed the number of students in the classroom who exhibited signs of distractibility, inattentiveness

and poor organizational skills and were not diagnosed with ADHD. Finally, question thirty-two gave a total number of males and females in each classroom within the survey. Question twenty-eight, the number of students in the classroom diagnosed with having Attention-Deficit Hyperactivity Disorder, was combined with question thirty-one, the number of students in the classroom that exhibited signs of distractibility, inattentiveness and poor organizational skills and were not diagnosed with Attention-Deficit Hyperactivity Disorder for the dependent variable. A total percentage was calculated for the combined questions twenty-eight and thirty-one.

Section Four of the survey consisted of six questions that described the classroom environment. This section gathered information on how often students stay in their desks/tables/chairs and how often the teacher turned out the lights when the overhead projector was used. Questions thirty-five through thirty-eight were yes/no answers that indicated if the teachers who answered the survey had their desks/tables/chairs arranged in rows, had a special area in the classroom where students could go and read for quiet time, did they have independent work stations and did they have a couch or pillow in their classroom that students could use throughout the day. Questions thirty-three and thirty-four were analyzed by calculating the frequency and percentage.

Section Five of the survey gathered data on the demographics of the classroom. Questions thirty-nine asked each teacher which grade level they currently taught, question forty asked each teacher for the number of students in their classroom and question forty-one wanted to know if they were the only teacher in the classroom throughout the day. Mean and standard deviation were calculated from the responses. Question forty-two consisted of a table divided into males and females with

corresponding levels of socioeconomic class. Low socioeconomic class was defined as yearly income between $0-20,999; middle socioeconomic class was defined as yearly income between $21,000-49,999; and high socioeconomic class was defined as yearly income of $50,000 and up. Teachers were asked to fill in each box that best described the yearly income of both the males and females within their classroom. The mean and standard deviation were calculated from these responses. Question forty-three consisted of another table where teachers were asked to identify the number of males and females in their classroom who classified themselves as White/Caucasian, African-American, Latin, Asian or Hispanic. The mean and standard deviation were calculated from the responses within each classification.

Section Six is a thirty-six item rating scale used for this study, and developed by Dr. Sciutto during his research on teachers' knowledge of Attention-Deficit Hyperactivity Disorder. Each of these items is phrased in terms of a statement about Attention-Deficit Disorder and used a true (T) or false (F) or don't know (DK) format. "The KADDS (Knowledge of Attention-Deficit Disorder Survey) measured the knowledge and misperceptions of Attention-Deficit Hyperactivity Disorder in three specific areas: symptoms and the diagnosis of Attention-Deficit Hyperactivity Disorder, the treatment of this disorder and general information about the nature, causes and outcome of Attention-Deficit Hyperactivity disorder." (Sciutto, 2000) "The KADDS measures are intended to measure respondents' knowledge of not only what Attention-Deficit Hyperactivity is, but also what it is not. Items pertaining to negative behaviors (e.g., inflated self-esteem, stealing) more characteristic of other mental disorders were also included." (Sciutto, 2000)

Three questions on the KADDS survey scale are additional items under development. Dr. Sciutto, who developed the survey, had requested inclusion of items 37, 38, and 39 and the results of those three questions at the completion of the research.

Procedure for Implementing the Data Collection

All teachers within the population sample received a survey during the fall of 2001. All responses were kept anonymous and participation was voluntary. Completed surveys were mailed in a pre-posted envelope to my home address included within the original mailing. All completed surveys were returned two months after the initial mailing. Two follow-up reminders were sent. The first reminder was sent four weeks after the original mailing was completed, and the second reminder was sent six weeks after the original mailing was completed.

There was minimal risk to the subjects participating in this research. The only foreseeable risk was loss of confidentiality. List of participants, code numbers, and responses were kept separately in three different locked boxes. The coding of all surveys consisted of the individual's name associated to a specific number as well as a number given to the participants school address. The only time it was necessary to look at the master list of teacher numbers and school addresses were to send another survey at the end of the four-week and six-week period to those teachers who have not mailed back the survey. All surveys were kept in a locked box separate from the master list (consisting of teacher names and school addresses) and the coded number list. The coded-number list enabled a check off of the surveys as they were returned in the mail. All surveys were destroyed after the research was completed.

Data Collection Technique

Items within the original sixty-question survey had face validity. Face validity is defined as "the extent to which an inspection of a test's item indicates that they cover the content that the test is claimed to measure." (Gall, Borg & Gall, 1996)

The KADDS measurement tool had an original Cronbach's alpha of .81 leading to good consistency; second use resulted in a coefficient alpha of subscales to KADDS total score of .85 to .91. "Significant pre-post changes in KADDS scores for each of two types of educational interventions offer preliminary evidence of validity." (Sciutto, 2000)

Procedure for Analyzing Data

Frequency counts were taken on individual questions, and a contingency table was developed on the categorical data collected. Categories were divided into six areas: Demographics of the Teacher, Teaching Style, Attention-Deficit Hyperactivity Classroom Data, Classroom Environment, Demographics of the Classroom and Teacher Knowledge. The dependent variable was created by logarithmic transformation. Reverse coding was necessary to compute the analysis of questions twelve through twenty-seven within section Two: Teaching Style, of the survey.

The Teacher Knowledge category, questions forty-four through sixty, was re-coded for the correct answer and combined for analysis. The mean was taken of all five independent variables. T-tests were completed between different means to compare individual questions. Pearson Product correlation was used to analyze a statistical significance between Section One: Demographics of the Teacher, Section Two: Teaching Style, Section Four: Classroom Environment, Section Five: Demographics of the

Classroom, Section Six: Teacher Knowledge of Attention-Deficit Hyperactivity Disorder and the dependent variable, Section Three: Attention-Deficit Hyperactivity Classroom Data. SPSS statistical software was used for all analyses.

Chapter IV

RESULTS

Introduction

The purpose of this research was to identify school practice that will initiate school reform to combat Attention-Deficit Hyperactivity Disorder Like behavior (Sousa, 2001) in the classroom setting. Data analysis tested the independent variables-teacher style, classroom environment, demographics of the classroom and teacher knowledge of Attention-Deficit Hyperactivity Disorder in correlation with the dependent variables Attention-Deficit Hyperactivity classroom data, question number twenty-eight and thirty-one combined. To test the independent variables, the following research questions were addressed:

1. Is there a correlation between teacher knowledge of ADHD and "ADHD Like" behavior?
2. Is there a correlation between classroom environment and "ADHD Like" behavior?
3. Is there a correlation between teaching style and "ADHD Like" behavior?
4. Is there a correlation between demographics of the teacher and "ADHD Like" behavior?
5. Is there a correlation between the demographics of the classroom and "ADHD Like" behavior?

Seven hundred sixty-eight surveys were mailed within the total population of 8,227 certified teachers in K-8 schools working in twenty-four school districts, within St. Louis County. From the 768 surveys sent, 36% were returned, a total of 277. Two hundred forty-one surveys were used; 36 were found to be invalid. Frequency tables and descriptive statistics were formulated for all independent variables. Teaching style and teacher knowledge were combined for correlation analyses.

Demographics of the Respondents

Of those who responded, 86.7% were females and 13.3% were males (Table 4.1).

Table 4.1 Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	32	13.3	13.3	13.3
Female	209	86.7	86.7	100.0
Total	241	100.0	100.0	

The ages of the individuals ranged from 22-30, 31-40, 41-50, and over 50. Fifty individuals, 20.7% of those who responded were between the ages of 22 and 30; fifty-seven teachers, 23.7% of the respondents were between the ages of 31 and 40; seventy of the individuals, 29% of those responded, were between the ages of 41and 50; and sixty-four individuals, 26.6%, were over 50 (Table 4.2).

Table 4.2 Age of the Individuals

	Frequency	Percent	Valid Percent	Cumulative Percent
22-30	50	20.7	20.7	20.7
31-40	57	23.7	23.7	44.4
41-50	70	29.0	29.0	73.4
over 50	64	26.6	26.6	100.0
Total	241	100.0	100.0	

An overwhelming two-hundred and twenty-four, 92.9% of the respondents were White/Non-Hispanic. Twelve individuals, 5%, were Black/Non-Hispanic, with 2.1% Asian, Pacific Islander, Native American or Other (Table 4.3).

Table 4.3 Race

	Frequency	Percent	Valid Percent	Cumulative Percent
White/Non-Hispanic	224	92.9	92.9	92.9
Black/Non-Hispanic	12	5.0	5.0	97.9
Asian, Pacific Islander	1	.4	.4	98.3
Latino/Latina	2	.8	.8	99.2
Native American	1	.4	.4	99.6
Other	1	.4	.4	100.0
Total	241	100.0	100.0	

The highest level of education completed was the doctorate; two individuals, 0.8%, had a doctorate. Most respondents fell within the "master's degree plus 20 college credit hours" category. Sixty-seven, 27.8%, held master's degrees, thirty-eight, 15.8% were within the "bachelor's degrees plus 20 college credit hours"category; forty-one individuals, and 17.0%, held bachelor's degrees (Table 4.4).

Table 4.4 Highest Level of Education Completed

	Frequency	Percent	Valid Percent	Cumulative Percent
Bachelor's Degree	41	17.0	17.1	17.1
Bachelor's Degree plus 20 College Credit Hours	38	15.8	15.8	32.9
Master's Degree	67	27.8	27.9	60.8
Master's Degree plus 20 College Credit Hours	92	38.2	38.3	99.2
Doctorate	2	.8	.8	100.0
Total	240	99.6	100.0	

One hundred fifty-three, 63.5% of the individuals who answered the survey, had tenured teacher status. Eighty-eight teachers, 36.5%, had non-tenured status (Table 4.5).

Table 4.5 Tenured or Non-tenured Status

	Frequency	Percent	Valid Percent	Cumulative Percent
Tenured	153	63.5	63.5	63.5
Non-tenured	88	36.5	36.5	100.0
Total	241	100.0	100.0	

Over half of the teacher's one hundred forty-five respondents, 60.2% had elementary teaching certification. Fifty-four respondents, 22.4% of those surveyed, had middle school certification. Twenty-nine, or 12.0% of the teachers, had elementary and special education certification. The remaining 3.3% of the respondents, eight individuals, had either special education certification only or middle school and special education certification combined (Table 4.6).

Table 4.6 Type of Education Certification

	Frequency	Percent	Valid Percent	Cumulative Percent
Elementary	145	60.2	61.4	61.4
Special Education	5	2.1	2.1	63.6
Elementary and Special Education	29	12.0	12.3	75.8
Middle School	54	22.4	22.9	98.7
Middle School and Special Education	3	1.2	1.3	100.0
Total	236	97.9	100.0	
System	5	2.1		

One hundred sixteen, 48.1% of the teachers, viewed their teaching philosophy as "somewhat traditional." Seventy-six, 31.5%, viewed themselves as "somewhat constructivist," while only twenty-three, 9.5%, viewed themselves as "constructivist." Twenty-one, 8.7% of the respondents, viewed themselves traditional (Table 4.7).

Table 4.7 Type of Teaching Philosophy

	Frequency	Percent	Valid Percent	Cumulative Percent
Traditional	21	8.7	8.9	8.9
Somewhat Traditional	116	48.1	49.2	58.1
Somewhat Constructivist	76	31.5	32.2	90.3
Constructivist	23	9.5	9.7	100.0
Total	236	97.9	100.0	
System	5	2.1		

Among the participants, the average number of years of teaching experience was 13.55 years. The least amount of experience was one year, with the highest total years of experience at 36 years (Table 4.8).

Table 4.8 Number of Years Teaching Experience in the Public School System

N	Valid	240
	Missing	1
Mean		13.55
Std. Deviation		9.296
Minimum		1
Maximum		36

Almost three-fourths, 73.9%, of the teachers were married and only 7.9% were divorced (Table 4.9).

Table 4.9 Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	43	17.8	17.9	17.9
	Married	178	73.9	74.2	92.1
	Divorced	19	7.9	7.9	100.0
	Total	240	99.6	100.0	
Missing	System	1	.4		
Total		241	100.0		

Of the two hundred forty-one respondents, one hundred sixty four, 68.0%, were parents (Table 4.10).

Table 4.10 Parent or Nonparent

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	164	68.0	68.0	68.0
No	77	32.0	32.0	100.0
Total	241	100.0	100.0	

Research Question One

Research Question One: Is there a correlation between Teacher Knowledge of Attention-Deficit Hyperactivity Disorder and Attention-Deficit Hyperactivity Like behavior?

The Pearson Product correlation analysis of teacher knowledge of ADHD and "ADHD Like" behavior (Sousa, 2001) in males resulted in a positive correlation of .144. The correlation is found to be significant at the 0.05 significance level (two-tailed) (Table 4.11).

Table 4.11 Correlation: Teacher Knowledge and "ADHD Like" Behavior in Males

		Teacher Knowledge	"ADHD Like" Behavior in Males
Teacher Knowledge	Pearson Correlation	1	**.144
	Sig. (two-tailed)	.	.042
	N	229	201
"ADHD Like" Behavior in Males	Pearson Correlation	**.144	1
	Sig. (two-tailed)	.042	.
	N	201	210

* Correlation is significant at the 0.05 level (two-tailed).

The Pearson Product correlation analysis of teacher knowledge of Attention-Deficit Hyperactivity Disorder and "ADHD Like" behavior (Sousa, 2001) in females resulted in a positive correlation of .216. The correlation is found to be significant at the 0.01 significance level (two-tailed) (Table 4.12).

Table 4.12 Correlation: Teacher Knowledge and "ADHD Like" Behavior in Females

		Teacher Knowledge	"ADHD Like" Behavior in Females
Teacher Knowledge	Pearson Correlation	1	**.216
	Sig. (two-tailed)	.	.002
	N	229	206
"ADHD Like" Behavior in Females	Pearson Correlation	**.216	1
	Sig. (two-tailed)	.002	.
	N	206	215

** Correlation is significant at the 0.01 level (two-tailed).

The Pearson Product correlation analysis of teacher knowledge of Attention-Deficit Hyperactivity Disorder and "ADHD Like" behavior (Sousa, 2001) in males and females resulted in a positive correlation of 0.200. The correlation was found to be significant at the 0.01 significance level (two-tailed) (Table 4.13).

Table 4.13 Correlation: Teacher Knowledge and "ADHD Like" Behavior in Males and Females

		Teacher Knowledge	"ADHD Like" Behavior in Males and Females
Teacher Knowledge	Pearson Correlation	1	**.200
	Sig. (two-tailed)	.	.004
	N	229	201
"ADHD Like" Behavior in Males and Females	Pearson Correlation	**.200	1
	Sig. (two-tailed)	.004	.
	N	201	210

** Correlation is significant at the 0.01 level (two-tailed).

Research Question Two

Research Question Two: Is there a correlation between Classroom Environment and "ADHD Like" behavior (Sousa, 2001)?

For the purpose of statistical analysis, the independent variable classroom environment was divided into two components. Questions thirty-three and thirty-four were combined, as were questions thirty-five through thirty-eight. Correlation analysis was calculated on each of the combined components. Question thirty-three asked teachers to rate themselves on a scale of "Never to Always" as to whether students in their classrooms stay in their desks/tables/chairs. Question thirty-four asked teachers to rate themselves on a scale of "Never to Always" as to whether, when they use the overhead projector, they turn out their lights.

For responses to questions thirty-five to thirty-eight, teachers replied either "yes" or "no" to the following questions:

- Are the tables/chairs in my classroom arranged in rows?

- Do I have a special area in my classroom where students can go and read and/or have quiet work time?
- Do I have independent work stations in my classroom?
- Do I have a couch and/or pillow(s) for students to use throughout the day in my classroom?

The mean of combined questions thirty-three and thirty-four calculated at 8.3304. This sub-variable minimum was 2.00 with a maximum of 13.00 (Table 4.14).

Table 4.14 Descriptive Statistics:
Classroom Environment Combined (Questions 33 and 34)

	N	Minimum	Maximum	Mean	Std. Deviation
Classroom Environment Combined (Questions 33 and 34)	224	2.00	13.00	8.3304	2.60006
Valid N (listwise)	224				

The Pearson Product correlation analysis of classroom environment (questions thirty-three and thirty-four) and "ADHD Like" behavior (Sousa, 2001) in males resulted in no significant correlation (Table 4.15).

Table 4.15 Correlation: Classroom Environment (Questions 33 and 34) and "ADHD Like" Behavior in Males

		Classroom Environment (Question 33 and 34)	"ADHD Like" Behavior in Males
Classroom Environment (Questions 33 and 34)	Pearson Correlation	1	-.095
	Sig. (two-tailed)	.	.180
	N	224	201
"ADHD Like" Behavior in Males	Pearson Correlation	-.095	1
	Sig. (two-tailed)	.180	.
	N	201	210

The Pearson Product correlation analysis of classroom environment (question thirty-three and thirty-four) and "ADHD Like" behavior (Sousa, 2001) in females resulted in no significant correlation (Table 4.16).

Table 4.16 Correlation: Classroom Environment (Questions 33 and 34) and "ADHD Like" Behavior in Females

		Classroom Environment (Questions 33 and 34)	"ADHD Like" Behavior in Females
Classroom Environment (Questions 33 and 34)	Pearson Correlation	1	-.092
	Sig. (two-tailed)	.	.191
	N	224	205
"ADHD Like" Behavior in Females	Pearson Correlation	-.092	1
	Sig. (two-tailed)	.191	.
	N	205	215

The Pearson Product correlation analysis of classroom environment (questions thirty-three and thirty-four) and "ADHD Like" (Sousa, 2001) behavior in males and females resulted in no correlation (Table 4.17)

Table 4.17 Correlation: Classroom Environment (Questions 33 and 34) and "ADHD Like" Behavior in Males and Females

		"ADHD Like" Behavior in Males and Females	Classroom Environment (Questions 33 and 34)
"ADHD Like" Behavior in Males and Females	Pearson Correlation	1	-.108
	Sig. (two-tailed)	.	.127
	N	210	201
Classroom Environment (Questions 33 and 34)	Pearson Correlation	-.108	1
	Sig. (two-tailed)	.127	.
	N	201	224

The Pearson Product correlation analysis of classroom environment (question thirty-five through thirty-eight) and "ADHD Like" behavior (Sousa, 2001) in males resulted in no significant correlation (Table 4.18).

Table 4.18 Correlation: Classroom Environment (Questions 35-38) and "ADHD Like" Behavior in Males

		Classroom Environment (Questions 35-38)	"ADHD Like" Behavior in Males
"ADHD Like" Behavior in Males	Pearson Correlation	1	.041
	Sig. (two-tailed)	.	.557
	N	210	204
Classroom Environment (Questions 35-38)	Pearson Correlation	.041	1
	Sig. (two-tailed)	.557	.
	N	204	226

The Pearson Product correlation analysis of classroom environment (questions thirty-five through thirty-eight) and "ADHD Like" behavior (Sousa, 2001) in females resulted in no significant correlation (Table 4.19).

Table 4.19 Correlation: Classroom Environment (Questions 35-38) and "ADHD Like" Behavior in Females

		Classroom Environment (Questions 35-38)	"ADHD Like" Behavior in Females
Classroom Environment (Questions 35-38)	Pearson Correlation	1	.024
	Sig. (two-tailed)	.	.730
	N	226	208
"ADHD Like" Behavior in Females	Pearson Correlation	.024	1
	Sig. (two-tailed)	.730	.
	N	208	215

The Pearson Product correlation analysis of classroom environment and "ADHD Like" behavior (Sousa, 2001) in males and females resulted in no significant correlation (Table 4.20).

Table 4.20 Correlation: Classroom Environment (Questions 35-38) and "ADHD Like" Behavior in Males and Females

		Classroom Environment (Questions 35-38)	ADHD Like" Behavior in Males and Females
Classroom Environment (Questions 35-38)	Pearson Correlation	1	.037
	Sig. (two-tailed)	.	.600
	N	226	204
"ADHD Like" Behavior in Males and Females	Pearson Correlation	.037	1
	Sig. (two-tailed)	.600	.
	N	204	210

A positive correlation was found between the response to question thirty-eight, "I have a couch and/or pillows for students to use throughout the day in my classroom," and Attention-Deficit Disorder Like behavior in male students (Table 4.21).

Table 4.21 Correlation: Question 38 and "ADHD Like" Behavior in Males

		"ADHD Like" Behavior in Males	Classroom Has a Couch or Pillows for Students to Use Throughout the Day
"ADHD Like" Behavior in Males	Pearson Correlation	1	**.138
	Sig. (two-tailed)	.	.048
	N	210	206
Classroom Has a Couch or Pillows for Students to Use Throughout the Day	Pearson Correlation	**.138	1
	Sig. (two-tailed)	.048	.
	N	206	229

* Correlation is significant at the 0.05 level (two-tailed).

Research Question Three

Research Question Three: Is there a correlation between Teaching Style and "ADHD Like" behavior (Sousa, 2001)?

Teaching style variables were divided into two categories, "good" teaching and "bad" teaching. "Bad" teaching is defined as those variables that are current classroom practice(s) that would increase the likelihood of "ADHD Like" behavior (Sousa, 2001). "Good" teaching is defined as those variables that are current classroom practice(s) that would decrease the likelihood of "ADHD Like" behavior. Questions twelve, fourteen, fifteen, sixteen, seventeen, eighteen, twenty, twenty-two and twenty-six were "bad" teaching characteristics, and questions thirteen, nineteen, twenty-one, twenty-three, twenty-four, twenty-five and twenty-seven were "good" teaching characteristics (Appendix B).

Descriptive statistics reveal that "bad" teaching style had a mean of 32.11. The maximum was forty-nine out of a possible value of sixty-three and the minimum was seventeen (Table 4.22)

Table 4.22 Descriptive Statistics: "Bad" Teaching Style

N	Valid	239
	Missing	2
Mean		32.1130
Median		32.0000
Mode		28.00
Std. Deviation		6.45409
Minimum		17.00
Maximum		49.00

The Pearson Product correlation analysis revealed no correlation between the combined scale of "bad" teaching style and "ADHD Like" behavior (Sousa, 2001) in males (Table 4.23).

Table 4.23 Correlation: "Bad" Teaching Style and "ADHD Like" Behavior in Males

		"ADHD Like" Behavior in Males	"Bad" Teaching Style
"ADHD Like" Behavior in Males	Pearson Correlation	1	-.063
	Sig. (two-tailed)	.	.364
	N	210	210
"Bad" Teaching Style	Pearson Correlation	-.063	1
	Sig. (two-tailed)	.364	.
	N	210	239

The Pearson Product correlation analysis of "bad" teaching styles and "Attention-Deficit Hyperactivity Disorder Like" behavior in females resulted in no significant correlation (Table 4.24).

Table 4.24 Correlation: "Bad" Teaching Style and "ADHD Like" Behavior in Females

		"ADHD Like" Behavior in Females	"Bad" Teaching Style
"ADHD Like" Behavior in Females	Pearson Correlation	1	.027
	Sig. (two-tailed)	.	.693
	N	215	215
"Bad" Teaching Style	Pearson Correlation	.027	1
	Sig. (two-tailed)	.693	.
	N	215	239

The Pearson Product correlation analysis of "bad" teaching style and "Attention-Deficit Hyperactivity Disorder Like" behavior in males and females resulted in no significant correlation (Table 4.25).

Table 4.25 Correlation: "Bad" Teaching Style and "ADHD Like" Behavior in Males and Females

		"Bad" Teaching Style	"ADHD Like" Behavior in Males and Females
"Bad" Teaching Style	Pearson Correlation	1	-.029
	Sig. (two-tailed)	.	.671
	N	239	210
"ADHD Like" Behavior in Males and Females	Pearson Correlation	-.029	1
	Sig. (two-tailed)	.671	.
	N	210	210

Pearson Product Correlation Analysis of "good" teaching style and "ADHD Like" behavior (Sousa, 2001) in male students resulted in no significant correlation (Table 4.26).

Table 4.26 Correlation: "Good" Teaching Style and "ADHD Like" Behavior in in Males

		"Good" Teaching Style	"ADHD Like" Behavior in Males
"Good" Teaching Style	Pearson Correlation	1	.009
	Sig. (two-tailed)	.	.905
	N	227	200
"ADHD Like" Behavior in Males	Pearson Correlation	.009	1
	Sig. (two-tailed)	.905	.
	N	200	210

Pearson Product correlation analysis of "good" teaching styles and "ADHD Like" behavior (Sousa, 2001) in female students resulted in no significant correlation (Table 4.27).

Table 4.27 Correlation: "Good" Teaching Style and "ADHD Like" Behavior in Females

		"ADHD Like" Behavior in Females	"Good" Teaching Style
"ADHD Like" Behavior in Females	Pearson Correlation	1	.024
	Sig. (two-tailed)	.	.729
	N	215	205
"Good" Teaching Style	Pearson Correlation	.024	1
	Sig. (two-tailed)	.729	.
	N	205	227

The Pearson Product correlation analysis of "Good" teaching styles and "ADHD Like" behavior (Sousa, 2001) in the combined variables of males and females resulted in no significant correlation (Table 4.28).

Table 4.28 Correlation: "Good" Teaching Style and "ADHD Like" Behavior in Males and Females

		"Good" Teaching Style	"ADHD Like" Behavior in Males and Females
"Good" Teaching Style	Pearson Correlation	1	.011
	Sig. (two-tailed)	.	.872
	N	227	200
"ADHD Like" Behavior in Males and Females	Pearson Correlation	.011	1
	Sig. (two-tailed)	.872	.
	N	200	210

The Pearson Product correlation conducted on the separate (non-combined) questions within the survey revealed a negative correlation between "I lecture to my students" question fifteen within Section 2: Teaching Styles and Males and Females (Table 29 and 30). The negative correlation was significant at the 0.01 level (two-tailed).

Table 4.29 Correlation: Teacher Lectures to Students and "ADHD Like" Behavior in Males

		"ADHD Like" Behavior in Males	Teacher Lectures to Students
"ADHD Like" Behavior in Males	Pearson Correlation	1	**-.180
	Sig. (two-tailed)	.	.009
	N	210	210
Teacher Lectures to Students	Pearson Correlation	**-.180	1
	Sig. (two-tailed)	.009	.
	N	210	240

** Correlation is significant at the 0.01 level (two-tailed).

Table 4.30 Correlation: Teacher Lectures to Students and "ADHD Like" Behavior in Females

		"ADHD Like" Behavior in Females	Teacher Lectures to Students
"ADHD Like" Behavior in Females	Pearson Correlation	1	**-.139
	Sig. (two-tailed)	.	.041
	N	215	215
Teacher Lectures to Students	Pearson Correlation	**-.139	1
	Sig. (two-tailed)	.041	.
	N	215	240

* Correlation is significant at the 0.05 level (two-tailed).

Pearson Product correlation analysis on the separate (non-combined) questions within the survey, revealed a positive correlation between "I am able to cover all required curriculum within the time allotted" question eighteen within section 2: Teaching Styles and "ADHD Like" behavior in Females (Table 4.31). The positive correlation was significant at the 0.05 level (two-tailed).

Table 4.31 Correlation: Cover the Curriculum in Time Allotted and "ADHD Like" Behavior in Females

		"ADHD Like" Behavior in Females	Cover Curriculum in Time Allotted
"ADHD Like" Behavior in Females	Pearson Correlation	1	**.138
	Sig. (two-tailed)	.	.045
	N	215	213
Cover Curriculum in Time Allotted	Pearson Correlation	**.138	1
	Sig. (two-tailed)	.045	.
	N	213	237

**Correlation is significant at the 0.05 level (two-tailed).

Research Question Four

Research Question Four: Is there a correlation between the demographics of the teacher and "ADHD Like" behavior (Sousa, 2001) in the classroom?

Demographics of the teachers category within the survey included eleven independent variables: gender, age, years of experience, race, current employment status, amount of education, type of education certification, type of school in which the individual teaches, teaching philosophy, marital status, and whether or not one is a parent/step-parent. The same variables were used to describe the respondents to the survey. A positive correlation was found between two of the variables and "ADHD Like" behavior (Sousa, 2001). Type of teacher certification yielded a positive correlation of .230 at the 0.01 level of significance (two-tailed) (Table 4.32).

Table 4.32 Correlation: Type of Education Certification and "ADHD Like" Behavior in Males and Females

		"ADHD Like" Behavior in Males and Females	Type of Education Certification
"ADHD Like" Behavior in Males and Females	Pearson Correlation	1	**.230
	Sig. (two-tailed)	.	.001
	N	210	207
Type of Education Certification	Pearson Correlation	**.230	1
	Sig. (two-tailed)	.001	.
	N	207	236

** Correlation is significant at the 0.01 level (two-tailed).

A positive correlation of .238 at the 0.01 level of significance (two-tailed) was found between type of school and "ADHD Like" behavior (Sousa, 2001) in males and females (Table 4.33).

Figure 4.33 Correlation: Type of School and "ADHD Like" Behavior in Males and Females

		"ADHD Like" Behavior in Males and Females	Type of School
"ADHD Like" Behavior in Males and Females	Pearson Correlation	1	**.238
	Sig. (two-tailed)	.	.000
	N	210	210
Type of School	Pearson Correlation	**.238	1
	Sig. (two-tailed)	.000	.
	N	210	241

** Correlation is significant at the 0.01 level (two-tailed).

Research Question Five

Research Question Five: Is there a correlation between Demographics of the Classroom and "ADHD Like" behavior (Sousa, 2001) in the Classroom?

Section Five of the survey included five questions that analyzed the demographics of the classroom. This section of the survey included questions on grade level, number of students in the teacher's classroom, number of teachers in the classroom throughout the day, socioeconomic level of students, and classroom race.

Grade level statistics revealed that those who replied to the survey taught grades one through eight. From 219 teachers who answered this question, most of the teachers taught fourth grade (Table 4.34).

Table 4.34 Statistics:
Grade Level Teacher is Currently Teaching

N	Valid	219
	Missing	22
Mean		4.35
Median		4.00
Mode		3
Std. Deviation		2.256
Minimum		1
Maximum		8

The Pearson Product correlation analysis between the grade level of the teacher and "ADHD Like" behavior (Sousa, 2001) resulted in a positive correlation of .368 at the 0.01 level of significance (two-tailed) (Table 4.35).

Table 4.35 Correlation: Grade Level of Teacher and "ADHD Like" Behavior in Males and Females

		"ADHD Like" Behavior in Males and Females	Grade Level of Teacher
"ADHD Like" Behavior in Males and Females	Pearson Correlation	1	**.368
	Sig. (two-tailed)	.	.000
	N	210	199
Grade Level of Teacher	Pearson Correlation	**.368	1
	Sig. (two-tailed)	.000	.
	N	199	219

** Correlation is significant at the 0.01 level (two-tailed).

Question forty-one stated, "How many students are in your classroom?" The minimum number of students in the classroom was five students; the maximum number, ninety students. The average number of students for 227 classrooms was 24.11 students (Table 4.36).

Table 4.36 Statistics: Number of Students in the Classroom

N	Valid	227
	Missing	14
Mean		24.11
Median		22.00
Mode		20
Std. Deviation		11.019
Minimum		5
Maximum		90

The Pearson Product correlation analysis between the number of students in the classroom and "ADHD Like" behavior (Sousa, 2001) resulted in no significant correlation (Table 4.37).

Table 4.37 Correlation: Number of Students in the Classroom and "ADHD Like" Behavior in Males and Females

		"ADHD Like" Behavior in Males and Females	Number of Students in the Classroom
"ADHD Like" Behavior in Males and Females	Pearson Correlation	1	-.038
	Sig. (two-tailed)	.	.586
	N	210	210
Number of Students in the Classroom	Pearson Correlation	-.038	1
	Sig. (two-tailed)	.586	.
	N	210	227

Question forty-one asked the respondents, "Are you the only teacher in your classroom throughout the day?" A value of one was given to those respondents who answered "yes" and a value of two was given to those respondents who answered "no." A total of 234 teachers answered this question with a mean answer of 1.33 and a mode of 1. Most of the teachers who answered this question were the only teachers in their classrooms throughout the day (Table 4.38).

Table 4.38 Statistics: Is There Only One Teacher in the Classroom?

N	Valid	234
	Missing	7
Mean		1.33
Median		1.00
Mode		1
Std. Deviation		.471
Minimum		1
Maximum		2

The Pearson Product correlation analysis between only one teacher in the classroom and "ADHD Like" behavior (Sousa, 2001) resulted in no significant correlation (Table 4.39)

Table 4.39 Correlation: Only One Teacher in the Classroom and "ADHD Like" Behavior in Males and Females

		"ADHD Like" Behavior in Males and Females	One Teacher in the Classroom
"ADHD Like" Behavior in Males and Females	Pearson Correlation	1	.131
	Sig. (two-tailed)	.	.059
	N	210	209
One Teacher in the Classroom	Pearson Correlation	.131	1
	Sig. (two-tailed)	.059	.
	N	209	234

Questions forty-two asked teachers to estimate the number of students in their classroom who were within a low, middle, or high socioeconomic class. Socioeconomic class levels were based upon a yearly salary. The low socioeconomic level was defined as $0-20,999; the middle socioeconomic level was defined as $21,000-49, 999; and the high socioeconomic level was defined as $50,000 and up. Data was partitioned into males and females.

The low socioeconomic level of males ranged from a minimum of zero to a maximum of 40 students in a class. The average number of low socioeconomic male students within the classroom was 4.06. The low socioeconomic level of females ranged from a minimum of zero to a maximum of 30 students in class. The average number of low socioeconomic female students within the classroom was 3.75 (Table 4.40).

Table 4.40 Statistics:
Numbers of Males and Females with Low Socioeconomic Class Level

		Numbers of Males with Low Socioeconomic Class Level	Numbers of Females with Low Socioeconomic Class Level
N	Valid	201	201
	Missing	40	40
Mean		4.06	3.75
Median		3.00	3.00
Mode		2	2
Std. Deviation		4.851	4.276
Minimum		0	0
Maximum		40	30

The Pearson Product correlation analysis of the number of males and females with low socioeconomic levels in the classroom and "ADHD Like" behavior (Sousa, 2001) resulted in no significant correlation. Table 4.41 contains a positive correlation, herein not meaningful, of males and females within the sample, both with low socioeconomic class (Table 4.41).

Table 4.41 Correlations: Numbers of Males and Females with Low Socioeconomic Class Level and "ADHD Like" Behavior in Males and Females

		"ADHD Like" Behavior in Males and Females	Numbers of Males with Low Socioeconomic Level	Numbers of Females with Low Socioeconomic Level
"ADHD Like" Behavior in Males and Females	Pearson Correlation	1	.129	.074
	Sig. (two-tailed)	.	.077	.311
	N	210	189	189
Numbers of Males with Low Socioeconomic Level	Pearson Correlation	.129	1	**.858
	Sig. (two-tailed)	.077	.	.000
	N	189	201	200
Numbers of Females with Low Socioeconomic Level	Pearson Correlation	.074	**.858	1
	Sig. (two-tailed)	.311	.000	.
	N	189	200	201

** Correlation is significant at the 0.01 level (two-tailed).

The middle socioeconomic level ranged from a minimum of zero to a maximum of 28 students in a class. The middle socioeconomic level of females ranged from a minimum of zero to a maximum of 25 students. The average number of middle socioeconomic students within the classrooms of those who answered the survey was 5.64 (Table 4.42).

Table 4.42 Statistics:
Numbers of Males and Females with Medium Socioeconomic Class Level

		Numbers of Males with Medium Socioeconomic Class Level	Numbers of Females with Medium Socioeconomic Class Level
N	Valid	199	199
	Missing	42	42
Mean		5.64	5.47
Median		5.00	5.00
Mode		6	5
Std. Deviation		4.650	4.399
Minimum		0	0
Maximum		28	25

No significant Pearson Product correlation was found between the dependent variable of "ADHD Like" behavior (Sousa, 2001) in males and females and the middle socioeconomic class level of students within the classroom. Table 4.43 contains a positive correlation, herein not meaningful, of males and females within the sample, both with middle socioeconomic class (Table 4.43).

Table 4.43 Correlations: Numbers of Males and Females with Medium Socioeconomic Level and "ADHD Like" Behavior in Males and Females

		"ADHD Like" Behavior in Males and Females	Number of Males with Middle Socioeconomic Class Level	Number of Females with Middle Socioeconomic Class Level
"ADHD Like" Behavior in Males and Females	Pearson Correlation	1	.087	.052
	Sig. (two-tailed)	.	.235	.480
	N	210	187	188
Number of Males with Middle Socioeconomic Class Level	Pearson Correlation	.087	1	**.792
	Sig. (two-tailed)	.235	.	.000
	N	187	199	198
Number of Females with Middle Socioeconomic Class Level	Pearson Correlation	.052	**.792	1
	Sig. (2-tailed)	.480	.000	.
	N	188	198	199

** Correlation is significant at the 0.01 level (two-tailed).

The number of males in the high-socioeconomic level of males ranged from a minimum of zero to a maximum of 43 students in a class. The high-socioeconomic level of females ranged from a minimum of zero to a maximum of 51 students in the classroom. The average number of high socioeconomic students within the classroom of those who answered the survey was 3.02 (Table 4.44).

Table 4.44 Statistics:
Numbers of Males and Females with High Socioeconomic Class Level

		Numbers of Males with High Socioeconomic Class Level	Numbers of Females with High Socioeconomic Class Level
N	Valid	199	198
	Missing	42	43
Mean		3.02	2.96
Median		2.00	1.00
Mode		0	0
Std. Deviation		4.425	5.036
Minimum		0	0
Maximum		43	51

The Pearson Product correlation analysis between the high socioeconomic class level of males and females and "ADHD Like" behavior (Sousa, 2001) in males and females resulted in no significant correlation. Table 4.45 contains a positive correlation, herein not meaningful, of males and females within the sample, both with low socioeconomic class (Table 4.45).

Table 4.45 Correlations: High Socioeconomic Class Level Males and Females and "ADHD Like" Behavior in Males and Females

		"ADHD Like" Behavior in Males and Females	Number of Males with High Socioeconomic Class Level	Number of Females with High Socioeconomic Class Level
"ADHD Like" Behavior in Males and Females	Pearson Correlation	1	-.071	-.092
	Sig. (two-tailed)	.	**.335	.211
	N	210	188	188
Number of Males with High Socioeconomic Class Level	Pearson Correlation	-.071	1	.933
	Sig. (two-tailed)	**.335	.	.000
	N	188	199	198
Number of Females with High Socioeconomic Class Levels	Pearson Correlation	-.092	.933	1
	Sig. (two-tailed)	.211	.000	.
	N	188	198	198

** Correlation is significant at the 0.01 level (two-tailed).

Chapter V

ANALYSIS OF DATA

Introduction

"Everyone knows that some students take in information best through listening, some through seeing. Some learn quickly, some slowly. Some have learning disabilities. Some study best while working alone, others thrive in seminars or group discussions. Some learn best with trial and error, others are more intuitive. Yet despite this rich diversity, we impose a single style on the captive schoolchildren who fill our nation's schools." (Fiske, 1991) "Students who do well in school are those who can sit for long periods of time, learn by listening to someone talk, think abstractly, and not talk to anybody around them. It's a style that may come naturally to fifteen percent of the population." (Fiske, 1991) Eighty-five percent are left to struggle in our current school system.

If schools continue to do what they have done, they will continue to get what they have always received. The factory-school model of the 1950s is incapable of reaching our children today. Fiske (1991), writes in *Smart School, Smart Kids: Why Do Some Schools Work?* "Clearly the factory model of the school must go."

Our knowledge of best practice has grown tremendously. Educators know more today regarding effective teaching strategies than ever before, yet they refuse to change and our educational practice remains the same. "As educators gain a greater understanding of the human brain, they may discover that some students designated as "learning disabled" may be merely 'school disabled.' Sometimes these students are

struggling to learn in an environment that is designed inadvertently to frustrate their efforts." "Just changing our instructional approach may be enough to move these students to the ranks of successful learners." (Sousa, 2001)

Even though our school system hasn't changed dramatically, the students have. Their lives are what Richard DeGrandpre would call "rapid-fire." (DeGrandpre,1999) Brains are developed through engagement and stimulation and there is no doubt the students that are in our classrooms today are being constantly bombarded by a "rapid-fire" culture. (DeGrandpre, 1999) "Adult skeptics need but watch MTV for just a few minutes to discover that the images change every few seconds and play heavily on emotions." (Sousa, 2001) Think of how many students are in classrooms today whose first learning experience was the high stimulation and fast changing images of *Sesame Street*.

To meet the needs of today's children, our public school system must review its educational practice. Behavior is communication, and children are stating loud and clear that our current public educational system is not working. As teachers, they must reflect on the current best practice. It is what educators are doing in the classroom and how they are doing it that can make a difference. The inability of students to stay connected while the teacher lectures is not their fault but the teachers and the practice(s) we are using in the classroom. If teachers stopped all the "teacher talk" and provided hands-on, inquiry learning opportunities, students would be able to stay focused and stay engaged in their learning experience.

Purpose

The purpose of this research was to identify school practice(s) that would initiate school reform to combat "ADHD Like" behavior (Sousa, 2001) in the classroom setting. Based upon his theory of how the brain learns, Sousa believes that "students are different today and so are their brains. They have grown up in an environment much different than their parents." "Today's children have become accustomed to rapid sensory and emotional changes in their environment; add to this mix the changes in family patterns and lifestyles, as well as the sometimes drastic effects of modern diets, drugs, and sleep deprivation, and we can realize how very different the environment of today's child is from that of just a few years ago." (Sousa, 2001) When students are distracted and unable to concentrate for extended periods of time, it's due to the brain's inability to see novelty and relevancy to what they are learning. "Rather than disparaging the changing brain and culture, perhaps we should recognize that we must adjust schools to accommodate these changes." (Sousa, 2001) This research strived to add to the body of knowledge that our current educational practice(s) are associated with behaviors that to teachers are viewed as a disorder. In reality it's the child's way of communicating to educators that the current practices that are being used in the classroom are not successful.

Research Questions

Is there a correlation between teacher knowledge of Attention-Deficit Hyperactivity Disorder and "Attention-Deficit Hyperactivity Disorder Like" behavior (Sousa, 2001)? From all the research questions that were asked in this study, this one proved to show a correlation in both males and females. The Pearson Product correlation analysis resulted in a positive correlation of .144 in males, .216 in females, and an overall correlation of .200 when males and females were combined. Teachers are on the front line in diagnosing true ADHD. The greater their knowledge, the more adept they are at recognizing the signs of Attention-Deficit Hyperactivity Disorder. This correlation leads to the belief that teachers are mistakenly identifying those students with "ADHD Like" behavior (Sousa, 2001) as students who are Attention-Deficit Hyperactivity Disordered.

Is there a correlation between classroom environment and "ADHD Like" behavior (Sousa, 2001)? This study could find no correlation to the combined questions of classroom environment and "ADHD Like" behavior. The classroom environment category included questions on: how tables/chairs are arranged in the classroom, is there a quiet area in the classroom where students can go to read and work, are there independent work stations, to what degree are students made to sit in their desks/tables/chairs most of the day, are the lights left on when using the overhead projector, and is there a couch/pillows for students to use throughout the day.

A positive correlation of .138 was found between teachers having a couch and/or pillows for students to use throughout the day in their classrooms and "ADHD Like" behavior (Sousa, 2001) in male students.

Is there a correlation between teaching style and "ADHD Like" (Sousa, 2001) behavior? Teaching style was divided between and defined as "good" teaching style and "bad" teaching style. The purpose was to categorize those practice(s) that a teacher should be doing more often and compare those to practice(s) that a teacher should be doing less frequently and at the same time associating both types of practice with "ADHD Like" behavior (Sousa, 2001). The original hypothesis would validate a correlation between "bad" teaching style and "ADHD Like" behavior. The combined variables of both "good" teaching style and "bad" teaching style in males, females and combined males and females found no correlation. The teaching style has no association with "ADHD Like" behavior.

Completion of the Pearson Product correlation analysis on the separate (non-combined) questions within the survey revealed a negative correlation of -.180 between "I lecture to my students" and "ADHD Like" behavior (Sousa, 2001) in males and a negative correlation of -.139 in females. This information invalidates Fiske's (1991) idea that the drone of teacher-talk negatively affects students.

A positive correlation was found on another separate (non-combined) question within the survey. "I am able to cover all required curriculum within the allotted time" revealed a positive correlation of .138 in females only. This does validate Sousa's (2001) idea that rushing through the curriculum increases "ADHD Like" behavior in female students within the classroom setting. The rushing adds to the high stimulation, thus promoting "ADHD Like" behavior. It would benefit female students for the teacher to slow down when presenting the curriculum and not be in such a hurry.

Is there a correlation between the demographics of the teacher and "ADHD Like" behavior (Sousa, 2001) in the classroom? There were eleven independent variables to section 1; Demographics of the Teacher. They included gender, age, years of experience, race, current employment status, amount of education, type of education certification, and type of school in which the respondents teach, teaching philosophy, marital status, and whether or not the respondent is a parent/step-parent.

A positive correlation of .230 was found between the type of education certification and "ADHD Like" behavior (Sousa, 2001). A total of 61.4% of the respondents to this survey had elementary certification, and 2.1% had special education certification only. A second positive correlation of .238 was reported within this section. There is an association between the type of school and "ADHD Like" behavior in both males and females. Seventy-three percent of the respondents came from elementary schools while 24 ½% percent came from middle schools. The research can conclude that there is a correlation between elementary schools and "ADHD Like" behavior.

Is there a correlation between demographics of the classroom and "ADHD Like" behavior (Sousa, 2001) in the classroom? The grade level being taught by the teacher, the number of students in the classroom, the number of teachers going in and out of the classroom throughout the day, as well as the socioeconomic level of the students and their race had no correlation to "ADHD Like" behavior. This has a significant impact for teachers. The variables investigated within this section of the survey are those factors that, most often, teachers have little control over. It can be frustrating to be expected to change those items that are contributing to a child's behavior if you have little or no control over those variables. This information increases teachers' knowledge that the

variables mentioned above over which they have little or no control, are not contributing to the behavior teachers are seeing in their classrooms.

Conclusion

The study of school practice to combat "ADHD Like" behavior (Sousa, 2001) in schools needs to be continued. This research concludes with more questions than answers. If classroom environment, if teaching styles, if the demographics of the teacher and the demographics of the classroom are not associated with "ADHD Like" behavior, then what is? There is no doubt that "the number of children identified as having ADHD has risen and some children diagnosed with ADHD early in life simply have the symptoms which mimic the disorder but do not have the disorder." (Sousa, 2001) There is also no doubt that school systems are still teaching children in the factory-school model that was used during the 1950s, and this model simply is not conducive to children's success. (Fiske, 1991) If learning opportunities are determined by the nature of the schoolwork students are assigned or encouraged to undertake, education professionals must ask themselves what learning opportunities are being created and are they being delivered in a way that is productive for today's students? The increase of students with "ADHD Like" behavior in the classroom indicates that educators are not being successful.

As educators begin to redefine schooling they must continually keep in mind that students of the twenty-first century need a variety of new structures and classroom practice. There are far too many classrooms currently in school buildings where the teacher is in front of the classroom pouring out information to students who are having a

difficult time concentrating and being successful. Teachers struggle with the student's inability to be successful, yet there is a refusal to change. Teachers still continue to blame the student. Blaming the student won't create school reform that is necessary. What is necessary is that educators begin to take a good long look at what we are doing in the classroom that is a contributing factor to the child's inability to be successful. Until we are able to look and change classroom practice, "ADHD Like" (Sousa, 2001) behavior will be prevalent in the classroom.

Overall, the original hypothesis based on the theory of "Attention-Deficit Hyperactivity Disorder Like" behavior (Sousa, 2001) was not validated by this research. Plans are to continue this research and look into other possible variables. Social issues such as divorce, the student's home environment, working mothers and the impact of technology might possibly have an impact on the development of "ADHD Like" behavior. Although teachers have no control over the divorce rate of their students, their home environments, whether or not their students' mothers work outside the home and what technology the students' are using, these factors influence the behavior that educators are witnessing in the classroom. If the behaviors are there, then as educators we need to be prepared to address the academic as well as the social dimension of the child as he/she enters the classroom.

APPENDIX A
Letter to Teachers

3556 Caroline St.
St. Louis, MO 63104
Phone: 314-577-8108
Fax: 314-268-5551

SAINT LOUIS
UNIVERSITY

April 12, 2002

Dear Teacher,

For my doctorate in educational leadership from Saint Louis University, I am conducting research on "Leadership Initiatives for School Reform: Identification and Modifications of School Structures to Combat Attention-Deficit Hyperactivity-Like Behavior". Three to five percent of our school population or approximately 2 million students in the United States have been labeled Attention-Deficit Hyperactivity Disordered. I will be conducting a study to look at public schools within the St. Louis County area and the use of environmental structures and teaching strategies in their relationship to Attention-Deficit Hyperactivity-Like behavior.

Teachers have been on the front line in the identification of this disorder. I'm coming to you as a vital participant in my research. This study encourages reflection on school structures currently being used in the classroom that might lead to Attention-Deficit Hyperactivity-Like behavior. It will take approximately 10-15 minutes to complete this survey. By completing this survey you can add to the body of knowledge regarding Attention-Deficit Hyperactivity Like Behavior. Your participation is voluntary and you can withdraw at any time. Your name was randomly selected from 8,230 teachers in the St. Louis County public schools grades 1-8. Since I will not be surveying all teachers within the St. Louis County area your response has an even greater importance to me. Confidentiality is assured. Your name will not be used in any way and all surveys will be kept in a lock box and will be destroyed at the end of my research.

As an incentive toward a 100% rate of return, the coded number at the top of your survey will be placed in a drawing for a $100.00 gift certificate to be used at the teacher's store, *Bradlearns* located in Creve Coeur, Missouri. You will be notified by mail, should you be the winner. This form can be found on the back of this letter.

Please return the survey by May 10, 2002

Thank you for your willingness to participate in this research project.

Sincerely,

Lynda Leavitt
Doctoral Student
Saint Louis University

APPENDIX B
Survey

Survey Code #_____

This survey is designed to assess school structures to combat Attention-Deficit Hyperactivity-Like Behaviors

General Instructions:

- **There are six sections to this survey.**
- **Fill in each blank and mark each box to indicate your view about each item using the choices given. It should take approximately 15 minutes to finish the survey.**
- **If you teach more than one course/class during the school day, please think of *one* class you have during the day and use that class to answer all questions.**
- **Use a pen.**
- **After completing the survey, send it back to me in the enclosed pre-stamped envelope.**

Thank-you for being a part of this research!

SECTION 1: Demographics of the Teacher

1.	What is your gender?	Male	O
		Female	O
2	Which category best describes your age?	22-30	O
		31-40	O
		41-50	O
		over 50	O
3.	How many years of experience do you have as a teacher in the public school system?	_____years	
4.	What is your race?	White/Non-Hispanic	O
		Black/Non-Hispanic	O
		Asian, Pacific Islander	O
		Latino/Latina	O
		Native American	O
		Other _____	O
5.	What is your current employment status?	Tenured	O
		Non-tenured	O
6	Which category best describes the amount of education you have completed?	Bachelor Degree	O
		Bachelor Degree plus 20 college credit hours	O
		Masters Degree	O
		Masters Degree plus 20 college credit hours	O
		Doctorate	O

7. Which category/categories best describes your education certification?	Elementary	O
	Special Education	O
	Elementary and Special Education	O
	Middle School	O
	Middle School and Special Education	O
8. I currently teach in a/an:	Elementary school	O
	Middle School	O
	Junior High	O
9. I would describe my teaching philosophy as:	Traditional	O
	Somewhat traditional	O
	Somewhat constructivist	O
	Constructivist	O
10. Marital Status:	Single	O
	Married	O
	Divorced	O
	Widowed	O
11. I am a parent/step-parent:	Yes	O
	No	O

SECTION 2: Teaching Style

(Check which response describes your teaching style by bubbling one circle along the scale ranging from never on the far left to always on the far right.)

	Never						Always
12. I develop the classroom management plan:	O	O	O	O	O	O	O
13. My students help develop the classroom management plan:	O	O	O	O	O	O	O
14. I feel I rush through the curriculum:	O	O	O	O	O	O	O
15. I lecture to my students	O	O	O	O	O	O	O
16. My students copy from the board:	O	O	O	O	O	O	O
17. Presenting the curriculum leaves little time to attend to my student's emotional needs:	O	O	O	O	O	O	O

		Never						Always
18.	I am able to cover all required curriculum within the time allotted:	O	O	O	O	O	O	O
19.	I use authentic assessment:	O	O	O	O	O	O	O
20.	I use worksheets in my classroom:	O	O	O	O	O	O	O
21.	I assess my students more than once during a unit:	O	O	O	O	O	O	O
22.	I assess my students using the material provided to me by the textbook company:	O	O	O	O	O	O	O
23.	I observe student's facial expressions in my classroom.	O	O	O	O	O	O	O
24.	I design my lessons based on my students interests	O	O	O	O	O	O	O
25.	I begin each unit with a thought provoking question.	O	O	O	O	O	O	O
26.	The textbook is used in my classroom:	O	O	O	O	O	O	O
27.	I incorporate strategies of personalized learning/differentiation in my classroom lesson planning	O	O	O	O	O	O	O

SECTION 3: Attention-Deficit Hyperactivity Classroom Data

28. How many students in your classroom are diagnosed as having Attention-Deficit Hyperactivity Disorder?
Boys_____ Girls_____

29. How many students in your classroom who are diagnosed with having Attention-Deficit Hyperactivity Disorder are on an "IEP" or "504" plan?
Boys_____ Girls_____

30. How many students in your classroom labeled as Attention-Deficit Hyperactivity Disorder are also diagnosed with another type of disorder or disability?
Boys_____ Girls_____

31. How many students in your classroom exhibit signs of distractibility, inattentiveness and poor organizational skills and are not diagnosed with Attention-Deficit Hyperactivity Disorder?
Boys_____ Girls_____

32. How many students are in your classroom?
Boys_____ Girls_____

SECTION 4: Classroom Environment

(Check which responses describes your classroom environment by bubbling one circle along the scale ranging from never on the far left to always on the far right.)

		Never						Always
33.	Students in my classroom stay in their desks/tables/chairs:	O	O	O	O	O	O	O
34.	When I use the overhead projector, I turn out the lights:	O	O	O	O	O	O	O
35.	The table/chairs in my classroom are arranged in rows:	Yes_____			No____			
36.	I have a special area in my classroom where students can go and read and/or have quiet work time.	Yes_____			No_____			
37.	I have independent work stations in my classroom.	Yes_____			No_____			
38.	I have a couch and/or pillows for students to use throughout the day in my classroom:	Yes_____			No_____			

SECTION 5: Demographics of the Classroom

39 What grade level are you currently teaching? _____

40. How many students are in your classroom? _____

41. Are you the only teacher in your classroom throughout the day? _____

42. Please estimate and fill in the box chart below the number of students in each category as it pertains to your classroom.

Classroom Socioeconomic Class Table #1

	MALE	FEMALE
Low socioeconomic class ($0-20,999 yearly income		
Middle socioeconomic class ($21,000-49,999 yearly income)		
High socioeconomic class ($50,000 and up yearly income)		

43. Please estimate and fill in the box chart below the number of students in each category as it pertains to your classroom.

Classroom Race Chart #2

	MALE	FEMALE
White/Caucasian		
African-American		
Latino		
Asian		
Hispanic		

SECTION 6: Teacher Knowledge of Attention-Deficit Hyperactivity Disorder

(Check which response describes your knowledge of Attention-Deficit Hyperactivity Disorder by bubbling one circle: true, false or don't know.)

		True	*False*	*Don't Know*
44.	Attention-Deficit Hyperactivity Disorder is more common in the first degree of biological relatives (i.e. mother, father) of children with Attention-Deficit Hyperactivity Disorder than in the general population.	O	O	O

		True	*False*	*Don't Know*
45.	Reducing dietary intake of sugar or food additives is generally effective in reducing the symptoms of Attention-Deficit Hyperactivity Disorder	O	O	O
46.	There are specific physical features which can be identified by medical doctors (e.g. pediatrician) in making a definitive diagnosis of Attention-Deficit Hyperactivity Disorder.	O	O	O
47.	Symptoms of Attention-Deficit Hyperactivity Disorder are often seen in non-ADHD children who come from inadequate and chaotic home environments.	O	O	O
48.	One symptom of Attention-Deficit Hyperactivity Disorder is that they have been physically cruel to other people.	O	O	O
49.	Attention-Deficit Hyperactivity Disorder children are frequently distracted by extraneous stimuli.	O	O	O
50	Attention-Deficit Hyperactivity Disorder by itself makes a child eligible for placement in special education.	O	O	O
51.	Attention-Deficit Hyperactivity Disorder children often have difficulties organizing tasks and activities.	O	O	O
52	Children with Attention-Deficit Hyperactivity Disorder are more distinguishable from normal children in a classroom setting than in a free play situation.	O	O	O
53.	In school age children the prevalence of Attention-Deficit Hyperactivity Disorder is equivalent in males and females.	O	O	O
54	Antidepressant drugs have been effective in reducing symptoms for many Attention-Deficit Hyperactivity Disorder children.	O	O	O
55.	When treatment of an Attention-Deficit Hyperactivity Disorder child is terminated, it is rare for the child's symptoms to return.	O	O	O
56.	Side effects of stimulant drugs used for treatment of Attention-Deficit may include insomnia and appetite reduction.	O	O	O
57.	Individual psychotherapy is usually sufficient for the treatment of most Attention-Deficit Hyperactivity Disorder children.	O	O	O
58.	Stimulant drugs are the most common type of drugs used to treat children with Attention-Deficit Hyperactivity Disorder.	O	O	O
59	The majority of Attention-Deficit Hyperactivity Disorder children evidence some degree of poor school performance in the elementary school years	O	O	O
60.	If an Attention-Deficit Hyperactivity Disorder child is able to demonstrate sustained attention to video games or TV for over an hour, that child is also able to sustain attention for at least an hour of class or homework.	O	O	O

Thank you for taking the time to complete the survey. Please fill in the information below if you would like to receive a summary of the results or participate in the $100.00 drawing at ***Bradburns***. A winner will be selected randomly from all survey participants. The gift certificate will be mailed to the address located on the survey envelope. If participating please return this page with the survey in the self-addressed stamped envelope included with the survey.

_____Yes, I would like to participate in the drawing for a $100.00 gift certificate to ***Bradburns*** teacher store.

Survey Code #_____(this number is located in the upper right hand corner of your survey)

Yes, I would like to receive a summary of the results of this research study.

Survey Code #_____(this number is located in the upper right hand corner of your survey)

APPENDIX C
Permission Letter from Dr. Sousa

To: LLeavitt@South SOPO
From: <DavidSNJ@aol.com>
Subject: Re: Letter to begin research
CC:
Date Sent: Sunday, September 23, 2001 2:32 PM

Dear Lynda Leavitt

This e-mail letter grants you permission to use the term "Attention-Deficit Hyperactivity Disorder Like Behavior" and the nine (9) variables discussed in my book, "How the Special Needs Brain Learns," (2001, Corwin Press), pp. 51-55, under the following conditions:

1. Proper citation from the source will be included in any and all references to this material;

2. No documents comprised mainly of this information will be sold without my prior permission; and

3. A copy of the final research document will be sent to me as soon as practicable after completion, at the following address: 3581 S. Ocean Blvd., Palm Beach, FL 33480.

If you agree to these conditions, please send me an e-mail to that effect at your convenience. I wish you success in your endeavors.

Sincerely,
David A. Sousa, Ed.D.

APPENDIX D
Permission Letter from Dr. Sciutto

WESTMINSTER COLLEGE

Department of Psychology

November 30, 2000

Mrs. Lynda Leavitt
572 Prairie Home
St. Peters, Missouri 63376

Dear Mrs. Leavitt,

I am very pleased that you have requested to use the Knowledge of Attention Deficit Disorders Scale (KADDS) for your research. I gladly grant you permission to use the KADDS in your research provided that you forward me a copy of the results when you have finished. I am looking forward to seeing the results.

Sincerely,

Mark J. Sciutto, Ph.D.
Assistant Professor of Psychology
(724) 946-6356
sciuttmj@westminster.edu

BIBLIOGRAPHY

American Psychiatric Association (1967). Diagnostic and statistical manual of mental disorders (2nd ed.). Washington, DC: American Psychiatric Association

American Psychiatric Association (1980). Diagnostic and statistical manual of mental disorders (3rd ed.). Washington, DC: American Psychiatric Association

American Psychiatric Association (1987). Diagnostic and statistical manual of mental disorders (3rd ed. revised). Washington, DC: American Psychiatric Association

American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: American Psychiatric Association

Atlas Communities. Retrieved 12/2/00 from the World Wide Web: http://www.edc.org/Atlas/frame.htm.

Baron. (1996). How to Diagnosis ADHD. Contemporary Pediatrics, 53, 13-15.

Barkley, R. (1990). Attention-Deficit Hyperactivity Disorder. New York, New York: The Guildford Press.

Block, M. (1996). No More Ritalin: Treating ADD Without Drugs. New York: Kensington Books.

Block, J., Everson, S., Guskey, T., (2000) Comprehensive School Reform: A Program Perspective. Dubuque, Iowa: Kendall Hunt Publishing Company.

Breggin, P. (1998). Talking Back To Ritalin: What Doctors Aren't Telling You About Stimulants for Children. Monroe, ME: Common Courage Press.

Breggin, P. (1999). Your Drug May Be Your Problem: How and Why To Stop Taking Psychiatric Medications. Boston, MA: Perseus Books.

Busch, B. (1993). Attention Deficits: Current Concepts, Controversies, Management, and Approaches to Classroom Instruction. Annals of Dyslexia, 43, 5-25.

Carle, E. (2000). ADHD For Sale. Psychology Today, 33, 17-18.

Dawson, J. (1997). Attention Deficit Disorder – An Educational Psychology Perspective. Priory Lodge Education Ltd., 1,1-6.

DeGrandpre, R. (1999). Ritalin Nation: Rapid-fire Culture and the Transformation of Human Consciousness. New York: W.W. Norton and Company.

Donovan, D. (2000). An Alternative Approach to ADHD. Harvard Mental Health Letter, 16, 1-6.

DuFour, R. (1992) Creating the New American School: A Principal's Guide to School Improvement. Bloomington, Indiana: National Educational Service.

Elkind, D. (1988). The Hurried Child: Growing Up Too Fast Too Soon. Boston, MA: Addison-Wesley.

Fiske, E. (1991). Smart Schools, Smart Kids: Why Do Some Schools Work? New York, New York: Simon & Schuster.

Gall, J., Borg, M., Gall, W. (1996). Educational Research: An Introduction. White Plains, New York: Longman Publishers.

Grynkewich, M. (1996). Elementary and Secondary Preservice Educators' Attitudes and Knowledge About Attention-Deficit Hyperactivity Disorder. *Dissertations Abstracts International, 57* (09), 3889. (UMI No. 9706174)

Hallowell, E., Ratey, J. (1994). Driven To Distraction. New York, New York: Touchstone.

Hartmann, T. (1996). Beyond ADD: Hunting for Reasons in the Past and Present. Grass Valley, California: Underwood Books.

Healy, J. (1990). Endangered Minds: Why Our Children Don't Think and What We Can Do About It. New York, New York: Simon & Schuster.

Henry, N. (1985). An Investigation of Teachers' Beliefs About Their Students and the Influence on Those Beliefs on Their Attitudes Toward Students. *Dissertations Abstracts International, 46* (10), 2971. (UMI No. 8528977)

Jerome, L., Laine, C., Segal, A., Washington, P. Is Teacher's Knowledge Regarding Attention Deficit Hyperactivity Disorder Improving? Retrieved 12/2/00 from the World Wide Web: http://www.priory.com/psych/adhdteach.htm

Lerner, J., Lerner, S., Lowenthal, B. (1995). Attention Deficit Disorder Assessment and Teaching. New York, New York: Brooks/Cole Publishing Company.

McGuiness, D. (1985). When Children Don't Learn: Understanding the Biology and Psychology of Learning Disorders. New York, New York: Basic Books.

National Center for Education Statistics (2002). Chapter Two: Elementary and Secondary Education. Retrieved 11/20/02 from the World Wide Web: http://research.nces.ed.gov/query.html

Rutter, M. (1983). Developmental Neuropsychiatry. New York, New York: The Guilford Press.

Sciutto, M. (2000). Teachers' Knowledge and Misperceptions of Attention-Deficit/Hyperactivity Disorder. Psychology in the Schools, 37, 115-122.

Sousa, D. (2001). How The Special Needs Brain Learns. Thousand Oaks, California: Corwin Press, Inc.

Stein, D. (1999). Ritalin is Not the Answer: A Drug-Free, Practical Program for Children Diagnosed with ADD or ADHD. San Francisco: Josey-Boss.

Walker, S. (1998). The Hyperactivity Hoax. New York, New York: St. Martin's Press.

VITA AUCTORIS

Lynda B. Leavitt was born in St. Louis, Missouri, in 1957. She attended elementary school, junior high and high school in the Riverview Gardens School District. After graduation Lynda attended St. Louis Community College; she enrolled for introductory courses, and then in 1976 transferred to Central Missouri State University, Warrensburg, Missouri. She earned her Bachelor of Science degree in 1980. Lynda majored in Political Science and minored in Broadcasting/Film.

In 1982 Lynda received her Para-Legal certificate from Saint Louis Community College at Florissant Valley. She continued her studies at the University of Missouri-St. Louis where she graduated Magna Cum Laude in 1993 with her second Bachelor of Science degree. Lynda received her degree in Elementary and Special Education.

Lynda was hired for the 1994-1995 school year by the Fort Zumwalt School District. During her tenure in the Fort Zumwalt School District she taught elementary school in the fifth, fourth and first grade.

In February of 1998 Lynda graduated Summa Cum Laude from National-Louis University with her Master of Education degree in Curriculum and Instruction. While in attendance at National-Louis University, Lynda was also enrolled at Lindenwood University where she completed her Missouri state administrator certification in June of 1999.

Lynda began her administrative career with the Parkway School District in 1999 as an administrative intern. After two years as an administrative intern she was promoted to the Assistant Principal position in 2001. Lynda has worked as an administrator for the past four years. After the completion of her Doctoral degree at Saint Louis University, Lynda plans to become a principal at the

elementary or middle school level. Lynda is currently a member of Phi Delta Kappa and the National Middle School Association.