

IDENTIFICATION OF ATTENTION DEFICIT HYPERACTIVITY  
DISORDER (ADHD) AMONG SELECTED INTERNATIONAL  
KINDERGARTEN SCHOOLS IN METROPOLITAN  
BANGKOK

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A Thesis Submitted in Partial  
Fulfillment of the Requirements  
For the Degree of

MASTER OF SCIENCE  
Department of Counselling Psychology  
ASSUMPTION UNIVERSITY  
Bangkok, Thailand  
September 2000

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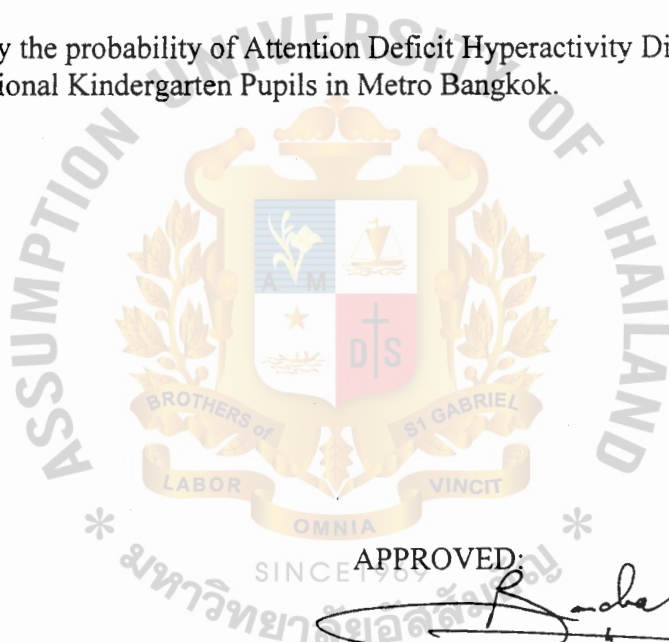
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170Pages

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To survey the probability of Attention Deficit Hyperactivity Disorder (ADHD) of  
selected International Kindergarten Pupils in Metro Bangkok.



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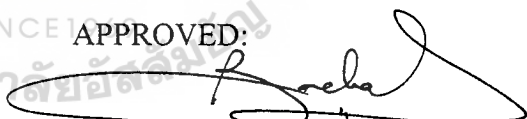
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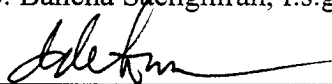




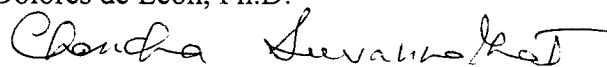
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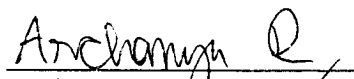
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Abstract

The purpose of this study of "Identification of Attention Deficit Hyperactivity Disorder Among Selected International Kindergarten Schools in Metro Bangkok" is to survey the probability of Attention Deficit Hyperactivity Disorder using the sub tests Hyperactivity, Impulsivity and Inattention of selected international kindergarten students as perceived by parents and teachers. The other purpose of the study is to compare using different demographic variables of gender, age, birth order and nationality. The findings obtained from 317 pupils among selected international schools were the following:

After employing the t-test to evaluate data on the three sub tests of Hyperactivity, Impulsivity and Inattention at 0.05 level of significance :

1. The hypothesis was rejected that there is significant difference of the three sub tests Hyperactivity, Impulsivity and Inattention problems after taking the comparative results between teachers and parents perception.
2. After employing the t-test to analyze data on the "gender" variable at the 0.01 level of significance, the hypothesis was accepted that there is a significant difference between male and female subjects.
3. After employing the F-test to analyze data on the "age", "birth order" and "nationality" variables at the 0.05 level of significance.
  - a. The hypothesis was rejected that there is significant difference among the three age groups: 3 to 5 years old; 6 to 7 years old ; and 8 to 9 years old for the three sub tests Hyperactivity, Impulsivity and Inattention.
  - b. The hypothesis was accepted that there is no significant difference between "First-Born" and "Others" in three sub tests of Hyperactivity, Impulsivity and Inattention.
  - c. The hypothesis was rejected that there is a significant difference in terms of nationalities in two sub tests of Hyperactivity and Impulsivity.
  - d. Using the Scheffe Method of testing, there is significant difference between Asian and European subjects in the Inattention sub test.

## ACKNOWLEDGEMENTS

I am deeply indebted to Dr. Dolores de Leon, Dean of the Department of Guidance Counseling, who encouraged and contributed her time and energy to advise and help edit the final draft of my paper. I would like to express my sincere thanks to Dr. Sumalee Sungsiri, my adviser for her valuable guidance and supervision throughout my thesis writing.

I am very grateful to my sister, Engr. Rose Marie L. Nagallo (MBA) who helped me for the data collection and provided invaluable thesis consultancy. I would like to thank my statistician, Asst. Prof. Laddawan Kasemnet (Srinakharinwirot University), who gave me guidance in the statistical analysis of my actual data.

I would like to thank all the teachers, parents and friends of the international schools under study who gave their support and cooperation. Without them, this study would never have been completed.

I also wish to acknowledge the support and encouragement from my siblings and my dear husband, Freddy Weng Tuck Wah, during the years of my masteral studies. Without them, I would not have come this far. In a special way, I would like to acknowledge my dear mother, Mrs. Rosario L. Lamadrid, a Ph. D. Candidate, whom I draw considerable inspiration in obtaining my masteral degree, and probably, further doctoral studies in the future. She is the wind beneath my wings in furthering my studies.

Finally, I would like to thank our dear Lord Almighty for granting me the strength, perseverance and the wisdom to complete my thesis.

C. L. L.

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## CHAPTER I

### THE PROBLEM AND ITS BACKGROUND

#### Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is a condition that we are just beginning to understand. Some three million to four million children in the United States, and probably a larger number of adults have been found with this disorder. It is a compulsive disorder, with multifactoral causes usually generic in origin, with a combination of biological and environmental influences. It is caused by a deficiency in brain chemicals called neurotransmitters that transmit nerve impulses across synapses. Without sufficient neurotransmitters, the center of the brain that control behavior and attention cannot work properly. Dr. Alan Zametkin, in his 1990 studies, documented that there seems to be a strong inheritance component. Other researchers have documented attention deficits associated with toxic effects on the brain ( e.g. maternal cocaine, tobacco, and alcohol use before birth or lead exposure and meningitis after birth). A pediatrician named Benjamin Feingold theorized that food additives such as food coloring, preservatives, excessive sugar and artificial flavorings can cause hyperactivity.

Imagine living in a fast-moving kaleidoscope, of sounds, images, and thoughts constantly shifting. Feeling easily bored, yet helpless to keep your mind on tasks you need to complete. Distracted by unimportant sights and sounds, your mind drives you from one thought or activity to the next. Perhaps you are so wrapped up in a collage of thoughts and images that you do not notice when someone speaks to you.



Everyone occasionally has difficulty staying still, sustaining attention, or shifting inconvenient impulses. For some people the problem is so persistent and serious, and interferes so constantly with work, friendships, and family life, that it is regarded as a psychiatric disorder. Formerly known as hyperkinesis, hyperactivity, minimal brain damage, and minimal brain dysfunction, attention deficit hyperactivity disorder (ADHD) received its present name and description in the late 1970's. Researchers have increasingly come to believe that the symptoms persist into adulthood in modified form. The problem is not, strictly speaking, a deficit of attention so much as a lack of consistent direction and control. Children with ADHD are easily distracted and often seem to be daydreaming. They do not finish what they start and repeatedly make what appear to be careless mistakes. They switch haphazardly from one activity to another.

For many people, this is what it is like to have Attention Deficit Hyperactivity Disorder, or ADHD. They may be unable to sit still, plan ahead, finish tasks, or be fully aware of what is going on around them. To their family, classmates or coworkers, they seem to exist in a whirlwind of disorganized or frenzied activity. Unexpectedly on some days and in some situations they seem fine, often leading others to think the person with ADHD can actually control these behaviors. As a result, the disorder can mark the person's relationships with others in addition to disrupting their daily life, consuming energy, and diminishing self-esteem.

ADHD, once called hyperkinesis or minimal brain dysfunctions (MBD) is one of the most common psychiatric disorders among children. Estimates of the number of American schoolchildren with ADHD may vary widely from as low as 3% to as high as 15%. The disorder afflicts six to nine times more boys than girls. On the average, at least one child in every classroom in the United States needs help for the disorder. ADHD

often continues into adolescence and adulthood, and can cause a lifetime of frustrated dreams and emotional pain.

In the last decade, scientists have learned much about the causes of the disorder and are now able to identify and treat children, adolescents, and adults who have it. A variety of medications, behavior-changing therapies, and educational options are already available to help people with ADHD focus their attention, build self-esteem, and function in adequate ways. ADHD takes its toll not only on the children but on their families. Parents often feel that somehow they have failed in their duties. Mother and father may argue the increased attention that the ADHD child receives. All in all, the family of an ADHD child bears an especially heavy load of stress that can eat away at the family structure and the marriage (Koop, 1990). It is generally accepted that parents are concerned about the development of their children and nurture them so that they reach adulthood equipped to cope with the uncertainties of life (Gordon, 1990).

The researcher chose attention deficiency hyperactivity disorder in international school because of the following reasons: Having been the Assistant Administrator of Early Years International Kindergarten for six years and not to exclude the researcher's teaching experience in other international kindergarten schools in Bangkok, Thailand, it was deemed appropriate to choose ADHD as a very significant topic for an in depth study; Having dealt with parents of ADHD children in several international kindergarten schools in Bangkok, their pains of handling and disciplining their own children at their homes, it was deemed necessary to handpick this topic in order to share with them the results of the research that would enable them to have a clearer understanding of their growing children, for them to provide greater support and meet the needs of such ADHD children; Having been exposed to various cases of children with ADHD children, it

inspired the researcher to conduct an investigative approach to ADHD with the single belief that such ADHD children can also become successful in their future lives with respect to their chosen career as long as their needs and requirements in their growing years are satisfactorily met at home and in school. It is only through a clearer understanding of ADHD per se that such special children can be nurtured and well taken care of; Having gone through the painstaking experience as a teacher of some children with ADHD and having compared notes with other teachers who have gone through and are still going through and will be going through similar experience, it would be an inspiration for such teachers to handle such special children with care and gentleness, embracing them like other normal children and instilling in them loads of patience and understanding in dealing with them.

The reasons the researcher aimed to study the identification of attention deficit hyperactivity disorder according to demographic variables which were age, gender, birth order and nationality of the students was based on the findings of some researches that showed significant differences of degree of symptoms among these demographic variables.

### Objectives of the Study

There are four objectives of the study.

1. To assess the level of hyperactivity, impulsivity and inattention that the child is currently experiencing as perceived by teachers.
2. To assess the level of hyperactivity, impulsivity and inattention that the child is currently experiencing as perceived by parents.

3. To compare hyperactivity, impulsivity and inattention between data collected as perceived by the teachers and data gathered from parents.
4. To evaluate the difference between hyperactivity, impulsivity and inattention with the variables of age, gender, nationality, and birth order as perceived by teachers.

### Statement of the Problem

1. What is the level of hyperactivity, impulsivity and inattention that the child is currently experiencing as perceived by teachers.
2. What is the level of hyperactivity, impulsivity and inattention that the child is currently experiencing as perceived by parents.
3. Is there a difference in the comparison of hyperactivity, impulsivity and inattention between data collected as perceived by the teachers and data gathered from parents.
4. Is there a difference between hyperactivity, impulsivity and inattention with the variables of age (class level), gender, nationality, and birth order as perceived by teachers.

Hence, two null hypotheses were established, namely:

1. There is no significant difference in the identification of the ADHD symptoms generated by the teachers and those given by their parents.
2. There is no significant difference in the identification of hyperactivity, impulsivity and Inattention children according to the demographic variables of gender, age, nationality, and birth order.

### Significance of the Study

1. The importance of identifying ADHD in its early stage to counteract the dysfunctional effects as the child grows older. An early diagnosis can bring help before the problem



worsens. Kindergarten or the first grade level is the best time to spot difficulties before children begin to feel different from their classmates. Teachers and Learning Specialists emphasize that early diagnosis is often critical to future success.

2. The importance of making ADHD parents aware of the disorder to help them understand their child and alleviate the condition if possible. A diagnosis of ADHD paves the way for a student to seek help from the school's Learning Specialists or switch to a smaller class with a curriculum that is designed to their specific needs and requirements.
3. A detailed and careful diagnosis provides ADHD pupils with invaluable information about themselves. The tests may point out strengths a pupil did not realize or had simply taken for granted. The tests further identify areas that the pupil needs strengthening which are crucial to her/his future.

#### Definition of Terms

1. Attention Deficit Hyperactive Disorder refers to a problem that is most evident in school-age children, often associated with a learning disability, characterized by excessive activity, an inability to concentrate, and impulsive, sometimes aggressive behavior (Berger, 1994). For the remaining text, it will always be referred to as ADHD.
2. Impulsivity are children who seem unable to curb their immediate reactions or can think for only a few minutes (Zametkin, 1990).
3. Inattention are children who are inattentive have a hard time keeping their mind on any one thing and may get bored with a task after only a few minutes.

4. Hyperactivity are children who are hyperactive always seem to be in motion.
5. International Kindergarten School in this study refers to the school composed of students with different nationalities and age groups as English as the medium of instruction that follows the international curriculum.
6. Age refers to the students in this study who are from 3 to 9 years old at the time of assessment.
7. Birth Order refers to the the order in which a child is born to a family (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, etc). Second, third, and so on are classified as “Others”.
8. Gender refers to sex either male or female.
9. Nationality refers to the quality of being national or strongly attached to one’s nation.  
In this study, it refers to European, American, Thai and Asian.
10. Parent in this study refers to the mother or care giver of the child.

#### Scope of the Study

The sampling distribution for international kindergarten schools is limited to pupils who are enrolled for the years 1998-1999/1999-2000. The pupils aged from 3 to 9 years old at the time of survey.

The researcher has chosen Early Years International Child Care and Kindergarten, Australian International School, New International School of Thailand (NIST), Kiddie’s Corner School, Modern International School of Bangkok and St. Andrew’s International School. The research is limited only to international students due to language barrier.

### Methodology

This research aims to identify students with Attention Deficit/Hyperactivity Disorder as observed by International Kindergarten teachers and parents in a multi-cultural setting.

From the sample of six kindergarten schools, the sampling would be taken from the 15 classroom teachers and parents of the 317 students as the respondents from these selected International Kindergarten schools in Bangkok for the school years 1998-1999/1999-2000. The teachers were requested to complete a checklist by the researcher or her assistant to assess their pupils. The checklist was collected through the help of the Head Teachers or Head Masters of the school. Respondents were asked to complete the information questionnaire gathering demographic information which can generate related variables in the research study. These variables include gender, age, birth order and nationality.

Attention Deficit Hyperactivity Disorder Test (ADHDT) is a behavior checklist used to identify persons with Attention-Deficit/Hyperactivity Disorder adapted by James E. Gilliam (1995), and is chosen as an instrument to identify ADHD observed by the teachers and care givers. This behavior checklist was normed on 1,279 subjects with 47 states in America and Canada. The characteristics of the ADHDT are listed, the individual sub tests are described and the components of the test are presented.

The ADHDT is made up of three sub tests totaling 36 items. The items are related to the three core symptoms of AD/HD discussed in the literature (Bain, 1991; Barkley, 1981; Nussbaum & Bigler, 1990). The first sub test, **Hyperactivity**, measures excessive motor movement and is made up of items 1 through 13. The second sub test, **Impulsivity**, assesses the problems of inhibiting behavior and delay in making a

response. It runs from items 14 through 23. **Inattention** is the third sub test, which measures a person's problems of focusing and paying attention to the important features of a task. This sub test covers items 24 through 36. The test is completed by persons who are familiar with the subject. The ratings indicate the extent to which the behaviors are seen as a problem for the individual. The ratings include 0 (not a mild problem, 1 (mild problem), 2 (severe problem).

### Data Collection

The process of data collection included:

1. A letter from the university to introduce the researcher to the kindergarten schools.
2. Permission from each of the schools was secured for the researcher to conduct survey on ADHD.
3. The researcher contacted the office of each school to get pertinent information (e.g. number of students per school, per class, name of the class teachers and class level from ages 3 to 9 years old).
4. The researcher distributed sufficient number of questionnaires for each class.
5. The questionnaires were given to 16 classroom teachers and asked the classroom teachers to send out the questionnaires for the 317 parents of the students in their respective bags.
6. Teachers and parents were asked to complete the pertinent information and rated the child accordingly.
7. All completed questionnaires were collected from each schools.
8. Questionnaires from the teachers and parents were sorted out after obtaining the high score of the test instrument.



### Analysis of Data

The collected data were descriptively and statistically analyzed by using the following formulae.

In descriptive statistics, the questionnaires were sorted out according to the respondents namely the teachers and parents and demographic variables. The mean and standard deviation were used in teachers and parents to test if there is difference between the two groups. In demographic variables, descriptive and statistical analysis were used to compute the mean of the variables to compare the difference. The following formulae was used in statistical analysis:

1. t-test was employed to compare the distribution of the variable gender.
2. F-test was employed to compare the distribution of the variables: age, nationality, and birth order.
3. The Scheffe Testing Method was used to compare the pair wise in age and nationality.

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## CHAPTER II

### RELATED LITERATURE

The literature reviewed is organized into the following areas:

- A. Attention deficit hyperactivity disorder and its related terms, meaning and classifications,
- B. Brief history of ADHD,
- C. Effective behavioral techniques for teachers,
- D. Dealing ADHD in the classroom,
- E. Developmental trend from child to adult,
- F. Criteria of identifying ADHD,
- G. Nature of international schools,
- H. Related research
- I. Conceptual framework

#### **A. Attention Deficit Hyperactivity Disorder: Related Terms, Meaning and Classifications**

The term *Attention Deficit Hyperactivity Disorder*, or ADHD, is a developmental disorder of self-control. It consists of problems with attention span, impulse control and activity level (Barkley, 1995). These problems are reflected in impairment of a child's will or capacity to control his or her own behavior relative to the passage of time. Attention Deficit Hyperactivity Disorder is a neurobiologically based developmental disability estimated to affect between 3-5% of the school age population (Professional Group for Attention and Related Disorders, 1991). Some researchers claim that the percentage may go higher than 5%. No one knows exactly what causes ADHD. Scientific

evidence suggests that the disorder is genetically transmitted in many cases and results from a chemical imbalance or deficiency in certain neurotransmitters, which are chemicals that help the brain regulate behavior. It shows that the rate at which the brain uses glucose, its main energy source, is lower in subjects without ADHD (Zametkin et al., 1990).

Professionals who diagnose ADHD use the diagnostic criteria set forth by the American Psychiatric Association (1994) in the Diagnostic and Statistical Manual of Mental Disorders. According to Fowler, the primary features associated with the disability are inattention, hyperactivity, and impulsivity.

### Inattention

A child with ADHD is usually described as having a short attention span and as being distractible. In actuality, distractibility and inattentiveness are not synonymous. Distractibility refers to the short attention span and the ease with which some children can be pulled off-task. Attention, on the other hand, is a process that has different parts. We focus (pick something on which to pay attention), we select (pick something that needs attention at the moment) and we sustain (pay attention for as long as is needed). We also resist (avoid things that move our attention from where it needs to be), and we shift (move our attention to something else when needed).

Researchers now understand more about various kinds of attention. There is **caught** attention, when something interrupts our thoughts or “catches” our eye. There is **focused** attention, which involves a deliberate choice to concentrate on one set of instructions or one task. There is **sustained** attention, which is necessary for finishing a project, understanding a complicated list of instructions, or listening to a long story. And there is **selective** attention, which allows us to screen out anything that interferes with the

task at hand. ADHD may interfere with any one or several of these aspects of attention. When someone refer as distractible, we are saying that a part of that person's attention process is disrupted. Children with ADHD can have difficulty with one or all parts of the attention process. Some children may have difficulty concentrating on tasks (particularly on tasks that are routine or boring). Others may have trouble knowing where to start a task. Still others may get lost in the directions along the way. A careful observer can watch and see where the attention process breaks down for a particular child.

In fact, because every aspect of learning requires attention, some researchers suspect that ADHD is the root cause of most learning disorders. For example, a dyslexic child may not hear a short-vowel sound in a word because he or she cannot focus attention long enough to hear it or cannot concentrate long enough to retrieve a particular word sound from memory. Similarly, a child trying to concentrate on a math problem may be unable to exercise selective attention. Unwanted thoughts and misinformation come crowding into his or her consciousness, like a dozen circus acts competing for space in the center ring.

Symptoms of inattention are:

- (a) often fails to give close attention to details or makes careless mistake in school, work, or other activities.
- (b) often has difficulty sustaining attention in tasks or play activities.
- (c) often does not seem to listen when spoken to directly:
- (d) often does not follow through on instructions and fails to finish schoolwork., chores, or duties in the workplace (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.

### Hyperactivity

Excessive activity is the most visible sign of ADHD. The hyperactive toddler/preschooler is generally described as “always on the go” or “most driven” with age, activity levels may diminish.

Hyperactivity is not clear-cut syndrome, but it is different from simple childhood exuberance. A hyperactive child cannot willingly control his or her “wild” behavior and may fluctuate from moments of quiet and industriousness to moments when he or she is noisy and disruptive.

Hyperactivity was once the standard diagnosis for children with ADHD. Hyperactive children usually had the most obvious attention problems and caused the most chaos for teachers.

Symptoms of hyperactivity are:

- (a) often fidgets with hands or feet or squirms in seat.
- (b) often leaves seat in classroom or in other situations in which remaining seated 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 of restlessness).
- (d) often has difficulty playing or engaging in leisure activities quietly.



(e) often talks excessively.

### Impulsivity

When people think of impulsivity, they most often think about cognitive impulsivity, which is acting without thinking. The impulsivity of children with ADHD is slightly different. These children act before thinking, because they have difficulty waiting or delaying gratification. The impulsivity leads these children to speak out of turn, interrupt others, and engage in what looks like risk-taking behavior. The child may run across the street without looking or climb to the top of very tall trees. Although such behavior is risky, the child is not really a risk-taker but, rather, a child who has great difficulty controlling impulse. Often, the child is surprised to discover that he or she has gotten into a dangerous situation and has no idea of how to get out of it.

Symptoms of impulsivity are:

- (a) often blurts out answers before questions have been completed.
- (b) often has difficulty awaiting turn.
- (c) often interrupts or intrudes on others (e.g., butts into conversation or games).

Hyperactivity and impulsivity are no longer considered as separate features. According to Barkley (1990), hyperactivity-impulsivity is a pattern stemming from an overall difficulty in inhibiting behavior. It is often seen with associated features. Depending on the child's age and developmental stage, parents and teachers may see low frustration tolerance, temper outbursts, bossiness, difficulty in following rules, disorganization, social rejection, poor self-esteem, academic under achievement, and inadequate self-application

( American Psychiatric Association, 1994)

### Additional Characteristics

Aside from the triad of symptoms of inattention, impulsivity and hyperactivity, to describe the basic AD/HD symptom, there are other characteristics that vary considerably in degree but contribute to the individuality of the overall pattern for each child. They are:

1. **Poor Self-concept/Self-Esteem:** ADHD children are very sensitive to their difficulties and failures. Their personal frustration and awareness of failure stem from harsh criticism and considerable negative feedback from peers, siblings and at times- from adults. Children's self-perception are poor, and over time some children may become doubtful about their ability to cope with academic and social situations. Their peer relationships are at times treated as "outcasts" and "misfits." Name calling may elicit explosive angry retorts due to impulsivity combined with accumulated frustration and stress. These children are indeed quite sensitive to comments from others and feel quite vulnerable, often inadequate, and, at times, even quite depressed as they go through life.
2. **Disorganization:** This may be manifested either in physical appearance or in the way the child keeps track of important things- or both. No systematic approach is used to remember notes from school, footballs, books, or other "important things." This lack of organization further contributes to the child's difficulty in completing tasks. Some children seem to overcome their difficulty in organization.
3. **Poor Peer/ Sibling Relations:** In spite of their general sensitivity and strong desire to be accepted by others, they often misread social clues and

impulsively exhibit some socially inappropriate behaviors. It may be an inability to resist blurting out something insulting, whereas a similar comment may occur to another child who would think it over, realize that it's wrong, and refrain from verbalizing the insult. Blatantly intruding on others' games may cause rejection, a puzzling reaction to the child with ADHD who only exhibits what he perceives to be strong desire to join a game. In a small group or a one-to-one situation, children with ADHD may be perceived as being too bossy or "always wanting to be first." Some of them adapt and change their behavior somewhat over the years, during adolescence as interactive difficulties may re-surface and new social adjustments are required.

4. **Aggressive Behavior:** This kind of characteristic contributes to a generally long-term negative outcome for the ADHD child. When aggressive behavior is associated with ADHD, there is a poorer prognosis and it is also makes it more difficult to deal with and to manage the child's behavior. It often signifies the presence of a co-morbid condition such as Oppositional Defiant Disorder (ODD) or Conduct Disorder (CD). Such disorders do not respond well to medication intervention like other conventional symptomatic behavior associated with ADHD. The presence of aggressive behavior requires a "multiple medication" schedule and/or more intense behavior interventions.
5. **Sensation-Seeking Behavior:** This characteristic in its more severe form is not present as frequently as the others. Some children with ADHD, are neurobiologically low-aroused(sleepy) and need more stimulation than would be forthcoming from typical hyperactive behavior. These children with ADHD will seek out forms of excitement that can be describe as "dangerous."

This characteristic of ADHD varies in degree compared with just like many other characteristics. Most of these children will not engage in the very risky activities, many will seek out or create their own stimulation.

6. **Daydreaming:** This characteristic is associated with the child's underlying physiology. A child with ADHD will typically exhibit a general state of low-arousal in the nervous system, when in class or some other situation that might be perceived as boring. The child's tendency to engage in low-arousal "hypnogogic" or dream-like activity is reflective of an underlying degree of activation in the brain (Flick,1998). Reports say that many children with ADHD, when unmedicated, show a tendency to literally fall asleep in the classroom. Creating some type of excitement by talking, getting out of the seat, or disturbing the class with clowning behavior may represent the child's attempt (without his awareness) to adapt to the underlying (sleepy) brain-wave state.
7. **Poor Coordination:** Children with ADHD have difficulty with fine motor tasks, especially handwriting. As a written assignment progresses, initial attempts at control often break down; written productions of such a child characteristically reflect a progressive deterioration of graphomotor performance. Increasing sloppiness, work overs, and crossouts are noted as the quality of work gradually erodes. These children often show many "battle scars" from various accidents associated with poor coordination which is combined with their impulsivity. Many of these children do have trouble with fine-motor skills and may actually excel in some sports. Their talents out of the classroom may serve as a balance for their many failures in the classroom.

8. **Memory Problems:** Often reflected in difficulty with working memory, the memory function that is active and relevant for short periods of time. Other problems might be forgetting things in daily routines such as needed books or tools for a project, or even difficulty in recalling learned material and in memorizing. In some cases, these memory difficulties may be attributed to the child's being distracted and thus not remember what he hasn't paid attention to.
9. **Persistent Obsessive Thinking:** This implies that once an idea gets in his mind, he finds difficulty in letting it drop. An almost endless number of requests, questions, etc., are made, continuing long after most children would have gotten the message to let it go and to go on to something else. This problem may be intimately tied into a child's difficulty in reading or in misreading social clues. In short, the child simply does not get the message from the parent even after numerous repetitions of saying "no" or providing answers.
10. **Inconsistency:** It is the hallmark characteristic of ADHD. Fundamentally, a child is described by parents and teachers alike as having good days and bad days. On some days, he may complete all assigned work, on the other days, none. This pattern itself sets the child up for failure. According to Barkley, the child with ADHD succeeds one time and we hold it against him for the rest of his life. Parents may often wonder if their child has a "split personality," since his performance physiologically progresses, which, in turn, are affected by many factors both internal and external. Related to this



inconsistency is the notion that these children seem to have much difficulty with change and transitions.

## **B. Brief History of Attention Deficit Hyperactivity Disorder**

### **Prevalence**

According to recent research, ADHD reported to be the most frequent occurring neurobehavioral disorders of childhood. ADHD accounts for most mental health referrals of children, especially with associated Conduct Disorder (CD) problems. The incidence of this condition has been estimated in from 1 to 10 percent of all school-aged children (where the prevalence rates are associated with the specific diagnostic criteria used). Some research estimates the incidence of ADHD as high as 20% of all school-aged children. However, when using the criteria of DSM-III R and DSM-IV, the condition is estimated to occur in 3 to 5 percent of all school-aged children (APA, 1987). In the prekindergarten and kindergarten age groups, Campbell noted that from 14 to 20 percent of the boys and approximately 5% to 7% of the girls have ADHD. ADHD characteristics change with associated developmental changes of normal maturation from preschool age through adulthood. These changes in ADHD characteristics also vary somewhat for each sex. It is interesting to observe that the greater reported incidence of ADHD in boys has been explained by noting that girls with ADHD show evidence of and cause of fewer problems than boys. Thus ADHD in girls may go unreported. Those children who create the most havoc in the classroom (most often boys) are the ones who get referred for evaluation. Barkley (1995) has noted that the need to demonstrate these syndromes in two out of three behaviors noted in school versus other situations. Barkley has also noted some eye-opening statistics regarding ADHD. He noted that more than 20 percent have

set serious fires, 30 percent have engaged theft, 40 percent have used tobacco and alcohol at an early age, and 25 percent were expelled from high school due to their misconduct. Furthermore, he indicates that adolescents with ADHD were four times more likely to have serious auto accidents and three times more likely to be cited for speeding.

**Nosological Evolution:** ADHD has literally evolved from its historical roots. Over time various terms have been used to describe the symptoms comprising ADHD, but this basic constellation of symptoms has been reported for many, many years.

### Historical Perspective

Descriptions of ADHD date to the Grecian Age. As noted by Goldstein and Godstein(1990), "The Greek physician Galen was known to prescribe opium for restless colicky infants." In 1845 the German poet Hoffman published *Fidgety Phil* which describe a child with impulsivity and motor overactivity. While such difficulties were noted in cases involving both trauma and other brain injuries, physicians noticed a similar pattern of inattentive, restless, and overaroused behavior in patients without a history of trauma. At the turn of the century, an English doctor, G.R. Still, described the behaviors, now call ADHD as "abnormal defects in moral control," and attributed this to brain injury, genetics, or other environmental/medical conditions. He also noted a higher incidence in males. Dr. Still gave a poor prognosis for these children and recommended residential placement for many. In 1908 Tredgold thought that children who experienced mild anorexia or brain damage at birth might later manifest problems when faced with the demands of the classroom. This concept of noting the effects of brain damage without its evidence was the precursor of *Minimal Brain Damage*.

Early in the 20<sup>th</sup> century, following a severe outbreak of encephalitis in 1918, several researchers described problems of attention, impulsivity, and hyperactivity in

many children who had encephalitis. In 1935, Chiders attempted to differentiate the hyperactive child from those with brain damage.

During World War II, there were many patients with head injuries who manifested attentional problems, restlessness, and, at times, impulsive behavior. Research on such patients provided further evidence for the proposed link between hyperactivity and brain damage. Strauss and Lethinen (1947) inferred brain damage from behavioral signs (e.g., hyperactivity) and made recommendations regarding special education procedures on this basis. Assuming that these children were flooded with stimulation resulting in an outflow of motor activity, they suggested making classrooms devoid of any stimulation. However, such sterile environments only seemed to make such children even more active.

In 1937, Bradley used the amphetamine benzedrine to treat headaches, assuming that relief would come through increased blood pressure. However, he noted that there was a dramatic change in the behavior and school performance of many of these children. Their attention improved and the improvements were clearly dose dependent. Around 1950, when doctors began to recognize the potential for treatment of these behaviors with stimulant medications, there also began a primary focus on minimal brain dysfunction/damage (MBD). Hyperactivity was still primary concern, with attentional problems and impulsivity being secondary. During the 1970's, this disorder, once described primarily as a problem of overactivity, was now more broadly defined to include impulsivity, short attention, low frustration tolerance, distractibility, and associated aggressiveness. By the end of 1970, there were over 2,000 published studies in this area. In 1972, Virginia Douglas and Susan Campbell began the era of "Attention Deficit" and used that term when they reported research to the APA showing children

who could experience problems with sustained attention even in the absence of distractions.

### C. Effective Behavioral Techniques for Teachers

Teachers of ADHD children often encounter problem behaviors and situations quite similar to- and sometimes even more severe than-those faced by the parents. These problem situations can occur when a teacher operates from a poor understanding of ADHD and resultant behaviors, and when the teacher has little or no such knowledge of strategies to effectively deal with such behavior. Teacher who do not have such knowledge and skills may feel that their competency is threatened; they develop feelings of inadequacy, depression, self-doubt, and ultimately a sense of hopelessness and failure (Flick, 1998). After a teacher has a good understanding of ADHD and accompanying behaviors and has learned effective techniques for dealing with such behaviors, however, he or she becomes more helpful and effective in interactions with the ADHD child, and experiences an enhanced sense of professional competence and a greater personal motivation for teaching children who manifests ADHD. The three major factors regarding teachers that directly influence ADHD students are (1) the teacher's knowledge of ADHD, (2) the teacher's individual characteristics, and (3) the teacher's teaching style.

**Teacher Knowledge.** Teacher knowledge of ADHD is probably the most significant factor. Understanding ADHD behavior is essential in effectively dealing with it. *Inconsistency* is a primary characteristic seen in the work performance of the ADHD child; the child may do well with a given learning task one day and perform poorly on the same type of task the next day. The child's inconsistency in performance may set him up for another problem: undue pressure. Dr. Russell Barkley stated that when the child with

ADHD succeeds one time, hold it against for the rest of his life. However, when the teacher understands this characteristic and expects the ADHD child to be inconsistent in his work, then, there can be more objective approach to change, less emotional pressure and stress, and fewer derogatory comments, erroneously suggesting that “the child is just lazy-he can do better.” Other problems centering around the teacher’s attitude and perceptions are also likely to be based on insufficient knowledge and a lack of understanding. A general understanding of all of the basic characteristics of children with ADHD. Teachers may help the child develop some skills and strategies to improve organization, such as the use of divided three-ring binders with color separation of subjects and a plastic pouch to keep pencils and other tools together. The teacher may also understand and recognize the child’s need for stimulation by varying materials used for tasks while keeping the content consistent. Children with ADHD need the stability of routine but variation within that routine to maintain greater interest. Likewise, slow – down tasks may be utilized for these children who have problems with impulsive responding. Use of self-talk and reminders to raise hand to answer questions communicates and understanding of the child’s basic problems. Furthermore, addressing attention problems and distractibility through the use of self- monitoring procedures acknowledges additional understanding of the child’s difficulties in a manner that accommodates his/her problem and also considers potential emotional reactions.

**Teacher’s Characteristics.** A teacher’s characteristics constitute another factor in dealing with the ADHD child. The most obvious such characteristic is teacher *flexibility*. A teacher who is open to adjusting for the problems experienced by the ADHD child will have more success in dealing with these behaviors. On the other hand, if the teacher is rigid and inflexible, the ADHD child will have greater difficulty, and so will



such a teacher. Another individual characteristic is teacher *sensitivity*. A child with ADHD is already aware that she is somehow “different” from other students. Compounding this sense of being different, the child’s self-esteem surely will suffer if the teacher also openly confronts her about test grades or medication, or embarrass her over misbehavior. Any child’s self-concept is seriously compromised by a history of ridicule and failure. A child with ADHD is a supersensitive child who needs a sensitive teacher.

**Teaching Style.** A teacher’s style of teaching is the third main factor affecting a student. Teachers who have problems teaching ADHD child are often the teachers with a teaching style that is not well suited for ADHD students. Such a style may reflect the following:

- *a hurried method* of teaching, speeding through lessons and assignments.
- a general *lack of organization* in presentation of lessons.
- a general *lack of attention to those quiet students* who don’t stand out and thus attract the teacher’s attention. (While a teacher certainly can’t ignore disruptive students, he or she may often overlook the quiet, somewhat withdrawn, student with ADHD who mostly just daydreams.)
- An *authoritarian approach* that may result in considerable conflict with ADHD students who typically have many difficulties with rule-governed behavior on how these conflicts are handled.)

#### **D. Dealing ADHD in the Classroom**

Strauss and Lehtinen (1947) developed a theory of the behaviors define as ADHD. The theory indicates that these children were over stimulated by complex environments; the overactive behavior was considered to be a direct result of the

stimulation. This “over-arousal theory” led to “some suggestions” for classroom environments as a potential means of dealing with the behavior. This theory and implementation of these changes in the classroom were examined and tested by Cruickshank (1961) who found that such changes in classroom environment not only failed to help the child with ADHD but even made his problems worse. Currently, classroom colors were being selected with the thought of manipulating the child’s attention. A research study in 1969 that various parameters of form, complexity, brightness, and color may be used to create optimal attending behavior as a function of the child’s internal level of adaptation (i.e., physiologically determined arousal level). Recent research from the Chesapeake Institute has provided additional support for this belief stating that by varying features of instructional activities or materials such as color, varying presentation rate and response activity has made a difference in the performance of ADHD children. Adding color, varying presentation and level of detail reportedly serve to stimulate children with ADHD. Modern classrooms for ADHD students are often colorful and bright and exhibit a high level of visual complexity. However, carrels are also used for work activity; these carrels mask visual distractions. Also, auditory distractions were sometimes masked by using music or “white noise” to help maximize work output.

### **Teacher’s Options For Adaptation and Training**

The focus on successful change in the school setting involve the following:

- The classroom. Focus is on the (invisible) ADHD “handicap,” treating it as a physical one. Strategy requires accommodation of the external environment (the classroom itself).

- The child. Focus is on the perceived internal deficiencies. Strategy is to change or modify some internal process in the child, allowing him to compensate for the perceived deficiency.
- The teacher. Focus is on the teacher efforts to help the child successfully adapt to the classroom. Strategy involves teacher-initiated changes to facilitate the student's adaptation.
- A combination of these works best.

**Classroom Accommodation.** Physical accommodations in the classroom are quite common, and even expected, whenever a child has a physical handicap or suffers a physically disabling injury. These handicapping situations are temporary, but the ADHD child will probably have to compensate for his disorder for the rest of his life. Some classroom accommodations that can be greatly beneficial for the ADHD pupils.

*Preferential Seating.* Seat the ADHD child near you, or by pupils who model appropriate classroom behavior. The ADHD student should not, however, be seated by a noisy air conditioner or other equipment, or in or near a high-traffic or distracting area.

*Use of Work Areas.* Carrels lessen visual distractions and are available for all students to use or private work.

*Seating Arrangements.* These may be varied by the teacher as often as deemed helpful from the usual rows of desks to clusters or a semicircle or small groups at tables. However, some research has shown that the traditional desk arrangement in rows is better for children with ADHD compared with modular arrangement where several children share a table. Likewise, research has shown that classrooms with four walls are better than open classrooms.

*Changes in Lighting.* Changing the type of lights may make a positive difference; it may alleviate boredom and the annoyance of the “hum” of some fluorescent lights. Interestingly, introducing a strobe light periodically may also be beneficial.

*Experimentation with Music.* Some ADHD pupils may benefit from background music or from “white noise”. For some students, a more highly rhythmic rock music may be of better help.

*Use of Headphones.* Headphones may be necessary to present music, as noted, or to block out distractions. They are also an integral part of some behavioral programs.

**Child-Centered Approach.** This category of strategies reflects attempts to change what the child does to deal with specific problems. It involves teaching the ADHD child various skills to help her change, or modify, an internal process which, in turn, helps her in the classroom where the ADHD behavior is problematic.

*Modeling Instructions.* When the child with ADHD is given example, straightforward directions, it is helpful to teach the child to repeat and review the directions before starting on the task. This review and repetition of instructions counteracts the child’s tendency to impulsively start an assignment without being of what is to be done. This procedure is taught simply by modeling and may be developed over time.

*Modeling Problem-Solving.* This is an extension of the procedure of modeling instructions. After the process of repeating instructions to others and to the ADHD child may be taught an extension of this procedure whereby continues self-talk with a problem-solving orientation. After gaining an understanding of the problem, the child must continue to ask himself questions about what he needs to do first. After knowing what to

do, he must know how to do it, and, if there are alternative solutions, he must be able to discern which of these alternatives would be most appropriate.

*Teaching Organizational Structure.* Learning structure and organizational skills will help the ADHD child avoid overwhelmed by her classroom and homework assignments. Children who approach complex assignments with an organized plan certainly develop a greater sense of competency in their work.. Since many ADHD students have such significant problems with logical organization, learning such skills may develop quite slowly and only with much repetitive practice. However, such habits are developed, they will serve the student in all learning processes throughout life..

*Teaching Self-Monitoring* The child's work performance may be enhanced through the use of some periodic signal to develop the skill of self-monitoring. Such signal can be auditory or inaudible, such as a vibratory signal. These signals are designed to teach the child self-monitoring effectiveness of the devices that enhanced as the child develops increased awareness of on-task and off-task behavior. As with all of these skills, the ADHD child must practice many repetitions, and the general monitoring procedure itself must be reinforced for this skill to have lasting benefits. DuPaul noted that the combination of "self-monitoring" with "self-reinforcement" has been effective in improving on-task behavior and academic accuracy, especially with older children.

**Teacher-Centered Approaches.** These strategies reflect changes that may be implemented by a teacher to facilitate adaptation of the ADHD child to the classroom and other school institutions.

*Providing Structure and Routine.* Critically important for the child with ADHD. Often, difficulty is encountered by the ADHD child when moving from one class to another or from one activity to another. Teacher will have to expend considerable effort



planning and providing structure and routine in the classroom. Providing such structure and routine and incorporating variation within the structure will certainly tax your creativity, but it will serve the needs of the ADHD child most effectively.

*Avoiding Information Overload.* This means teaching to the capacity of the child's abilities to attend and accurately process information. Be guided in this by an awareness of the child's general span of attention and with frequent checks to determine whether "the message was sent" was, in fact, "the message received." For ADHD child, you have to focus on the communication needs as the first step then vary the length of the work period until the child has a greater probability of successful completion of the assigned work.

*Establishing Behavioral Priorities.* Focus on the behaviors of central importance for the ADHD child in the classroom. The greatest interference with the ADHD child's work is not overactivity per se, but rather the child's impulsive style and distractibility.

*Selecting Relevant Consequences.* All behaviors is influenced by the consequence following that behavior. It involves "who, what, when, and where" of reinforcement and whether reinforcement should be positive or negative.

*Using Response-Cost/ Behavior-Penalty.* Children with ADHD seem to be most influenced by this procedure. It is especially effective for young children up to adolescence. In this procedure, all reinforcements are given at the beginning. The child's goal is to end with a pre-specified minimum number of points or tokens being taken. Goldstein and Goldstein (1990) have stated that the child with ADHD rarely gets all the rewards through positive behaviors that when all is provided up front, he has greater motivation not to lose these points (or tokens).

*Time -Out / Redirection.* Time-out is a mild punishment and has been found to be quite effective with children who have ADHD. Time-out may be used for the control of acting-out behaviors and persistent noncompliance. However, Goldstein and Goldstein (1990) point out, teachers and parents must distinguish between noncompliance and incompetence.

*Prevention Strategies.* These intervention strategies are designed to ward off or prevent problems from occurring in the immediate or near future.

- (a) employ success-oriented programs. The ADHD child may experience so much failure that little is learned from yet another failure. Continue goal setting, allowing the child to set the pace for improvement. Parents and teachers become discouraged when behavioral programs fail to produce the immediate and dramatic changes that might occur with medication.
- (b) Review expectations regarding transitional situations. ADHD child has difficulty moving from one situation to the next. Situations that have different rules may present problems. Stoner and Green (1992) found that less than 10% of children in the first three grades could state or identify rules pertaining to their own classroom.

### **E. Developmental Trends: Child to Adult**

According to Barkley, “up to 80 percent of school age children given a clinical diagnosis for ADHD will continue to have disorder in adolescence, and between 30 and 65% will have it into adulthood, depending on how the disorder is defined in any particular study”.

1. The Pre-School Child: Many mothers of ADHD children report that they noticed their children were more active even before birth. During infancy, the early ADHD pattern may be characterized by unpredictable behavior, shrill

crying, irritability, and over activity. Sleep problems have also been noted as these children begin to exhibit greater motoric restless behavior, rapid changes in mood, temper tantrums, continued poor sleep, low tolerance level and a short attention span. Many of these youngsters also show speech and language problems and are described as more clumsy. They generally experience much difficulty in group settings, especially with aggressive behaviors, and as a result many of these children are sometimes “asked to leave preschool”

2. The School-Age Child: The behavior pattern of school age appears to become worse as these youngsters enter the classroom and are expected to sit quietly, focus on their assigned tasks, and get along with others in the class. Problems are now likely to occur at home and at school. These children who have much difficulty with rule-governed behavior, find handling chores at home and completing assignments at school difficult. Homework assigned to children at an early age becomes another potential battlefield. They experience either tolerance or outright rejection from others as social problems tend to increase. In late childhood, social conflicts are well established. Barkley points out that “Between 7 to 10 years of age, at least 30 to 50 percent of children with ADHD are likely to develop symptoms of conduct disorder and antisocial behavior such as lying, petty thievery, and resistance to authority. Twenty-five percent or more may have problems with fighting with other children.”
3. Adolescence: This period of development is not unusual for the symptom pattern to change, manifested by a marked decrease in hyperactivity but with other problems of attention and impulsivity remaining. By adolescence, the

child may have a history of failures in academic performance as well as marked difficulties in his/her social relations (Barkley, 1995). Many of these teenagers in search of acceptance may tend to associate with peers who have similar problems; this results in the escalation of risk-taking behavior. Teens with ADHD are certainly more subject to peer pressures regarding the use of alcohol or other addictive substances. Sadly, 35 percent of ADHD children quit school before completion. Depression appears to be more common for ADHD adolescents along with poor self-concept, low self-esteem and poor self-confidence, making future success seem unlikely and thus contributing to diminished motivation to complete school as well as much concern about social acceptance.

4. Adulthood: Symptoms persist into adulthood for over one half of ADHD children. According to Barkley, "only 10 to 20 percent of ADHD children reach adulthood free of any psychiatric diagnosis. They show a higher incidence of problems relating to achievement and vocational/work issues. Psychological problems and marital difficulties are more frequent and about 25 percent may even show antisocial characteristics and about 50 percent become alcoholics." Hyperactive children and their brothers have similar ability and educational level. However, the hyperactive group have a lower socioeconomic status and increased antisocial behavior, along with social and marital problems (Borlund and Heckman). There is likely a strong relationship between early ADHD patterns and later alcoholism (Goldwin). In the long term, a follow-up study of Hechtman and Weiss shows that 10 percent of ADHD children later attempted suicide as adults and 5 percent died

from either suicide or “accidental injury,” an incidence higher than would be expected in the normal population of their controls. It is certainly now clear that ADHD is not simply outgrown, as was once thought in years past.

### F. Criteria For Identifying ADHD

According to McNamarra(1993), there are two criteria for identifying ADHD namely:

1. Child who “fidgets with hands or feet or squirms in seat”.
2. Child that “has difficulty remaining seated when required to do so”.

McNamarra (1993) cited three criteria for assessing the severity of attention deficit hyperactivity disorder.

1. **Mild**, if any, symptoms in excess of those required to make the diagnosis and only minimal or no impairment in school and social functioning.
2. **Moderate**, symptoms or functional impairment intermediate (in between mild and severe).
3. **Severe**, significantly more than eight of fourteen symptoms present than those required to make the initial ADHD diagnosis, and serious and long lasting impairment in functioning at home and school with age peers.

### Survival Training for Parents and Teachers

Parents and teachers experience a significant degree of stress in dealing with the child with ADHD. Parents may suffer marital distress, and sometimes separation and

divorce. ADHD is clearly a family problem; everyone is affected, including non ADHD siblings.

Relaxation and Stress Management. Learn simple relaxation and stress management techniques. There are many relaxation tapes; short five-to 10-minute tapes may be used on a daily basis. Even shorter relaxation exercises may be integrated within a hectic schedule. Another alternative is to use a kind of “stress inoculation” procedure that involves the self-talk method to aid in actively ignoring some behavior. This procedure may serve to reduce stress and at the same time maintain the proper course in working with the child. When a behavior is selected to be ignored, much additional stress will be created as the child becomes frustrated that he is not getting the usual attention. The result is a general escalation of the intensity of effect associated with that behavior. The time is to be used to eventually weaken the child’s response. Be prepared not to give in, as this would certainly make the child even more persistent in the behavior, showing it at a more intense level.

Writing Daily Affirmations. Using daily affirmations may be useful, others simply reaffirm your desire to change the way you respond to the child with ADHD.

Developing an Assertive Style. Many children with ADHD firmly believe that they are in control- and in many they are. When misbehavior garners attention, the attention is reinforcing. Even though much of this is negative or seemingly unpleasant, most attention to the child with ADHD is negative and so, over time, negative attention is rewarding. It’s simple- negative attention is better than no attention at all. Many children with ADHD learn which buttons to press to elicit attention from their parents or teachers.



To reduce and control the emotional stress, parent-teacher must address the following issues:

Accept the child. ADHD is a neurobiological problem, just like asthma, just like asthma or epilepsy. It can be controlled or managed but never eliminated. Use of appropriate medications and / or behavioral strategies may result in improvement 80% of the time or better.

Know about ADHD and treatments that will make things. Knowing and understanding the nature of ADHD is an important first step. They must understand which behavioral techniques, used consistently, will make a difference in how the child responds. It is equally important to teach the ADHD child “skills that take the place of pills.” Skills may be used as the child grows older and needs to cope with situations without medication. It is critical that the child learns to rely on his or her own resources, and not turn to medication as a primary solution to problems.

Remain calm in crisis. Utilize your relaxation and stress inoculation procedures. Calm creates the environment most conducive to maintaining close relationships and keeping children under control. Erect filters to allow you to focus on critical behaviors while ignoring the annoying ones.

Maintain a routine. Maintain structure at home and in the classroom. Knowing what to expect-and when- is critical. The trick is to have an established routine in which components change to heighten and maintain the child’s interest. Also, an allowance for transitions. Extensive planning and discussion of transition times will allow you to avoid considerable stress.

Keep communication clear. Communications provide the basic structure at home and in class. Be clear and concise giving instructions step-by-step, orally and- when

possible in writing. Mumbling, nagging, arguing, yelling, and trying to talk over “noise” will be ineffective.

Be aware of triggers to crisis events. Most parents and teachers are aware of those situations or occasions that are associated with, or directly bring about, an eruption of misbehavior. Restructuring such situations or occasions may be all that is needed to avoid escalation of misbehavior.

Stay positive. This is crucial in maintaining relative calm at home or at school. When negative attention is given, everyone becomes more tense. As behavior escalates, relationships are stressed, and the situation culminates in a sometimes violent interchange.

Use appropriate behavioral techniques. Parents and teachers are exposed to numerous variations of behavioral procedures.

Join a support group. Local and national organizations allow parents and teachers to share information and to realize that they are not alone in dealing with the behavior of a child with ADHD. Greatly benefited by being able to exchange ideas, and share feelings and common concerns.

## **G. International Schools in Thailand**

With the economic development boom of the past ten years and the liberalization of the government’s regulation regarding international education in the last few years, there has been an increase in the proposals, to the Ministry of Education, to open international schools in Thailand. Thai education was systematically established during the reign of King Chulalongkorn (Ministry of Education, 1976). With the threat of colonialism by the Western powers at Her borders and influenced by the king’s western

style of educational background, political and educational modernization of the country rapidly took place. Initiative to start international schools in Thailand began in 1951 when the American Embassy contacted the Ministry of Education with the intention of establishing an educational institution for the children of American expatriates working in Thailand. In 1957, after repeated requests from foreign embassies and organizations, the Ministry of Education permitted the establishment of “foreign schools” on a per request basis (Worakij, 1991). The first international school in Thailand was officially recognized by the Ministry of Education in 1957, International School of Bangkok, Ruamrudee International School and Bangkok Pattana International School. Each of these three schools used English as the medium of instructions. In 1964 to 1985, two additional schools were permitted to operate in Thailand. The Thai-Japanese Association School was established to provide for the increasing number of Japanese children in Thailand in 1974, and Japanese was used as the medium of instruction. Subsequent to these “first” international schools in Thailand, additional international schools were permitted on a case-by-case basis starting in the year 1991. With the increasing direct investments from foreign companies and associated increases in the number of registered foreign workers in the country from 6011 in 1987 to 1989 ( Specific Policy School Division, 1990), the Cabinet in 1991 gave the legislature approval to establish additional international schools on a case-by-case basis under the conditions prescribed by the Ministry of Education. As of 1994, there were 15 schools in operation with an additional 10 applications in various stages of being approved (Specific Policy School Division, 1994).

## H. Related Research

Fu (1992) supports the study that children contribute to their own socialization by influencing the behavior of their caretakers. Research suggests that in most families of ADHD children, the primary contributors to parent-child interactive stress appear to emanate from child characteristics, with parental and environmental characteristics playing an important but secondary role (Barkley, 1981a, 1989; Bell & Harper, 1977; Johnson, 1990; Schachar et al., 1987). It investigate the relationship between interparent agreement on the perceptions of their ADHD children's behavior and self-reports of marital satisfaction with regards to the variables of age of the child, and gender of the parent.

Goodman (1991) designed a survey to determine the degree of consensus among social defining groups regarding the causes and characteristics of ADHD. Both groups perceived the five characteristics, hyperactive, distractible, impulsive, short attention span, and unable to stay on task as representative traits of children with ADHD. It was found out the causes of ADHD but not the characteristics statistically significant.

Hung (1992) investigated the dimensions of ADHD classified by behavior ratings by using behavior ratings of Chinese students in Taiwan. The use of different instruments and cultural differences contribute to the failure to replicate the result found in the western studies. A five-cluster solution was chosen supported by multi-dimensional conception. The fourth and fifth clusters (24%) were considered maladaptive students and others was considered first and third clusters (63.6%) were considered a high-risk in emotional adjustment and the 11.1% of the students were classified as having ADHD.

Schultz (1992) obtained information from families, teachers, and children who had been diagnosed with ADHD. A cluster analysis performed on variables relating to

family and neurobiological dysfunction group revealed two subgroups. Parents in the family dysfunction group rated their children higher on ADHD and oppositional-defiant scales, whereas teachers rated children from neurological group higher on the ADHD scale. Family dysfunction was found to be related to the child's depression, poor self-esteem, and a family history of psychological problems and arrests.

Arnold (1992) evaluated the effectiveness of cognitive behavioral training for students to teach them how to recognize and express affect, along with behavioral practice, as a way of reducing hyperactivity. The observations and behavioral responses of the participants that there was an affective component involved in hyperactive children's behavior.



I. Conceptual Framework

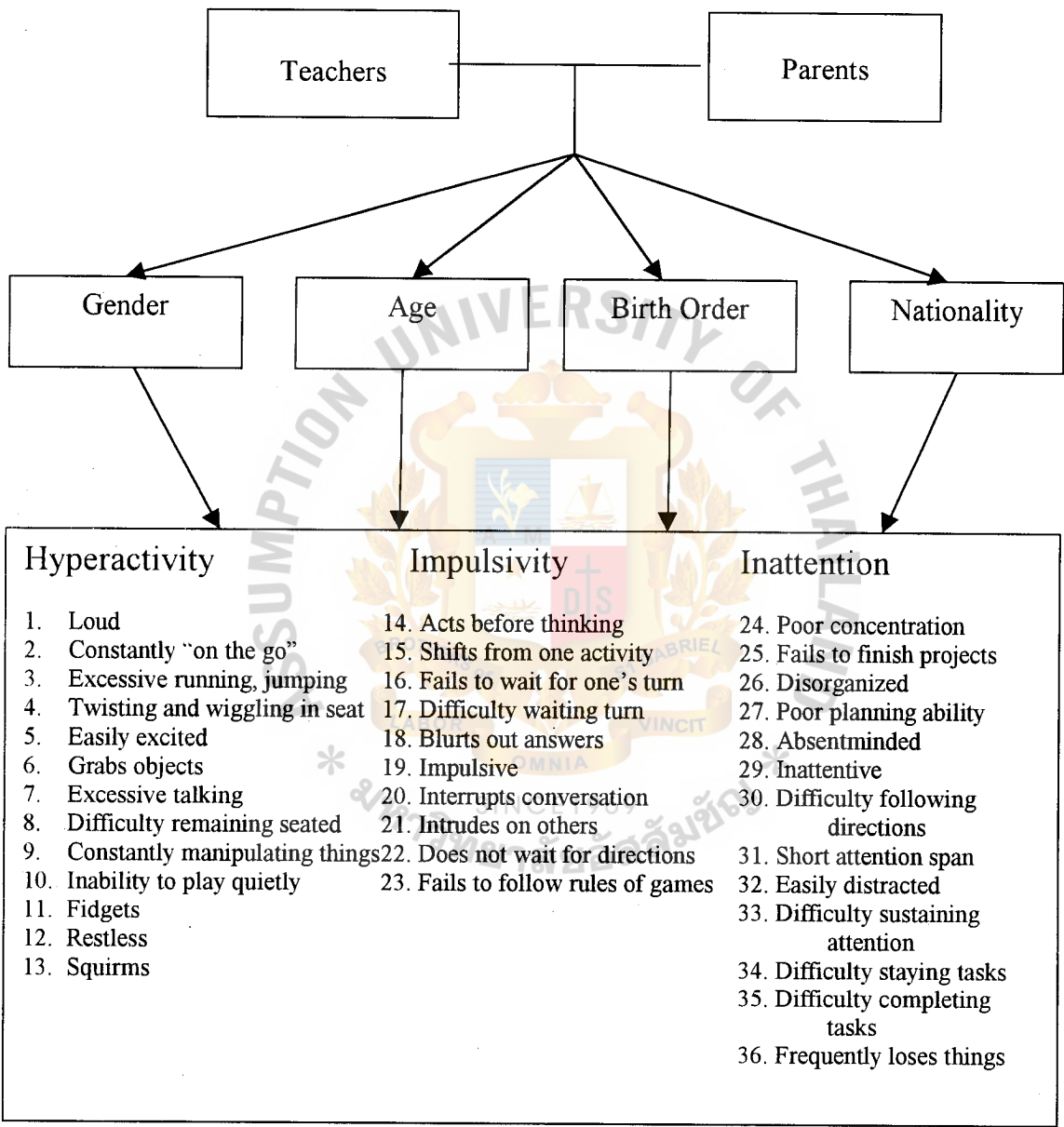


Figure 1 Conceptual Framework of the Study



## CHAPTER III

### METHODOLOGY

A descriptive study of the identification as an indicator of ADHD among international students was conducted among the teachers of six (6) selected International Schools. The methodology is organized into the following areas:

1. Population and Sample
2. Instrument of the Study
3. Data Collection
4. Data Analysis

#### 1. POPULATION AND SAMPLE SIZE

##### 1.1 Population

The population of the study consisted of students of international schools of Bangkok ages from 3 to 9 years old. The researcher sent out letters to 20 international schools to get permission to make the study possible. There were six schools willing to cooperate. These schools include the following:

1. Early Years International Child Care and Kindergarten
2. Australian International School
3. New International School of Thailand
4. Kiddie's Corner School
5. St. Andrew's International School
6. Seeh Peeh Nong International School

The method of convenience sampling was used for the population of this study.

Steps in selection of samples shown in Table 1 below.

Table 1

The Steps of Selection Subjects.

Schools	Population	Sample
Early Years	120	36
Australian International School	150	45
New International School of Thailand	500	149
Kiddie's Corner	80	24
St. Andrew's	60	18
Seeh Peeh Nong Int'l School	150	45
Total Population	1060	317

The total population includes the number of students qualified for this survey in terms of age, i.e. 3 to 9 years old.

Table 1 showed how the researcher got the samples basing on the Yamane (1967), 5% confidence interval. The total population of six schools is1060. The required sample was 700. Using the Yamane (1967) table, the small n was used to get the proportion samples required for this study which is 317. To get how many students needed per

school, population per school multiply by 317 and divide it with the total population which is 1060.

## 1.2 Sample

The samples of the study were chosen from the aforementioned international schools using simple random sampling method. The classroom Advisers who handled classes in the school year 1998-1999 and 1999-2000 from ages 3 to 9 years old were requested to be respondents to the questionnaire survey called Attention Deficit Hyperactivity Disorder Test (ADHDT). From the total population of the six schools, researcher used small n to get the samples required for this study. The researcher got 317 samples out of 1060 students from the six schools.

The questionnaires were distributed to the teachers and parents. The sampling distribution consisted of 317 students that had been assessed by their classroom teachers or caregivers and parents. Out of 317 questionnaires, 36 questionnaires were given to Early Years International Child Care and Kindergarten; 45 questionnaires to Australian International School; 149 questionnaires to New International School of Thailand; 24 questionnaires to Kiddie's Corner School; 18 questionnaires to St. Andrew's International School and 45 questionnaires to Seeh Peeh Nong International School. The total number of students from the six schools are 317. The steps of selection of students among the schools are shown in Table 1 above.

The researcher distributed the questionnaires to the schools on 5<sup>th</sup> of May 1999. Completed questionnaires were returned by hand within two weeks. The demographic background information of the students will be shown in Chapter 4.

### 1.3 Variables

#### Independent Variables

- gender
- age
- birth order
- nationality

#### Dependent Variables

- Hyperactivity sub test
- Impulsivity sub test
- Inattention Sub test

## 2. INSTRUMENT OF THE STUDY

The instrument employed in this research is the Attention Deficit Hyperactivity Disorder Test (ADHDT). This test is a behavior checklist used to identify persons with Attention Deficit/Hyperactivity Disorder.

The ADHDT is made up of three sub tests totaling 36 question items. The question items are related to the three core symptoms of ADHD discussed in the literature (Bain, 1991: Narkley, 1981: Nussbaum & Bigler, 1990).

The first sub test, **Hyperactivity**, measures excessive motor movement and is comprised of question items 1 through 13. The question items are:

1. Loud
2. Constantly “on the go”
3. Excessive running, jumping, climbing
4. Twisting and wiggling in seat

5. Easily excited
6. Grabs object
7. Excessive talking
8. Difficulty remaining seated
9. Constantly manipulating objects
10. Inability to play quietly
11. Fidgets
12. Restless
13. Squirms

The second sub test, **Impulsivity**, assesses the problems of inhibiting behavior and delaying making a response. It contains question items 14 through 23:

14. Acts before thinking
15. Shifts from one activity to the next
16. Fails to wait for one's turn
17. Difficulty waiting turn
18. Blurts out answers
19. Impulsive
20. Interrupts conversations
21. Intrudes on others
22. Does not wait for directions
23. Fails to follow rules of games

**Inattention** is the third sub test. It measures a person's problems of focusing and paying attention to the important features of a task. This sub test is made up of question items 24 through 36:

24. Poor concentration
25. Fails to finish projects
26. Disorganized
27. Poor planning ability
28. Absentminded
29. Inattentive
30. Difficulty following directions
31. Short attention span
32. Easily distracted
33. Difficulty sustaining attention
34. Difficulty staying on task
35. Difficulty completing tasks
36. Frequently loses things

The ADHDTest was completed by persons who are familiar with the individual subject namely teachers and parents. The rating indicated the extent to which the behaviors are seen as a problem for the individual. The following guidelines were used to make the ratings:

- 0 = Not a Problem.** The subject **rarely** demonstrates this problem, and it **does not impair** his or her functioning.
- 1 = Mild Problem** The subject **sometimes** demonstrates this behavior, and it **occasionally causes problems** and impairs his or her functioning.
- 2 = Severe Problem** The subject **frequently** demonstrates this behavior, and it **usually causes problems** and impairs his or her functioning.



The individual scores were computed for each sub test. A total score was obtained by summing the standard scores for the sub tests and converting that value to a quotient.

### 3.1 Validity And Reliability

#### a. Validity

The Attention-Deficit Hyperactivity Disorder Test (ADHDT) is a highly standardized, norm-referenced instrument designed for use by teachers, parents, and psychologists for the purpose of assessing students who are suspected of having attention-deficit disorders. It was developed through empirical and logical techniques and was normed on a sufficiently large sample of persons who have the diagnostic characteristics for whom the test will be utilized in the future. The quality of the ADHDT was confirmed through studies of the test's reliability and validity. The validity of the ADHDT is demonstrated through several studies. These studies confirm that:

- (a) the items of the sub tests are representative of the characteristics of ADHD.
- (b) the scores are strongly related to each other and to performance on other tests that screen for ADHD and
- (c) the ADHDT can discriminate persons with ADHD from subjects
- (d) with other behavior disorders.

#### b. Reliability

The reliability of the ADHDT is well within acceptable ranges. The internal consistency and reliability of the sub tests were determined to be in the .80s and .90s. Studies of both test-re test and inter rater reliability confirm the utility of the ADHDT as

a diagnostic instrument. The ADHDT is one of the few tests for AD/HD, if not the only, that was normed entirely on persons with AD/HD.

Pilot study on this instrument was conducted to Park Place International School to test reliability by using the Cronbach's alpha coefficient before distributing questionnaires to the subjects. Coefficient alpha is a test of internal consistency of a scale's items to the extent that all the items are measuring the same construct. For this particular study, the researcher, then conducted the reliability test to assure the quality of instruments on a group of 30 students which was not included in the population. An acceptable alpha reliability coefficient should not be less than 0.60 and preferably higher than 0.70. The foregoing table shows that the alpha coefficient for each sub test is higher than 0.70. Therefore, the ADHDT was considered satisfactorily reliable. It was noted that the alpha coefficient of the ADHDT was highly reliable in one school ( $n = 30$ ) with the alpha coefficient of 0.98: 0.98 for the hyperactivity sub test, 0.98 for the impulsivity sub test and 0.97 for the inattention sub test.

### 3. DATA COLLECTION

1. The administration of the ADHDT was done in two (2) steps namely:

The instrument was given to the teachers and parents in the selected International Schools. The same set of instruments was given to the parents for cross identification and comparison.

2. Permission from each of the schools was secured and for the researcher to conduct survey on ADHD.

3. The researcher contacted the office of each school to get pertinent information (e.g. number of students per class, name of the class teachers and class levels from ages 3 to 9 years old.
4. A letter was attached to the questionnaires stating the purpose of the study and the procedures of answering the questionnaires and further instructing them to completely fill-up the demographic information of each students they assessed. Each teacher and parent was told that the data would be kept confidential.
5. The researcher distributed sufficient number of questionnaires for each class on 15 May 1999 to May 18, 1999.
6. A letter approved by the school directors was attached to the questionnaires and a letter for the teachers as well stating the purpose of this study.
7. Questionnaires from the teachers and parents were sorted out after obtaining the high score of the test instrument.

#### 4. DATA ANALYSIS

The collected data were descriptively and statistically analyzed by using the following formulae.

In descriptive statistics, the questionnaires were sorted out according to the respondents namely the teachers and parents and demographic variables. The mean and standard deviation were used in teachers and parents to test if there is difference between the two groups. In demographic variables, descriptive and statistical analysis were used to compute the mean of the variables to compare the difference. The following formulae was used in statistical analysis:

5. t-test was employed to compare the distribution of the variable gender.

6. F-test was employed to compare the distribution of the variables: age, nationality, and birth order.
7. The Scheffe Testing Method was used to compare the significant difference in each pair wise in age and nationality.

The ADHDT is a behavioral checklist used to identify persons with Attention Deficit Hyperactivity Disorder. The ADHDT is not a timed test. Raters may set their own pace for completing the items. The three sub tests can be completed in a single session or they can be completed one at a time in a single 5- to 10- minute session. The ADHDT has three sub tests: the Hyperactivity Sub test, the Impulsivity Sub test, and the Inattentive Sub test. Each sub test is an independent measure and may be completed in any form. Every effort should be made to complete all the three sub tests.

The raters began by reading through the ADHDT Summary Response Form and then completing all the items on which they were absolutely certain and confident, then moving on quickly from item to item until they complete the entire test. Each rater who completed the ADHDT needed a copy of the Summary/ Response Form and a pen or pencil. Each was instructed to indicate the name of the subject who was being rated and the date when the rating was done on the front page of the Summary/ Response Form.

Scoring each of the ADHDT sub tests included computing raw scores, converting raw scores to percentiles and standard scores for the three sub tests, and calculating an overall quotient by combining the standard scores of the sub tests. Scores are computed for each sub test. A total score is obtained by summing the standard scores for the sub tests and converting that value to a quotient.

## **CHAPTER IV**

### **PRESENTATION OF FINDINGS**

In this descriptive study employing a survey research design, the simple random sampling technique was used to get a sample of 317 students from the total population of 1060 students.

Data that were gathered from this descriptive study consist of four sections:

1. General background of the respondents.
2. Level of hyperactivity, impulsivity and inattention as perceived by teachers.
3. Level hyperactivity, impulsivity and inattention as perceived by parents.
4. Comparison of the level of in hyperactivity, impulsivity and inattention between perception of parents and teachers; and
5. Comparison of ratings or levels of hyperactivity, impulsivity and inattention and ADHDT based on the demographic variables: age, gender, nationality and birth order.

All the results are presented in tables with accompanying explanations of the statistics employed for the study.

Table 2

General Background of the Population Sample

Demographic Characteristic	Frequency N=317	Percent	Total
A. Gender			
1. Male	164	51.7	317
2. Female	153	48.3	
B. Nationality			
1. Europeans	52	16.4	317
2. Americans	160	50.5	
3. Asians	27	8.5	
4. Thais	78	24.6	
C. Age			
1. 3 to 5 yrs. old	169	53.3	317
2. 6 to 7 yrs. old	112	35.3	
3. 8 to 9 yrs. old	36	11.4	
D. Birth Order			
1. First-born	183	57.7	317
2. Others	134	42.3	

When considering the demographic variable “gender”, out of 317 respondents, 164 (51.7%) were male and 153 (48.3%) were female. There were more males than females in the respondents’ group

According to the second demographic variable “nationality”. Out of 317 respondents, 52 (16.4%) were European, 160 (50.5%) were Americans, 27 (8.5%) were Asian, and 78 (24.6%) were Thais. The highest nationality group were the Americans

Looking at the third demographic variable “age”, they were divided into three groups. Of the 317 respondents, 169 (53.3%) belonged to the group of 3 to 5 years old, 112 (35.3%) were from the 6 to 7 years old bracket and 36 (11.4%) belonged



to the group of 8 to 9 years old. There were more students who belong to the 3 to 5 years old group in this study.

When examining the fourth demographic variable “birth order” of the 317 respondents, 183 (57.7%) were First-Born and 134 (42.3%) were Others than First-Born children. There were more first-born respondents.

**Results :**

To determine the degree of severity of ADHDT of the selected students in terms of teachers and parents, the frequencies of respondents according to their level of severity of ADHD as measured in the ADHDT of Hyperactivity, Impulsivity and Inattention are summarized in Table 4. The levels of ADHDT are described as very high, high, above average, average, below average, low and very low.

Table 3

Level of Hyperactivity as Perceived By Teachers

Sub test	Raw Score	Interpretation of ADHD	Frequency	Valid Percent
Hyperactivity	6-7	Below Average	143	45.0
	8-12	Average	88	27.8
	13-14	Above Average	36	11.4
	15-16	High	43	13.6
	17-19	Very High	7	2.2
Total				100%

\*Low and Very Low do not have subjects that fall in these categories

**Hyperactivity Subtest.** There were 143 subjects (45.0%) in the Below Average group, 88 students (27.8%) in the Average group, and 36 students (11.4%) in the Above Average group, 43 students (13.6%) in the High group and 7 students (2.2%) in Very High group. The table below do not reflect \*low and very low groups. This sub test showed that 45% scored below average which means that it represents borderline scores in terms of likelihood of ADHD. Almost half of the population have scored below average in Hyperactivity sub test perceived by teachers.

Table 4

Level of Impulsivity as Perceived By Teachers

Sub test	Raw Score	Interpretation of ADHD	Frequency	Valid Percent
Impulsivity	6-7	Below Average	150	47.3
	8-12	Average	81	25.6
	13-14	Above Average	40	2.6
	15-16*	High	34	10.7
	17-19	Very High	12	3.8
Total				100 %

\*Low and Very Low do not have subjects that fall in these categories

**Impulsivity Sub test.** There were 150 subjects (47.3%) in the Below Average group, 81 students (25.6%) in the Average group, and 40 students (12.6%) in the Above Average group, 34 students (10.7%) in the High group and 12 students (3.8%) in the Very High group. The table below do not reflect \*low and very low groups. This sub test showed that 47.3% scored below average which means that it represents borderline scores in

terms of likelihood of ADHD. The teachers perceived their students below average in the Impulsivity sub test. Teachers perceived their students in the sub test of Impulsivity compared with the other sub tests namely Hyperactivity and Inattention.

Table 5

Level of Inattention as Perceived By Teachers

Sub tests	Raw Score	Interpretation of ADHD	Frequency	Valid Percent
Inattention	6- 7	Below Average	157	49.5
	8-12	Average	70	22.1
	13-14	Above Average	48	15.1
	15-16	High	36	10.0
	17-19	Very High	6	3.8

\*Low and Very Low do not have subjects that fall in these categories

**Inattention Sub test.** There were 157 subjects (49.5%) in the Below Average group, 70 students (22.1%) in the Average group, and 48 students (15.1%) in the Above Average groups, 36 students (10.7%) in the High group and 6 students (3.8%) in the Very High group. The table below does not reflect low and very low groups. This sub test showed that 49.5% scored below average which means that it represents borderline scores in terms of likelihood of ADHD. Teachers perceived their students almost 50% of the population in below average in this sub test.

Table 6

Summary of ADHDT

Sub tests	Raw Scores	Interpretation of ADHD	Frequency	Valid Percent
ADHDT	6-7	Below Average	140	44.2
	8-12	Average	99	31.2
	13-14	Above Average	57	18.0
	15-16	High	19	6.0
	17-19	Very High	2	.6

\*Low and Very Low do not have subjects that fall in these categories.

There were 140 subjects (44.2%) in the Below Average group, 99 students (31.2%) in the Average group, and 57 students (18.0%) in the High groups, 19 students (6.0%) in the High group and 2 students (.6%) in the Very High group. As a whole, the ADHDT ranked below average which is 44.25% which means that the students were below average of having ADHD.

Discussion

According to the tables above, the sub tests Hyperactivity, Impulsivity and Inattention gathered scores of Below Average as perceived by 16 teachers means that the classroom environment and the atmosphere of the classroom is in control by the teacher. Rief (1993) suggested that children are not generally not disruptive in the classroom and their behaviors are not necessarily annoying or noticeable to the teacher. Not all symptoms apply to each child, and symptoms will vary in degree. Each Child is unique

and displays a different combination of behaviors, strengths, weaknesses, interests, talents, and skills (Rief, 1993)

### Identification of the Level Mean Scores As Perceived By Teachers

Table 7

Range of Experienced Problems in all three sub tests: Hyperactivity, Impulsivity and Inattention Perceived By Teachers

Sub tests	M	S.D.	Rank of ADHD	Interpreation
Hyperactivity	5.15	6.10	2	Low
Impulsivity	4.08	4.71	3	Low
Inattention	5.32	6.21	1	Low
Total	14.55	17.02		

The results shown in Table 7 showed that Inattention appeared to be the first rank problem that most students experienced as perceived by teachers with the highest mean score of 5.32. Followed by the area of Hyperactivity with the mean score of 4.08. And the least ranking problem aspect was the Impulsivity with the mean score of 4.08.

When the severity of the three level categories were considered, it was found out that none of the problem areas was considered severe. The highest mean of each level was ranked between 4.08 to 5.15 which was less than half of the score. So, it could be concluded that the problem behaviors were not a problem at all. The subjects may not have ADHD.

## Discussion

The findings shown in table 11.0 indicated the teachers experienced problems to their pupils in the Inattention sub test than in Impulsivity sub test in every aspect. The researcher viewed that they have a limitation about conducting in-service training regarding ADHD. Teaching ADHD children does not require tricks; it requires a thorough understanding of the dynamics of the disorder. The teachers must be aware that the child's internal sense of himself or herself is insecure and underdeveloped.





Table 8.0

Range of Problems Experienced by Students as Perceived by Teachers in Hyperactivity Sub test

Hyperactivity Subtest	Raw Score		Rank	Interpretation
	Mean	S.D.		
1. Loud	.41	.64	6	Not a Problem
2. Constantly “on the go”	.44	.63	5	Not a Problem
3. Excessive running, jumping, climbing	.36	.63	8	Not a Problem
4. Twisting and wiggling in seat	.48	.66	3	Not a Problem
5. Easily excited	.50	.64	1	Not a Problem
6. Grabs object	.26	.53	12	Not a Problem
7. Excessive talking	.49	.66	2	Not a Problem
8. Difficulty remaining seated	.45	.67	4	Not a Problem
9. Constantly manipulating objects	.28	.55	11	Not a Problem
10. Inability to play quietly	.32	.56	10	Not a Problem
11. Fidgets	.35	.59	9	Not a Problem
12. Restless	.40	.60	7	Not a Problem
13. Squirms	.40	.61	7	Not a Problem
Total	5.10	6.10		

The researcher administered the Attention Deficit Hyperactivity Test to all 317 students. In **Hyperactivity** sub test, it showed that the Easily excited appeared to be the most problem experienced by students as perceived by teachers with the highest mean score of .50). Followed by the problem of Excessive talking with the mean score of .49.

The third ranking problem of Twisting and wiggling in seat with the mean of .48. The fourth problem of Difficulty remaining seated with the mean score of .45. The fifth problem of Loud with the mean score of .41. The sixth problems of Restless and Squirms with the mean score of .40. The seventh problem of excessive running, jumping, climbing with a mean score of .36. The eighth problem of Fidgets with the mean score of .35. The ninth problem of Inability to play quietly with a mean score of .32. The tenth problem of Constantly manipulating objects with mean score of .28 and the least problem of grabs object with a mean score of .26. Viewing as a whole, the teachers perceived the students not a problem which mean it showed a low interpretation of ADHD in Hyperactivity sub test. In other words, the students under survey do not display problems of ADHD. The differences in the mean score for each item in the Hyperactivity Sub test can be presented in the form of a bar graph as shown in Figure 2 below.

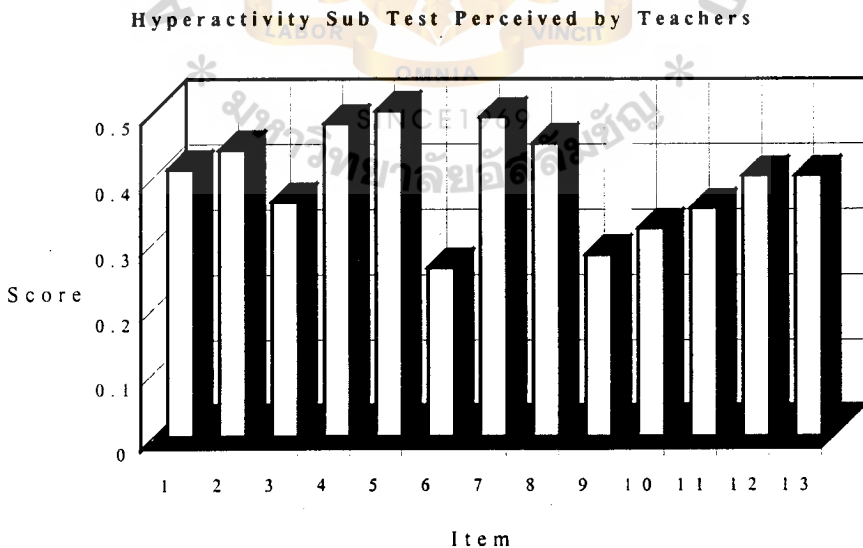


Figure 2. Mean Score Per Item in Hyperactivity Sub test Perceived By the Teachers

Table 8.1

Range of Problems Experienced by Students as Perceived by Teachers in the Impulsivity Subtest

Impulsivity Sub test	Raw Scores		Rank	Interpretation
	Mean	S.D.		
14. Acts before thinking	.37	.56	6	Not a Problem
15. Shifts from one activity to the next	.35	.55	8	Not a Problem
16. Fails to wait for one's turn	.38	.56	5	Not a Problem
17. Difficulty waiting turn	.38	.60	5	Not a Problem
18. Blurts out answers	.45	.62	2	Not a Problem
19. Impulsive	.49	.65	1	Not a Problem
20. Interrupts conversations	.45	.64	2	Not a Problem
21. Intrudes on others	.44	.63	3	Not a Problem
22. Does not wait for directions	.42	.60	4	Not a Problem
23. Fails to follow rules of games	.36	.58	7	Not a Problem
Total	4.08	4.71		

Table 8.1, in **Impulsivity** sub test, the most experienced problems by students as perceived by teachers appeared to be the first ranking problem of Impulsive with the mean score of .49. The second ranking problem of Followed by Blurts out answer and Interrupts conversations with the mean score of .45. The third ranking problem was the Intrudes on others with a mean score of .44. The fourth ranking problem was the Does not wait for directions with a mean score of .42. The fifth ranking problem were Fails to wait for one's turn and difficulty waiting turn with the mean score of .38. The sixth

ranking problem was the Acts before thinking with the mean score of .37. The seventh ranking problem was the Fails to follow rules of games with mean score of .36 and the least ranking problem was the Shifts from one activity to the next with the mean score of .35. Viewing this as a whole, the teachers perceived the students not a problem which mean that the subjects showed a low interpretation of ADHD in the Impulsivity Sub test. This means that the students under study do not posed a problem of ADHD. When the severity level of all problem categories was considered, it was found that none of the problem areas was considered severe. The highest mean of each level was ranked between .45 - .36. The differences in the mean score for each item in the Impulsivity Sub test can be presented in the form of a bar graph as shown in Figure 3 below.

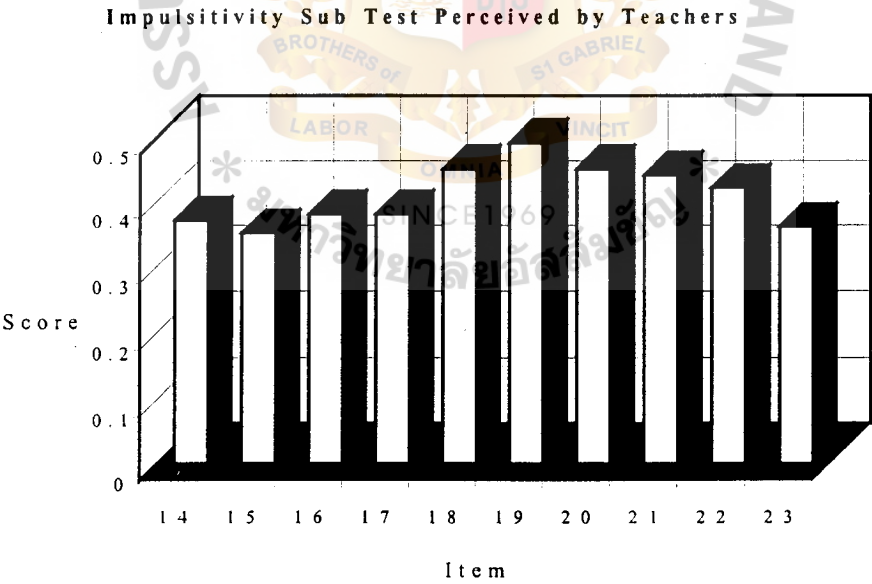


Figure 3. Mean Score Per Item in Impulsivity Sub test Perceived By the Teachers.

Table 8.2

Range of Problems Experienced by Students as Perceived by Teachers in the Inattention Sub test

Inattention Sub test	Raw Scores		Rank	Interpretation
	Mean	S.D		
24. Poor concentration	.44	.63	3	Not a Problem
25. Fails to finish projects	.43	.64	4	Not a Problem
26. Disorganized	.35	.59	6	Not a Problem
27. Poor planning ability	.34	.56	7	Not a Problem
28. Absentminded	.28	.51	9	Not a Problem
29. Inattentive	.44	.61	3	Not a Problem
30. Difficulty following directions	.37	.58	5	Not a Problem
31. Short attention span	.44	.63	3	Not a Problem
32. Easily distracted	.59	.68	1	Not a Problem
33. Difficulty sustaining attention	.47	.64	2	Not a Problem
34. Difficulty staying on task	.44	.63	3	Not a Problem
35. Difficulty completing tasks	.43	.61	4	Not a Problem
36. Frequently loses things	.30	.54	8	Not a Problem
Total	5.32	6.21		

Table 8.2 showed the results in **Inattention** Sub test that Easily distracted appeared most ranked problem experienced by students as perceived by teachers with the highest mean score of .59. Followed by Difficulty sustaining attention with the mean score of .47. The third ranking problem of Poor concentration, inattentive, Short

attention span and Difficulty staying task with the mean scores of .44. The fourth ranking problem was Fails to finish projects and Difficulty completing tasks with mean scores of .43. The fifth ranking problem was Difficulty following directions with a mean score of .37. The sixth ranking problem was Disorganized which had a mean score of .35. The seventh ranking problem was poor planning ability with mean score of .34. The eight ranking problem was Frequently loses things with a mean score of .30 and the least ranking problem was Absentminded with the mean score of .28. Viewing this as a whole, the teachers perceived the subjects not a problem which means that it showed a low interpretation of ADHD in the Inattention sub test. This means that the students under survey do not pose a problem of ADHD. The severity level of all behavior categories was considered and was found that none of the problem areas was considered severe. The highest mean of each behavior category was ranked between .59 - .28 which was less than half of the total score. So, it could be concluded that the problems were minimal for all. The differences in the mean score for each item in the Inattention Sub test can be presented in the form of a bar graph as shown in Figure 4 below.



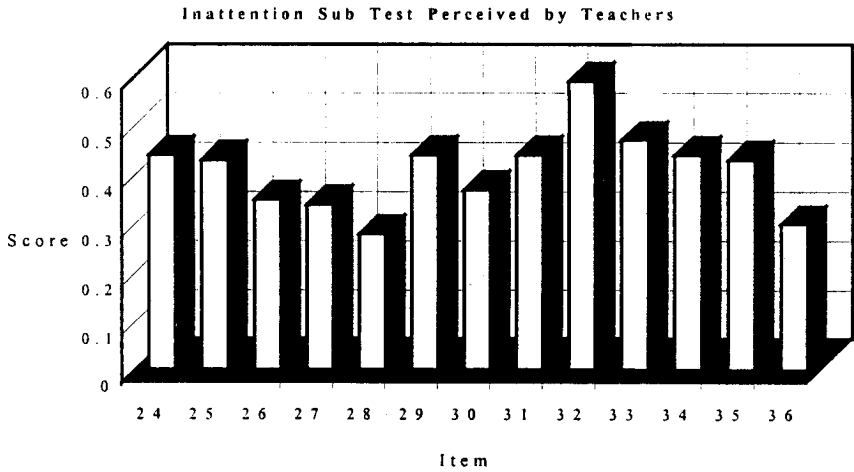


Figure 4 : Mean Score Per Item in Inattention Sub test Perceived By the Teachers

Discussion

The findings supported the research by Phelan (1996), that it is significant strain for the children to stay on task; they are fighting and invisible problem they can't understand. The child has an inattention span for which for his age is too short, cannot sustain attention on a task or activity, especially if he sees it as boring or semi boring.

Identification of the Level Mean Scores Perceived By Parents

Table 9.0

Range of Problems in all three sub tests as Perceived By Parents: Hyperactivity, Impulsivity and Inattention

	Raw Score		Rank of ADHD
	Mean	SD	
Hyperactivity	4.87	5.64	2
Impulsivity	4.15	4.66	3
Inattention	5.37	6.38	1
Total	14.39	16.68	

Table 9.0 showed that the problems experienced by students as perceived by parents in Inattention symptoms which had ranked first with mean score of 5.37 followed by Hyperactivity symptoms with the mean score of 4.87, then Impulsivity symptoms as third rank with a mean score of 4.15 which means that the problem experienced by students as perceived by the parent

Discussion

Viewing these as a whole, the findings obtained from parents shown in Table 11 indicated that they ranked their experienced problems of sub tests in Inattention, Hyperactivity, and Impulsivity respectively. According to Flick (1998), Inattention is the most basic trait, it's not that children with ADHD don't attend-they attend to everything. All stimuli impinge on their senses with equal potency. Such pupils appear to satiate

quickly on tasks, but, in actuality, they may get distracted by one of the other stimuli and go off on a tangent – failing to finish the task at hand. Situation factors play an important role. At home he may be the champion at video games, exciting graphics, flashing lights, and bright colors may serve to attract and maintain the attention of the child with ADHD. Children who are distractible are not good at discriminating between relevant and irrelevant information, thus everything competes for their attention (McNamara, 1993). Therefore, inattention is given the first rank of the three sub tests. They gave the second rank of problems perceived by parents to Hyperactivity, whereas the third rank to Impulsivity sub test. It can be closely related to diagnostic features of ADHD that there is a stipulation that these symptoms must be present prior to 7 years of age. And sometimes difficult to assess in young children from behavioral observations alone (Flick, 1998). Currently, parents often perceive the ADHD child as lazy and lacking in responsibility; and the child is frequently known to be resistant to change – even to a positive change. That is why their perception to Inattention as the first rank. The second rank is Hyperactivity that is also in relation to focusing on important aspects of conversation, difficulty staying on task. Researcher suggested that experienced problems by parents in dealing with a child who exhibits symptoms of ADHD, lasting change begins with the process of struggle with the disorder and win, means tuning in to our fundamental needs as a unique individual being aware of what they are, and allowing them to express day to day.

Table 9.1

Range of Problems Experienced by Students as Perceived by Parents in Hyperactivity Sub test

Hyperactivity Sub test	Raw Score		Rank	Interpretation
	Mean	S.D.		
1 Loud	.32	.56	7	Not a problem
2 Constantly “on the go”	.44	.62	3	Not a problem
3 Excessive running, jumping, climbing	.47	.62	2	Not a problem
4 Twisting and wiggling in seat	.48	.67	1	Not a problem
5 Easily excited	.48	.69	1	Not a problem
6 Grabs object	.44	.67	3	Not a problem
7 Excessive talking	.42	.63	4	Not a problem
8 Difficulty remaining seated	.32	.59	7	Not a problem
9 Constantly manipulating objects	.37	.59	5	Not a problem
10 Inability to play quietly	.31	.57	8	Not a problem
11 Fidgets	.34	.58	6	Not a problem
12 Restless	.25	.51	9	Not a problem
13 Squirms	.24	.51	10	Not a problem
Total	4.87	5.64		

From the Table 9.1 above, it showed in **Hyperactivity**, that the Easily excited and Twisting and wiggling in seat appeared to be the first rank problems that most experienced problems by students as perceived by parents with the highest mean score of .48. Followed by the excessive running, jumping, climbing with the mean score of .47. The third ranking problem was the Constantly “on the go” with the mean score of .44. The fourth ranking problem was excessive talking with the mean score of .42. The fifth

ranking problem was the constantly manipulating objects with the mean score of .37. The sixth ranking problem was the Fidgets with the mean score of .34. the seventh ranking problems were loud and difficulty remaining seated which have a mean score of .32. The eighth ranking problem was Inability to play quietly with the mean score of .31. the ninth ranking problem was Restless with the mean score of .25 and the least ranking problem was Squirms with the mean score of .24. Viewing this as a whole, the problems experienced by students as perceived by parents was found that none of the problem areas was considered severe. The highest mean of each problem category was ranked between .48 - .24 which was less than half of the total score. So, it could be concluded that the problems were minimal for all. This may be interpreted as students with cases of not having ADHD.

### Discussion

In the Hyperactivity aspect, the researcher viewed the child who displays hyperactivity is the child who experiences behavioral problems at home. Some parents of hyperactive children say, with all seriousness, that their children never crawled. Children are often risk takers that nothing seems to frighten them. They commonly have difficulty controlling their behavior and examining the consequences of that behavior. Their intense curiosity compels them to explore everything, even that curiosity sometimes invites trouble.

Table 9.2

Range of Problems Experienced by Students as Perceived by Parents in the Impulsivity Sub test

Impulsivity Sub tests	Raw Score		Rank	Interpretation
	Mean	S.D.		
14. Acts before thinking	.36	.65	7	Not a Problem
15. Shifts from one activity to the next	.48	.71	3	Not a Problem
16. Fails to wait for one's turn	.49	.70	2	Not a Problem
17. Difficulty waiting turn	.51	.69	1	Not a Problem
18. Blurts out answers	.46	.68	4	Not a Problem
19. Impulsive	.48	.68	3	Not a Problem
20. Interrupts conversations	.44	.66	5	Not a Problem
21. Intrudes on others	.43	.64	6	Not a Problem
22. Does not wait for directions	.29	.53	8	Not a Problem
23. Fails to follow rules of games	.21	.43	9	Not a Problem
Total	4.15	4.66		

Table 9.2 showed in **Impulsivity** sub test, Difficulty waiting turn appeared to be the first ranking problem that most experienced, with the highest mean score of .51. Followed by Fails to wait for one's turn with the mean score of .49. The third ranking problem was the Shifts from one activity to the next with the mean score of .48. The fourth ranking problem was the Blurts out answers with the mean score of .46. The fifth ranking problem was the Interrupts conversations with the mean score of .44. The sixth ranking problem was the Intrudes on others with the mean score of .43. The seventh ranking problem was the Acts before thinking with the mean score of .36. The eighth ranking problem was the Does not wait for direction with the mean score of .29 and the



least ranking problem was the Fails to follow rules of games with the mean score of .21. Viewing this as a whole, the highest mean of each problem behavior was ranked between .51 - .21 with less than half of the total score. So, it could be concluded that the problem behaviors were minimal for all. The parents perceived the subjects not a problem which showed a low interpretation of having ADHD. This may be interpreted that the person does not have ADHD.

### Discussion

Findings was supported by Flick (1998) showed that the Impulsivity sub test, children with ADHD are sometimes over bearing with peers. They can't keep their hands to themselves and tend to poke, grab, and touch other children. This aggressive behavior may result in physical fights on their siblings, neighborhood children. It's helpful to be aware that additional problems are created when the parent of a child with ADHD manifests residual symptoms and characteristics. A parent may have adopted a somewhat rigid routine, and will therefore lack flexibility in coping with difficult behavior. Interaction of parents with children who have ADHD will thus be fraught with tension and prove to have explosive consequences.

Table 9.3

Range of Problems Experienced by Students as Perceived by Parents in the Inattention Sub test

Inattention Sub test	Raw Score		Rank	Interpretation
	Mean	S.D.		
24. Poor concentration	.37	.63	8	Not a Problem
25. Fails to finish projects	.43	.63	6	Not a Problem
26. Disorganized	.45	.61	5	Not a Problem
27. Poor planning ability	.44	.62	4	Not a Problem
28. Absentminded	.48	.68	2	Not a Problem
29. Inattentive	.48	.71	2	Not a Problem
30. Difficulty following directions	.52	.72	1	Not a Problem
31. Short attention span	.46	.67	3	Not a Problem
32. Easily distracted	.41	.62	7	Not a Problem
33. Difficulty sustaining attention	.36	.59	9	Not a Problem
34. Difficulty staying on task	.35	.61	10	Not a Problem
35. Difficulty completing tasks	.31	.57	12	Not a Problem
36. Frequently loses things	.32	.56	11	Not a Problem
Total	5.37	6.38		

In Table 9.3, **Inattention** sub test showed that Difficulty following directions appeared the first ranking problem that most students experienced with the highest mean score of .52. Followed by Absentminded and Inattentive which have the mean score of .48. The third ranking problem behavior was the Short attention span with the mean score of .46. The fourth ranking problem behavior was the Poor planning ability with the

mean score of .44. The fifth ranking problem was the Disorganized with the mean score of .45. the sixth ranking problem was the Fails to finish projects with the mean score of .43. The seventh ranking problem was the easily distracted with the mean score of .41. The eighth ranking problem was the Poor concentration with the mean score of .37. The ninth ranking problem was the Difficulty sustaining attention with the mean score of .36. The tenth ranking problem was the Difficulty staying on tasks with the mean score of .35. The eleventh ranking problem was the Frequently loses things with the mean score of .32 and the least ranking problem was the Difficulty completing tasks with the mean score of .31. Viewing this as a whole, the parents perceived the subjects not a problem which showed a low interpretation of having ADHD. The highest mean of each category was ranked between .52 - .31 which was less than half of the total score. So, it could be concluded that the problem behaviors were minimal for all. This may be interpreted as subjects with cases of not probably having ADHD problem.

### Discussion

In Inattention sub test, parents experienced problems in this area since children with ADHD have difficulty concentrating and sustaining attention in different situations. Their ability to concentrate and pay attention is particularly challenged when they are faced with boring, redundant tasks and activities, such as chores. However, when a child with ADHD is occupied with something he chooses to do, like playing Nintendo or watching a movie, he has little or no difficulty sustaining attention. Some ways that parents help their children with attention difficulties at home (Roberts, 1994). Researchers suggest that always give directions to your child while making eye contact, keep directions simple-no more than one or two steps.

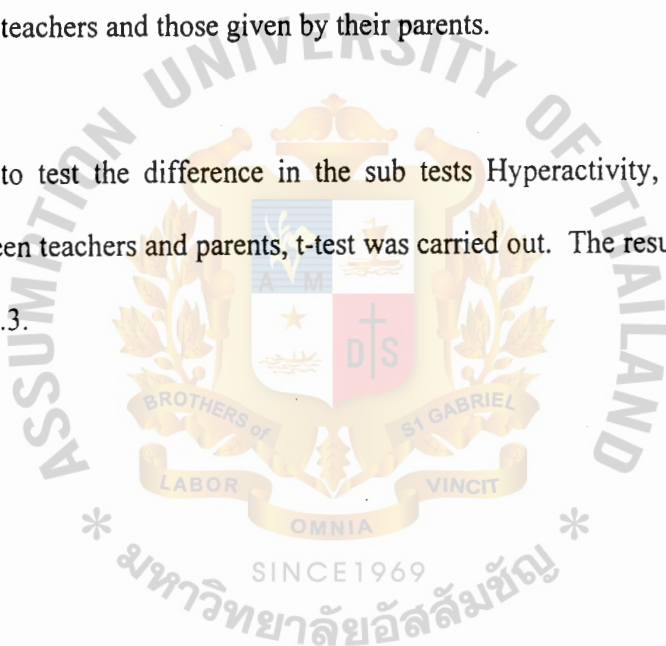
### Findings of the Study

The findings of this study are presented on the basis of the hypotheses proposed at the beginning of this study.

#### Hypothesis 1

There is no significant difference in the identification of ADHD symptoms generated by the teachers and those given by their parents.

In order to test the difference in the sub tests Hyperactivity, Impulsivity and Inattention between teachers and parents, t-test was carried out. The results are presented in Table 10 to 10.3.



**Results Between Teachers and Parents in Hyperactivity, Impulsivity and Inattention.**

Table 10.0

Comparison of Three Sub tests Hyperactivity, Impulsivity and Inattention Mean Scores Between Teachers and Parents

	Teachers		Parents		t-value	Sig. t
	Mean	SD	Mean	SD		
Hyperactivity	5.15	6.10	4.87	5.64	1.90	.058
Impulsivity	4.08	4.71	4.15	4.66	-.57	.562
Inattention	5.32	6.21	5.37	6.21	-.27	.789
Total	14.55	17.02	14.39	16.51		

In Table 10.0, all the subjects were assessed by two groups (Teachers and Parents). The t-test was employed to determine whether any differences would emerge from the comparison of the mean values, and the results are presented in Table 10. However, t-values did not reveal any significant findings in three sub tests.

Therefore, the following null hypothesis were accepted.

- a. There is no significant difference among teachers and parents in Hyperactivity sub test.
- b. There is no significant difference among teachers and parents in Impulsivity sub test.
- c. There is no significant difference among teachers and parents in Inattention sub test.

## Discussion

The findings obtained from each sub tests shown in Table 10 indicated that there was no significant difference between two groups namely the teachers and parents. From the literature, strategies in two areas can be identified children with ADHD. These strategies have implications for ways educators and parents can work together. Both approaches involve parents in enhancing or extending professional treatment. The first of these two areas include parent collaboration where parents provide for positive behavior at school or in the treatment program. The second area of strategies with implication for home-school collaboration involves parent training and the direct use of parents to provide treatment.





Table 10.1

Range of Problems Perceived By Teachers and Parents in Hyperactivity Sub test.

Hyperactivity Sub test	Teachers	Parents	t-value	Sig.t
	Mean	Mean		
1. Loud	.41	.32	3.19	.002**
2. Constantly "on the go"	.44	.44	.23	.817
3. Excessive running, jumping, climbing	.36	.47	-3.70	.000**
4. Twisting and wiggling in seat	.48	.48	-.10	.923
5. Easily excited	.50	.48	.76	.451
6. Grabs object	.26	.44	-5.12	.000**
7. Excessive talking	.49	.42	2.12	.035**
8. Difficulty remaining seated	.45	.32	3.34	.000**
9. Constantly manipulating objects	.28	.37	-2.61	.009**
10. Inability to play quietly	.32	.31	.51	.609
11. Fidgets	.35	.34	.41	.684
12. Restless	.40	.25	5.36	.000**
13. Squirms	.40	.24	4.96	.000**
Total	5.14	4.88		
** = significant different at .01		* = significant different at .05		

Table 10.1, t-test was used to show the results in comparing the mean scores of both groups ( teachers and parents) in **Hyperactivity** sub test for 13 range of problems experienced by students as perceived by teachers and parents attained the statistical significance at 0.01 level were found in eight problem behaviors;

1. Loud
2. excessive running, jumping, climbing
3. grabs object
4. excessive talking
5. difficulty remaining seated
6. constantly manipulating object
7. restless
8. squirms

Therefore, accepting the null hypothesis.

- a. There is no significant difference between teachers and parents in the Constantly “on the go”.
- b. There is no significant difference between teachers and parents in the twisting and wiggling in seat.
- c. There is no significant difference between teachers and parents in the Easily excited.
- d. There is no significant difference between teachers and parents in the Inability to play quietly.
- e. There is no significant difference between teachers and parents in the Fidgets.

The difference in the mean scores of thirteen problem behavior of Hyperactivity sub test between teachers and parents could be clearly presented in the form of bar graph as shown in Figure 5.

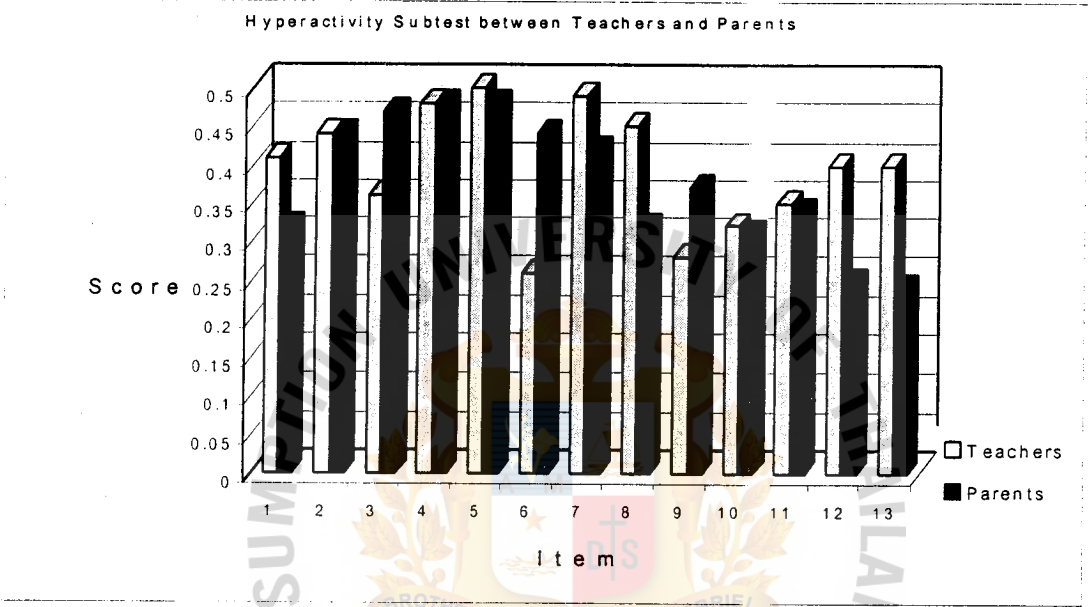


Figure 5 Comparison of Mean Score Per Item In Hyperactivity Sub test Between Teachers and Parents

Table 10.2

Range of Problems Perceived By Teachers and Parents in Impulsivity Sub test.

Impulsivity Sub test	Teachers Mean	Parents Mean	t-value	Sig. t
14. Acts before thinking	.37	.36	.37	.709
15. Shifts from one activity to the next	.35	.48	-3.68	.000**
16. Fails to wait for one's turn	.38	.49	-3.32	.001**
17. Difficulty waiting turn	.38	.51	-3.82	.000**
18. Blurts out answers	.45	.46	-.18	.860
19. Impulsive	.49	.48	.08	.935
20. Interrupts conversations	.45	.44	.09	.925
21. Intrudes on others	.44	.43	.20	.839
22. Does not wait for directions	.42	.29	4.06	.000**
23. Fails to follow rules of games	.36	.21	5.01	.006**
Total	4.09	4.15		
** significant different at .01		* significant different at .05		

The t-test was employed in comparing the mean scores of both groups (teachers and parents) in **Impulsivity** sub test with ten problem behaviors. By looking at Table 10.2, the significant difference at .01 level were found in five problem areas;

1. Shifts from one activity to the next
2. Fails to wait for one's turn
3. Difficulty waiting turn
4. Does not wait for directions

## 5. Fails to follow rules of games

Therefore, the following null hypothesis were accepted.

- There is no significant difference between teacher and parents in the Acts before thinking.
- There is no significant difference between teacher and parents in the Blurt out answers.
- There is no significant difference between teacher and parents in the Impulsive.
- There is no significant difference between teacher and parents in the interrupts conversations.
- There is no significant difference between teacher and parents in the intrudes on others.

The differences in the mean scores of ten problem areas of Impulsivity between teachers and parents could be clearly presented in the form of bar graph as shown in Figure 6.

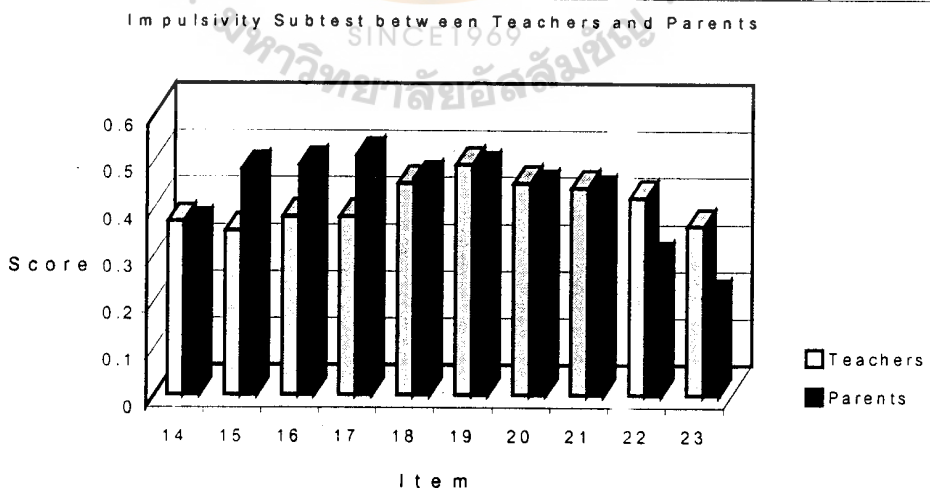


Figure 6 Comparison of Mean Score Per Item in Impulsivity Sub test Between Teachers and Parents.

Table 10.3

Range of Problems Perceived By Teachers and Parents in Inattention Sub test.

Inattention Subtest	Teachers Mean	Parents Mean	t-value	Sig. t
24. Poor concentration	.44	.37	2.77	.006**
25. Fails to finish projects	.43	.43	.10	.924
26. Disorganized	.35	.45	-3.10	.002**
27. Poor planning ability	.34	.44	-3.01	.003**
28. Absentminded	.28	.48	-5.67	.000**
29. Inattentive	.44	.48	-.99	.322
30. Difficulty following directions	.37	.52	-4.14	.000**
31. Short attention span	.44	.46	-.82	.410
32. Easily distracted	.59	.41	5.90	.000**
33. Difficulty sustaining attention.	.47	.36	3.83	.000**
34. Difficulty staying on task	.44	.35	3.22	.000**
35. Difficulty completing tasks	.43	.31	4.11	.000**
36. Frequently loses things	.30	.32	-.59	.553
Total	5.32	5.38		

\*\* significant different at .01

\* significant different at .05

The t-test was used to compare the mean values of both groups ( teachers and parents) in **Inattention** sub test with thirteen problem behavior. By looking at Table 10.3, the significant differences at .01 level were found in nine problem areas;

1. Poor concentration
2. Disorganized



3. Poor planning ability
4. Absentminded
5. Difficulty following directions
6. Easily distracted
7. Difficulty sustaining attention
8. Difficulty staying on task
9. Difficulty completing tasks

Therefore, accepting the null hypothesis for the following:

- a. There is no significant difference between teacher and parents in the Fails to finish projects.
- b. There is no significant difference between teacher and parents in the inattentive
- c. There is no significant difference between teacher and parents in the Short attention span.
- d. There is no significant difference between teacher and parents in the Frequently loses things.

The difference in the mean scores of each item in Inattention between teachers and parents could be clearly presented in the form of bar graph as shown in Figure 7.

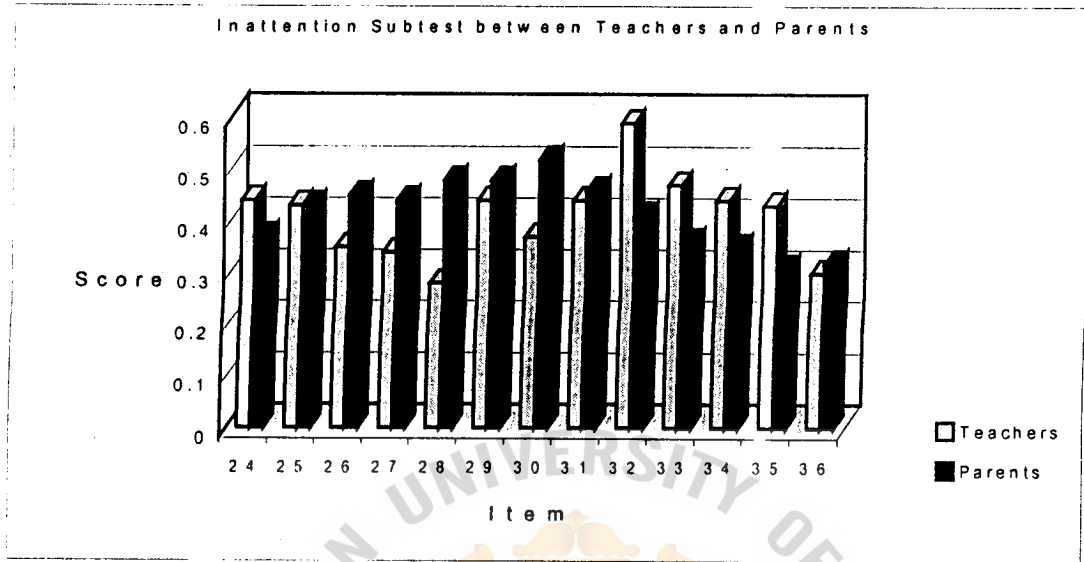


Figure 7\_ Comparison of Mean Score Per Item Between Inattention Sub test and Teachers and Parents.

This findings can be explained that students must display 5 to 6 of the Inattention symptoms of the ADHD. That the child has difficulty sustaining attention to the appropriate stimulus in the environment. They are often described as daydreaming and involved in tasks other than those assigned by the parent or the teacher (Barkley, 1998).

## Hypothesis 2

There is no significant difference in the identification of Hyperactivity, Impulsivity and Inattention children according to the demographic variable of gender, age, birth order and nationality.

1.1 Hyperactivity and gender

1.2 Impulsivity and gender

1.3 Inattention and gender

1.4 Hyperactivity and birth order

1.5 Impulsivity and birth order

1.6 Inattention and birth order

1.7 Hyperactivity and age

1.8 Impulsivity and age

1.9 Inattention and age

1.10 Hyperactivity and nationality

1.11 Impulsivity and nationality

1.12 Inattention and nationality

In order to test for the difference in Hyperactivity, Impulsivity and Inattention sub tests between gender and birth order, t-test was carried out. The results are presented in Table 11.0 to 12.3.

Summary of t-test Results Between Gender Groups

Table 11.0  
Comparison of Hyperactivity, Impulsivity, Inattention According to Gender Perceived By Teachers

	Male			Female		
	N	=	164	N	=	153
	Mean		SD	Mean		SD
					t-value	Sig. t
Hyperactivity	6.62		6.94	3.58	4.58	4.63 .000**
Impulsivity	5.02		5.14	3.07	3.98	3.80 .000**
Inattention	6.54		7.05	4.02	4.86	3.73 .000**
ADHDT	18.18		17.72	10.67	12.23	4.42 .000**

\*\* significant different at .01

In Table 11.0, the t-test was employed to compare the mean values of both groups ( male and female ) perceived by teachers in three sub tests of ADHDT. However, t-values did reveal significant findings in three sub tests at .01 level.

Therefore, the following null hypothesis were rejected.

1. There is significant difference between male and female in Hyperactivity sub test.
2. There is significant difference between male and female in Impulsivity sub test.
3. There is a significant difference between male and female in Inattention sub test.

The differences in the mean scores of three sub tests between gender could be clearly presented in the form of bar graph as shown in Figure 8.

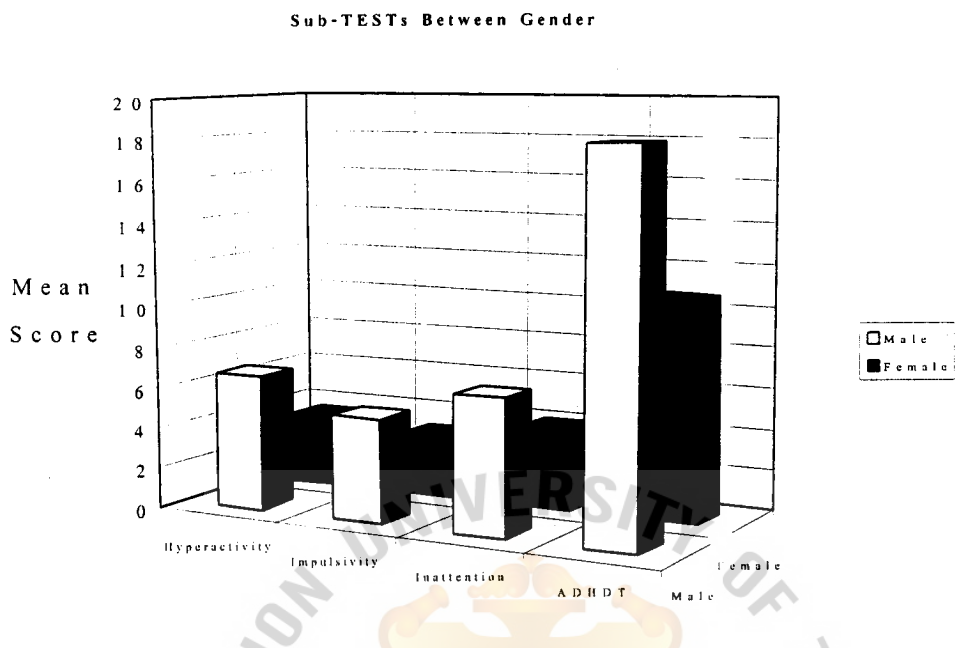


Figure 8 Comparison of Mean Score Per Item in Three Sub tests Between Gender

This findings is supported by Goldstein, 1996 who said that the gender difference in actual diagnosis may be due to the differing symptom pattern between boys and girls, because girls are less likely to exhibit hyperactive and aggressive symptoms than are boys. Boys are more likely to have comorbid oppositional defiant disorder and conduct disorder and may be referred at a higher rate because of the disruptive consequences of the comorrbid disorders.

Table 11.1

Comparison Between Gender in Hyperactivity Sub test Perceived By Teachers

Hyperactivity Sub test	Male	Female	t-value	Sig.t
	Mean	Mean		
1. Loud	.55	.25	4.41	.000**
2. Constantly “on the go”	.57	.31	3.66	.000**
3. Excessive running, jumping, climbing	.47	.24	3.30	.000**
4. Twisting and wiggling in seat	.62	.33	4.11	.001**
5. Easily excited	.62	.39	3.25	.001**
6. Grabs object	.34	.16	3.07	.002**
7. Excessive talking	.59	.39	2.75	.006**
8. Difficulty remaining seated	.55	.34	2.93	.004**
9. Constantly manipulating objects	.38	.17	3.58	.000**
10. Inability to play quietly	.39	.25	2.30	.022**
11. Fidgets	.48	.22	3.99	.000**
12. Restless	.54	.26	4.26	.000**
13. Squirms	.52	.27	3.77	.000**
Total	6.62	4.13		

\*\* significant difference at .01

The t-test was employed to compare the mean scores of both groups (male and female) in **Hyperactivity** sub test of thirteen problem behaviors. By looking at Table 11.1, the significant difference at 0.05 level were found in all areas:

1. Loud
2. Constantly “on the go”



3. Excessive running, jumping, climbing
4. Twisting and wiggling in seat
5. Easily excited
6. Grabs object
7. Excessive talking
8. Difficulty remaining seated
9. Constantly manipulating objects
10. Inability to play quietly
11. Fidgets
12. Restless
13. Squirms

Therefore, rejecting the null hypothesis between male and female.

The difference in the mean scores of per item in Hyperactivity between male and female could be clearly presented in the form of bar graph as shown in Figure 9.

Table 11.2

Comparison Between Gender in Impulsivity Sub test Perceived By Teachers.

Impulsivity Sub test	Male Mean	Female Mean	t- value	Sig. t
14. Acts before thinking	.51	.23	4.63	.000**
15. Shifts from one activity to the next	.42	.27	2.51	.012**
16. Fails to wait for one's turn	.49	.26	3.80	.000**
17. Difficulty waiting turn	.47	.29	2.75	.006**
18. Blurts out answers	.54	.37	2.49	.013**
19. Impulsive	.62	.34	3.96	.000**
20. Interrupts conversations	.57	.31	3.72	.000**
21. Intrudes on others	.51	.36	2.10	.036*
22. Does not wait for directions	.49	.34	2.23	.026*
23. Fails to follow rules of games	.41	.31	1.57	.118
Total	5.03	3.08		

\*\* significant difference at .01

\* significant different at .05

In Table 11.2, in **Impulsivity sub test**, the t-test results showed that there is significant difference between male and female at 0.05 level in two problem areas;

1. Intrudes on others
2. Does not wait for directions

The significant difference at .01 level was found in seven problem areas;

1. Acts before thinking
2. Shifts from one activity to the next
3. Fails to wait for one's turn

- 4. Blurts out answers
- 5. Impulsive
- 6. Interrupts conversations

Therefore, accepting the null hypothesis only in Fails to follow rules of games.

The differences in the mean score for each item in the Impulsivity Sub test between male and female can be presented in the form of a bar graph as shown in Figure 10 below.

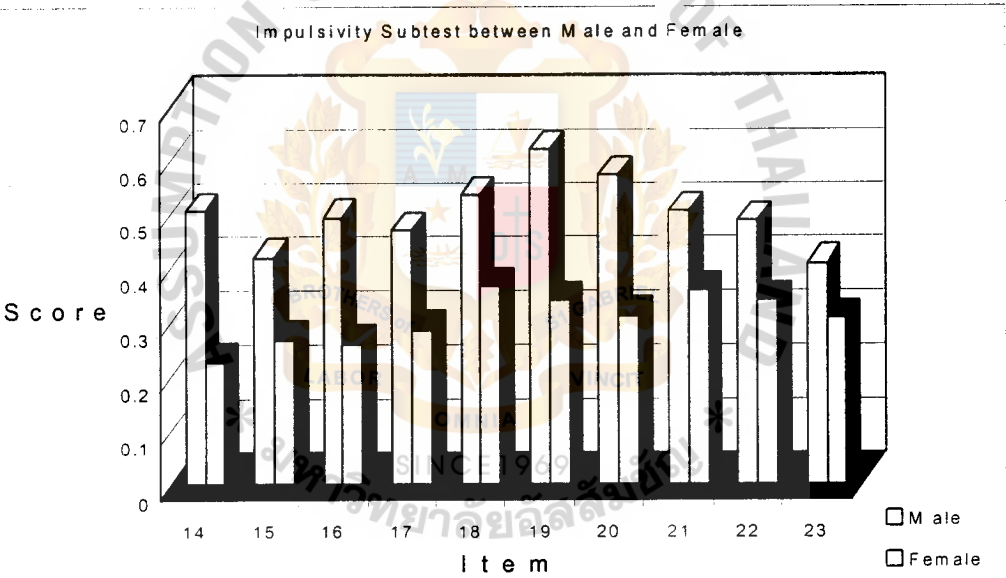


Figure 10 Comparison of Mean Score Per Item in Impulsivity Sub test Between Male and Female

Table 11.3

Comparison Between Gender in Inattention Sub test Perceived By Teachers.

Inattention Subtest	Male Mean	Female Mean	t- value	Sig. t
24. Poor concentration	.57	.31	3.71	.000**
25. Fails to finish projects	.51	.34	2.45	.015**
26. Disorganized	.46	.22	3.73	.000**
27. Poor planning ability	.43	.24	3.11	.002**
28. Absentminded	.35	.20	2.82	.003**
29. Inattentive	.57	.30	4.14	.000**
30. Difficulty following directions	.46	.27	2.94	.004**
31. Short attention span	.52	.40	2.64	.009**
32. Easily distracted	.70	.48	2.98	.003**
33. Difficulty sustaining attention.	.55	.39	2.37	.018**
34. Difficulty staying on task	.53	.35	2.66	.008**
35. Difficulty completing tasks	.51	.34	2.55	.011**
36. Frequently loses things	.35	.24	1.87	.062
Total	6.51	4.08		

\*\* significant difference at .01

The t-test was performed in comparing the mean scores of both groups (male and female) in **Inattention** sub test with thirteen problem areas. By looking at Table 11.3, the significant differences at .01 level were found in 12 problem areas;

1. Poor concentration
2. Fails to finish projects

3. Disorganized
4. Poor planning ability
5. Absentminded
6. Inattentive
7. Difficulty following directions
8. Short attention span
9. Easily distracted
10. Difficulty sustaining attention
11. Difficulty staying on task
12. Difficulty completing tasks

Therefore, accepting the null hypothesis only in one problem area of Frequently loses things.

The differences in the mean score for each item in the Inattention Sub test between male and female can be presented in the form of a bar graph as shown in Figure 11 below.

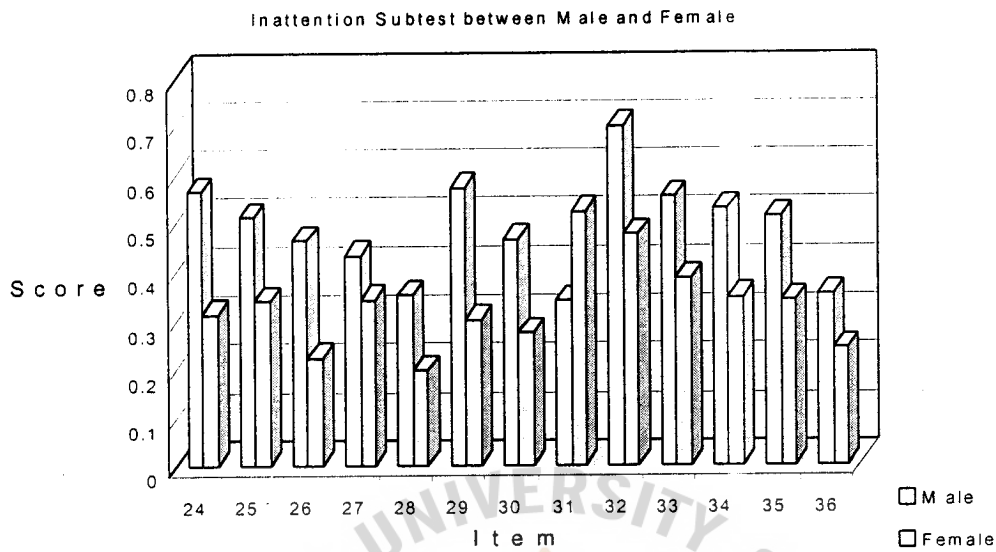


Figure 11 Comparison of Mean Score Per Item in Inattention Sub test Between Male and Female.

Table 12.0

Comparison of Hyperactivity, Impulsivity, and Inattention Sub tests According to Birth Order Perceived By Teachers.

	First-Borns N=183		Others N=134		t value	Sig. t
	Mean	SD	Mean	SD		
Hyperactivity	4.98	6.00	5.39	6.25	-.60	.550
Impulsivity	4.14	4.62	4.01	4.84	.24	.810
Inattention	5.42	6.28	5.19	6.14	.32	.749
Total	14.53	5.44	14.59	16.22	-.03	.974

In Table 12.0, t-test was used to compare the mean values between Birth Order



( First- Borns and Others) as perceived by teachers. The results were presented above, however, t-values did not reveal any significant findings at .05 level in three sub tests. Therefore, accept the null hypothesis in three areas:

1. There is no significant difference between First-Borns and Others in Hyperactivity sub test.
2. There is no significant difference between First-Borns and Others in Impulsivity sub test.
3. There is no significant difference between first-Borns In Inattention sub test.

The differences in the mean score in Hyperactivity, Impulsivity and Inattention Sub tests between birth order can be presented in the form of a bar graph as shown in Figure 12 below.

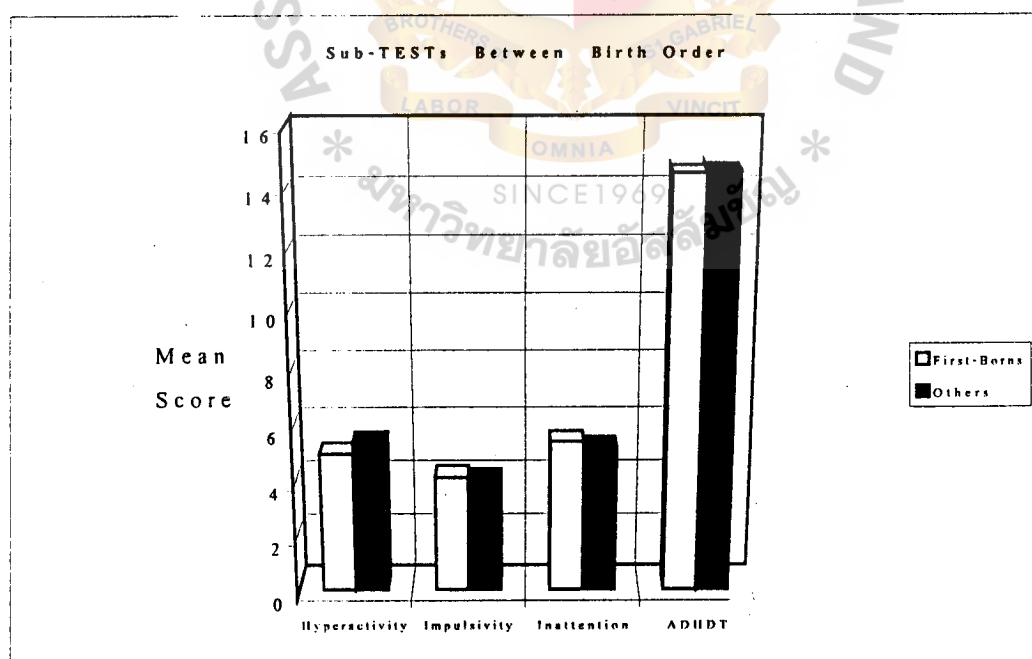


Figure 12 Comparison of Mean Score Per Item in Hyperactivity, Impulsivity and Inattention Sub tests Between Birth Order.

Table 12.1

Comparison Between Birth Order in Hyperactivity Sub test Perceived By Teachers

Hyperactivity Sub test	First- Born	Others	t-value	Sig. t
	Mean	Mean		
1. Loud	.37	.46	-1.30	.196
2. Constantly “on the go”	.41	.49	-.96	.339
3. Excessive running, jumping, climbing	.36	.37	-.14	.885
4. Twisting and wiggling in seat	.46	.50	-.46	.643
5. Easily excited	.48	.54	-.77	.444
6. Grabs object	.25	.26	-.16	.871
7. Excessive talking	.46	.53	-.96	.347
8. Difficulty remaining seated	.43	.48	-.60	.546
9. Constantly manipulating objects	.31	.25	.97	.332
10. Inability to play quietly	.33	.31	.43	.665
11. Fidgets	.33	.38	-.70	.484
12. Restless	.38	.44	-.93	.334
13. Squirms	.40	.40	.05	.961
Total	4.57	5.41		

In Table 12.1, t-test was performed in comparing the mean scores of both group (First-Borns and Others) in **Hyperactivity** sub tests with thirteen problem behaviors. Results showed there is no significant difference at 0.05 level in all problem areas in Birth Order. Therefore accepting the null hypothesis.

1. There is no significant difference between First-Born and Others in the First-Born and Others in the Loud.
2. There is no significant difference between First-Born and Others in the Constantly “on the go”.
3. There is no significant difference between First-Born and Others in the Excessive running, jumping, climbing.
4. There is no significant difference between First-Born and Others in the Twisting and wiggling in seat.
5. There is no significant difference between First-Born and Others in the Easily excited.
6. There is no significant difference between First-Born and Others in the Grabs object.
7. There is no significant difference between First-Born and Others in the Excessive talking.
8. There is no significant difference between First-Born and Others in the Difficulty remaining seated.
9. There is no significant difference between First-Born and Others in the Constantly manipulating objects.
10. There is no significant difference between First-Born and Others in the Inability to play quietly.
11. There is no significant difference between First-Born and Others in the Fidgets.
12. There is no significant difference between First-Born and Others in the Restless
13. There is no significant difference between First-Born and Others in the Squirms.

The differences in the mean score for each item in the Hyperactivity Sub test between birth order can be presented in the form of a bar graph as shown in Figure 13 below.

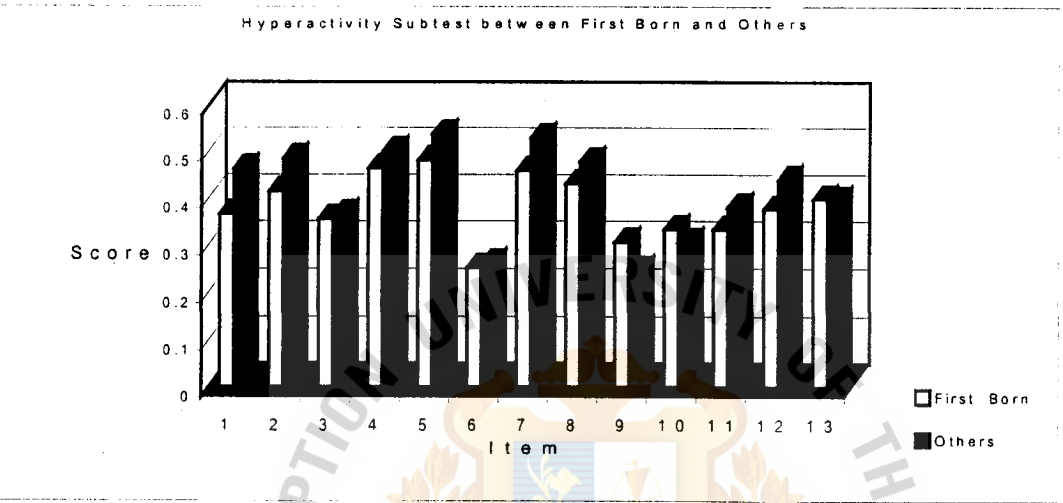


Figure 13 Comparison of Mean Score Per item in Hyperactivity Between Birth Order

Table 12.2

Comparison Between Birth Order in Impulsivity Sub test Perceived By Teachers.

Impulsivity Sub test	First Born Mean	Others Mean	t- test	Sig. t
14. Acts before thinking	.39	.35	.59	.556
15. Shifts from one activity to the next	.37	.31	.92	.358
16. Fails to wait for one's turn	.38	.39	-.17	.864
17. Difficulty waiting turn	.36	.41	-.72	.473
18. Blurts out answers	.44	.47	-.39	.696
19. Impulsive	.48	.50	-.33	.744
20. Interrupts conversations	.47	.42	.72	.472
21. Intrudes on others	.46	.40	.79	.427
22. Does not wait for directions	.42	.42	-.04	.970
23. Fails to follow rules of games	.38	.34	.63	.528
Total	4.15	4.01		

Table 12.2, t-test was performed in comparing the mean scores of both group ( First-Borns and Others) in **Impulsivity** sub tests with ten problem behaviors. Results showed there is no significant difference at 0.05 level in all problem areas in Birth Order. Therefore accepting the null hypothesis. t-test results showed that there is no significant difference at 0.05 level between the first-borns and Others in Impulsivity sub test. Therefore accepting the null hypothesis.

1. There is no significant difference between First-Born and Others in the Acts before thinking.

2. There is no significant difference between First-Born and Others in the Shifts from one activity to the next.
3. There is no significant difference between First-Born and Others in the Fails to wait for one's turn.
4. There is no significant difference between First-Born and Others in the Difficulty waiting turn.
5. There is no significant difference between First-Born and Others in the Blurts out answers.
6. There is no significant difference between First-Born and Others in the Impulsive.
7. There is no significant difference between First-Born and Others in the Interrupts conversations.
8. There is no significant difference between First-Born and Others in the Does not wait for directions.
9. There is no significant difference between First-Born and Others in the Intrudes on others.
10. There is no significant difference between First-Born and Others in the Fails to follow rules of games.

The differences in the mean score for each item in the Impulsivity Sub test between birth order can be presented in the form of a bar graph as shown in Figure 14 below.





Figure 14 Comparison of Mean Score Per Item in Impulsivity Sub test Between Birth Order.



Table 12.3

Comparison Between Birth Order in Inattention Sub test Perceived By Teachers.

Inattention Subtest	First-Born	Others	t- value	Sig. t
	Mean	Mean		
24. Poor concentration	.49	.38	1.58	.115
25. Fails to finish projects	.43	.43	.09	.930
26. Disorganized	.43	.35	-.10	.924
27. Poor planning ability	.34	.34	.13	.894
28. Absentminded	.27	.29	-.40	.689
29. Inattentive	.45	.43	.41	.682
30. Difficulty following directions	.38	.36	.36	.718
31. Short attention span	.45	.42	.42	.674
32. Easily distracted	.60	.58	.24	.808
33. Difficulty sustaining attention.	.48	.46	.25	.804
34. Difficulty staying on task	.43	.45	-.15	.883
35. Difficulty completing tasks	.45	.40	.84	.402
36. Frequently loses things	.28	.32	-.59	.554
Total	5.48	5.21		

The t-test was employed to determine the comparison of mean scores of both groups (First-Borns and Others) in **Inattention** sub test with 13 problem behaviors. By looking at table 12.3, there is no significant difference at 0.05 in thirteen problem areas;

1. There is no significant difference between First-Borns and Others in the Poor concentration.
2. There is no significant difference between First-Borns and Others in the Fails to finish projects.
3. There is no significant difference between First-Borns and Others in the Disorganized.
4. There is no significant difference between First-Borns and Others in the poor planning ability.
5. There is no significant difference between First-Borns and Others in the Absentminded.
6. There is no significant difference between First-Borns and Others in the Inattentive.
7. There is no significant difference between First-Borns and Others in the Difficulty following directions
8. There is no significant difference between First-Borns and Others in the Short attention span.
9. Easily distracted.
10. There is no significant difference between First-Borns and Others in the Difficulty sustaining attention.
11. There is no significant difference between First-Borns and Others in the Difficulty staying on task.
12. There is no significant difference between First-Borns and Others in the Difficulty completing tasks.
13. There is no significant difference between First-Borns and Others in the Frequently loses things.

Therefore, accepting the null hypothesis.

The differences in the mean score for each item between Inattention Sub test and birth order can be presented in the form of a bar graph as shown in Figure 15 below.

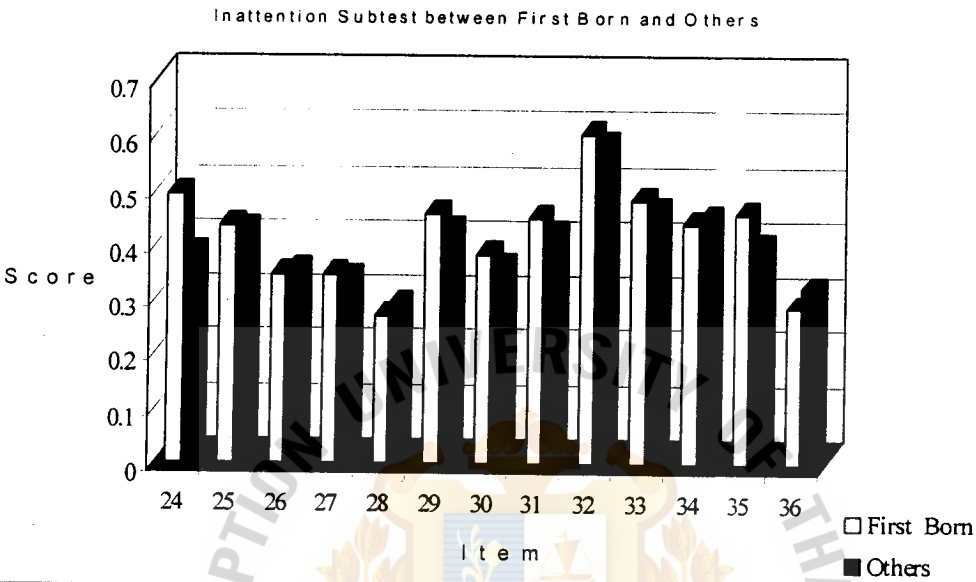


Figure 15\_ Comparison of Mean Score Per Item in Inattention Sub test Between Birth Order As Perceived By Teachers.

Table 13.0

Summary of t-test Results Between Age Groups Perceived By Teachers

	3 to 5			6 to 7			8 to 9				
	N= 169			N= 112			N=36				
	M	SD	Rank	M	SD	Rank	M	SD	Rank	F-value	Sig.f
Hyperactivity	5.59	6.20	1	4.77	6.12	2	4.25	5.57	2	1.05	.350
Impulsivity	4.50	4.76	3	3.90	4.91	3	2.67	3.48	3	2.40	.092
Inattention	5.22	5.42	2	5.30	7.24	1	6.08	6.38	1	.26	.771
Total	15.31	15.26		13.93	17.10		12.95	13.70		.47	.642

All the subjects were grouped according to age into three age group. The F-test one-way ANOVA was employed to determine whether any differences would emerge from the comparison of the mean values, and the results are presented in Table 13.0 However, F-values did not reveal any significant findings in all problem areas. Therefore, accepting the null hypothesis.

1. There is no significant difference between age in Hyperactivity sub test.
2. There is no significant difference between age in Impulsivity sub test.
3. There is no significant difference between age in Inattention sub test.

The findings are illustrated with the use of a bar graph for clearer understanding and presented in Figure 16.

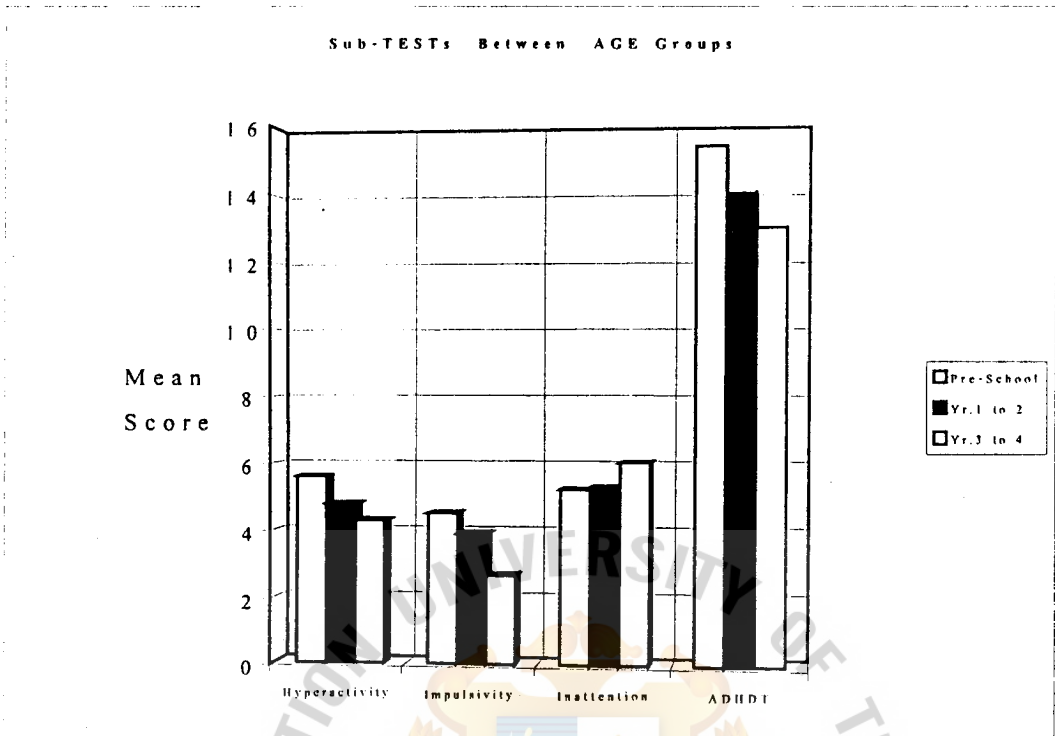


Figure 16 Comparison of Mean Score Between Three Sub tests and Age

Whalen ( 1983), studied the conception of age that ADHD is age-related/maturation that it is a fact that the incidence of ADHD diagnoses tends to increase as children mature and move into formal primary schooling. According to Minuchin and Shapiro, 1983 that the preschools and kindergartens tend to be less structured than primary schools. Preschools are often given free choice of activities, interact with activities in varied ways, and are allowed to move around the classroom and talk with peers.



Table 13.1

Comparison Between Age in Hyperactivity Sub test Perceived By Teachers.

	3-5	6-7	8-9		
Hyperactivity Sub test	Mean	Mean	Mean	F-value	Sig. f
1. Loud	.42	.37	.44	.28	.756
2. Constantly "on the go"	.51	.38	.36	1.69	.186
3. Excessive running, jumping, climbing	.40	.31	.31	.92	.399
4. Twisting and wiggling in seat	.53	.41	.44	1.34	.261
5. Easily excited	.58	.44	.36	2.51	.083
6. Grabs object	.33	.18	.17	3.36	.036*
7. Excessive talking	.49	.46	.56	.30	.745
8. Difficulty remaining seated	.48	.44	.36	.45	.635
9. Constantly manipulating objects	.29	.29	.19	.50	.609
10. Inability to play quietly	.40	.27	.14	4.16	.017*
11. Fidgets	.36	.39	.22	1.12	.328
12. Restless	.44	.37	.59	.73	.482
13. Squirms	.39	.42	.36	.11	.887
Total	5.14	4.73	4.50		

Table 13.1, the F-test was used to compare the mean scores of three groups (3-5, 6-7, 8-9 years old) in **Hyperactivity** sub test of thirteen problem behavior. However, F values revealed significant findings in one problem area at .05 level.

1. Inability to play quietly

Therefore, accepting the null hypothesis for the following:

1. There is no significant difference among the three age group in the Loud.
2. There is no significant difference among the three age group in the Constantly “ on the go”.
3. There is no significant difference among the three age group in the Excessive running, jumping, climbing.
4. There is no significant difference among the three age group in the Twisting and wiggling in seat.
5. There is no significant difference among the three age group in the Easily excited.
6. There is no significant difference among the three age group in the Grabs object.
7. There is no significant difference among the three age group in the Excessive talking.
8. There is no significant difference among the three age group in the Difficulty remaining seated.
9. There is no significant difference among the three age group in the Constantly manipulating objects.
10. There is no significant difference among the three age group in the Fidgets.
11. There is no significant difference among the three age group in the Restless.
12. There is no significant difference among the three age group in the Squirms.

This implies that the three groups of selected subjects (3-5, 6-7, 8-9 years old) do differ significantly in Hyperactivity sub test of item # 10 could be confirmed in the Scheffe Procedure ranges for the .05 level as shown in Table 13.1.1.

Table 13.1.1

Multiple Comparison of Mean in Hyperactivity Sub test (Item # 10) of Each Group By Scheffe Testing Method According to Age Perceived By Teachers.

Subgroups	Mean	3-5 years old	6-7 years old	8-9 years old
		.1389	.2655	.3988
3-5 years old	.1389	-		
6-7 years old	.2655		-	
8-9 years old	.3988	*		-
p < .05				

From Table 13.1.1, it was obviously shown in this problem behavior, there is one pair of age group whose mean score was different. The students whose age between 8-9 years old had a mean score of .3988 and students whose age group of 3-5 years old had a mean score of .1389. It could be confirmed why this problem area attained a statistical significance at .05 level (see Appendix B).

The differences in the mean score for each item in Hyperactivity Sub test and age can be presented in the form of a bar graph as shown in Figure 17 below.

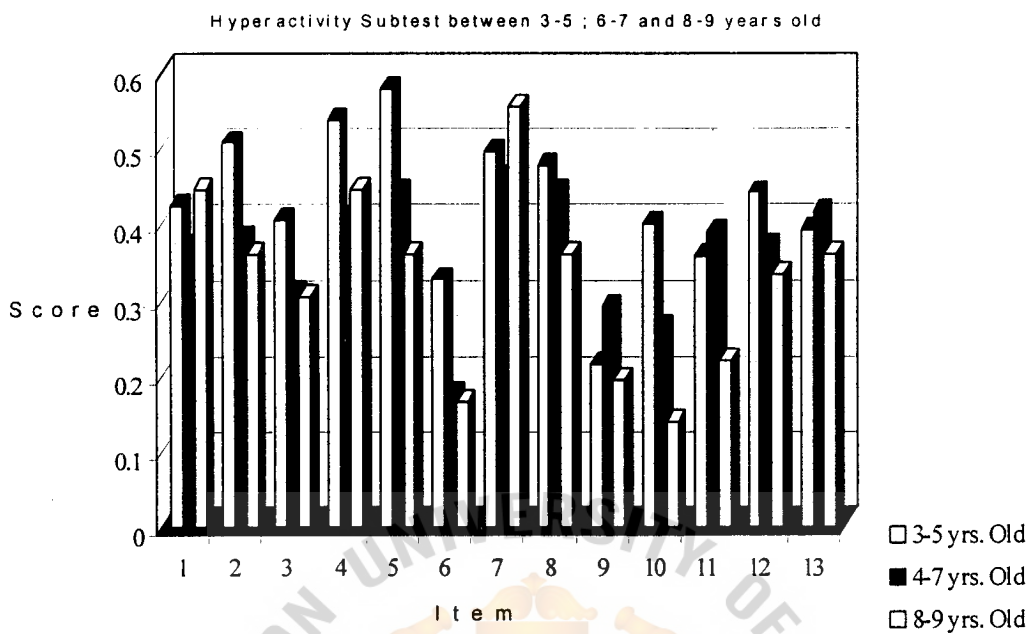


Figure 17 Comparison of Mean Score Per Item in Hyperactivity Sub test Between Age



Table 13.2

Comparison Between Age in Impulsivity Sub test Perceived By Teachers.

Impulsivity Sub test	3-5 Mean	6-7 Mean	8-9 Mean	t- test	Sig. t
14. Acts before thinking	.40	.35	.31	.51	.602
15. Shifts from one activity to the next.	.42	.32	.11	4.92	.008**
16. Fails to wait for one's turn	.46	.31	.25	3.57	.029*
17. Difficulty waiting turn	.46	.30	.25	3.57	.029*
18. Blurts out answers	.45	.50	.36	.67	.510
19. Impulsive	.56	.42	.36	2.39	.094
20. Interrupts conversations	.44	.49	.36	.55	.576
21. Intrudes on others	.46	.45	.25	1.80	.167
22. Does not wait for directions	.45	.42	.19	2.93	.064
23. Fails to follow rules of games	.42	.32	.22	2.11	.123
Total	4.52	3.88	2.66		

\*\* significant difference at .01

\* significant difference at .05

The F-test was used to compare the mean score of these age group in **Impulsivity** sub test of ten problem behavior. By looking at Table 13.2, findings showed that the F values did reveal there is a significant difference at 0.05 level in one problem area;

1. Fails to wait for one's turn
2. Difficulty waiting turn

The significant difference at .01 level was found only in the Shifts from one activity to the next.

Therefore, accept the null hypotheses in the following.

1. There is no significant difference between these three age group in the Acts before thinking.
2. There is no significant difference between these three age group in the Blurts out answers.
3. There is no significant difference between these three age group in the Impulsive.
4. There is no significant difference between these three age group in the Interrupts conversations.
5. There is no significant difference between these three age group in the Intrudes on others.
6. There is no significant difference between these three age group in the Does not wait for directions.
7. There is no significant difference between these three age group in the follow rules of games.

This implies that the three groups of selected subjects (3-5, 6-7, 8-9 years old) do differ significantly in Impulsivity sub test of item # 15 could be confirmed in the Scheffe Procedure ranges for the .01 level as shown in Table 13.1.2 (See Appendix C).

Table 13.2.1

Multiple Comparison of Mean in Impulsivity Sub test (Item # 15) of Each Group By Scheffe testing Method According to Age Perceived By Teachers.

Subgroups	Mean	3-5 years old	6-7 years old	8-9 years old
		.1111	.3186	.4167
3-5 years old	.1111	-		
6-7 years old	.3186		-	
8-9 years old	.4167	*		-

$p < .01$

From Table 13.2.1, it was obviously shown in this problem behavior, there is one pair of age group whose mean score was different. The students whose age between 8-9 years old had a mean score of .4167 and students whose age group of 3-5 years old had a mean score of .1111. It could be confirmed why this problem area attained a statistical significance at .01 level.

The differences in the mean score for each item in Impulsivity Sub test between age can be presented in the form of a bar graph as shown in Figure 18 below.



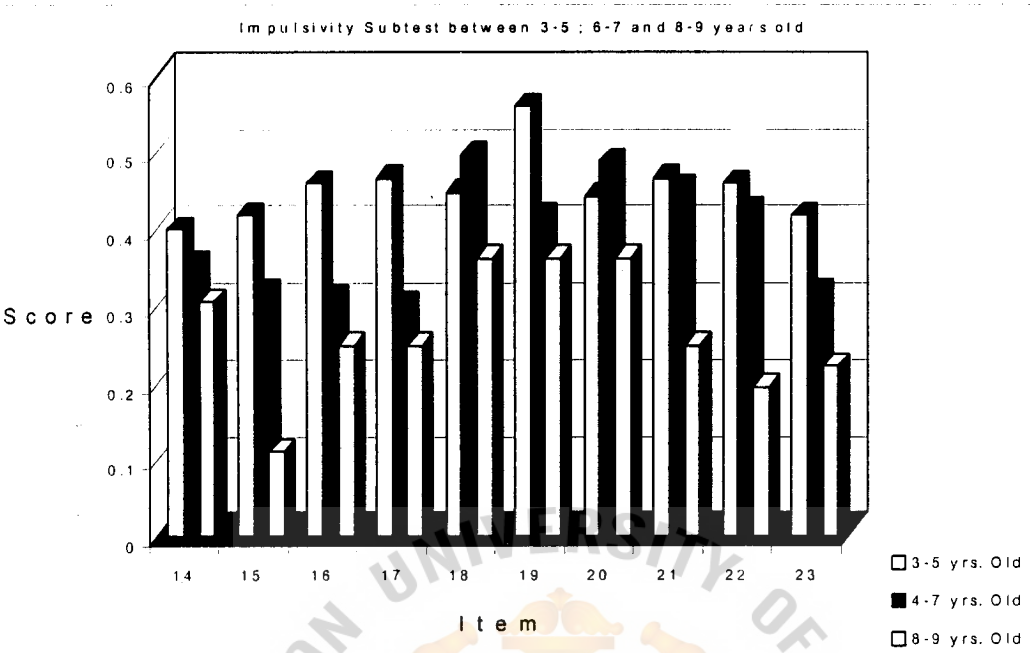


Figure 18 Comparison of Mean Score Per Item Between Impulsivity Sub test and Age.



Table 13.3

Comparison Between Age in Inattention Sub test Perceived By Teachers.

Inattention Subtest	3-5 Mean	6-7 Mean	8-9 Mean	F-value	Sig. f
24. Poor concentration	.40	.48	.56	1.17	.322
25. Fails to finish projects	.41	.37	.69	3.73	.001**
26. Disorganized	.26	.37	.67	7.29	.008**
27. Poor planning ability	.33	.33	.44	.69	.499
28. Absentminded	.22	.33	.39	2.50	.084*
29. Inattentive	.45	.43	.44	.02	.985
30. Difficulty following directions	.39	.33	.42	.53	.584
31. Short attention span	.49	.42	.25	2.20	.117
32. Easily distracted	.65	.51	.58	1.34	.672
33. Difficulty sustaining attention.	.49	.47	.39	.39	.672
34. Difficulty staying on task	.46	.42	.39	.27	.759
35. Difficulty completing tasks	.43	.39	.56	1.0	.364
36. Frequently loses things	.26	.37	.25	1.60	.204
Total	5.24	4.89	5.64		

The F-test was used to compare the mean score of these age group in **Inattention** sub test of thirteen problem behavior. By looking at Table 13.3, findings showed that the F values did not reveal any significant findings in all areas of problem except for three problem areas; The Absentminded which attained a statistical significant at 0.05 level, and the Fails to finish projects and Disorganized which attained a statistical significance at .01 level.

Therefore, the following hypotheses were accepted.

1. There is no significant difference between three age group in the Poor concentration.
2. There is no significant difference between three age group in the Poor planning ability.
3. There is no significant difference between three age group in the Inattentive.
4. There is no significant difference between three age group in the Difficulty following directions.
5. There is no significant difference between three age group in the Short attention span.
6. There is no significant difference between three age group in the Easily distracted.
7. There is no significant difference between three age group in the Difficulty sustaining attention.
8. There is no significant difference between three age group in the Difficulty staying on tasks.
9. There is no significant difference between three age group in the Difficulty completing tasks.
10. There is no significant difference between three age group in the Frequently loses things.

This implies that the three groups of selected subjects (3-5, 6-7, 8-9 years old) do differ significantly in Inattention sub test of item # 25 could be confirmed in the Scheffe procedures ranges for the .05 level as shown in Table 13.3.1 (See Appendix D).

Table 13.3.1

Multiple Comparison of Mean in Inattention Sub test (Item # 25) of Each Group By Scheffe testing Method According to Age Perceived By Teachers.

Subgroups	Mean	3-5 years old	6-7 years old	8-9 years old
		.3717	.4107	.6944
3-5 years old	.3177	-		
6-7 years old	.4107		-	
8-9 years old	.6944	*		-

p < .05

From Table 13.3.1, it was obviously shown in this problem behavior, there is one pair of age group whose mean score was different. The students whose age between 8-9 years old had a mean score of .6944 and students whose age group of 3-5 years old had a mean score of .3717. It could be confirmed why this problem area attained a statistical significance at .01 level.

This implies that the three groups of selected subjects (3-5, 6-7, 8-9 years old) do differ significantly in Inattention sub test of item # 26 could be confirmed in the Scheffe procedures ranges for the .05 level as shown in Table 13.3.2

Table 13.3.2

Multiple Comparison of Mean in Inattention Sub test (Item # 26) of Each Group By Scheffe testing Method According to Age Perceived By Teachers.

Subgroups	Mean	3-5 years old	6-7 years old	8-9 years old
		.2619	.3717	.6667
3-5 years old	.2619	-		
6-7 years old	.3717		-	
8-9 years old	.6667	*	*	-

p<0.05

From Table 13.3.2, it was obviously shown in this problem behavior, there is two pairs of age group whose mean score was different. The first pair was between students whose age between 8-9 years old had a mean score of .6667 and students whose age group of 3-5 years old had a mean score of .2619. The second one was between 8-9 had a mean score of .6667 and 6-7 years old had a mean score of .3717. It could be confirmed why this problem area attained a statistical significance at .01 level.

The differences in the mean score for each item in Inattention Sub test between age can be presented in the form of a bar graph as shown in Figure 19 below.

Inattention Subtest between 3-5 ; 6-7 and 8-9 years old

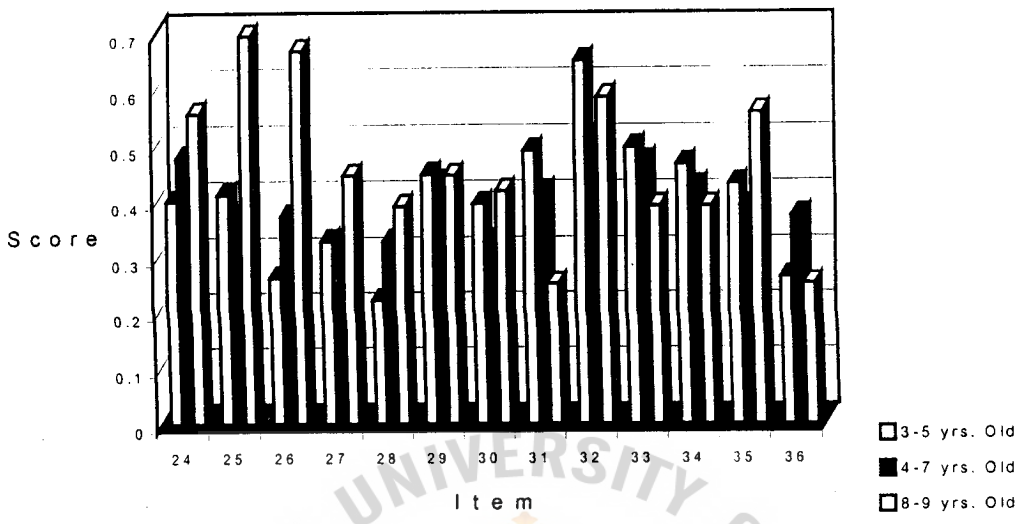


Figure 19 Comparison of Mean Score Per Item in Inattention Sub test Between Age

Table 14.0

Results of ANOVA with Subjects Grouped According to Nationality in Three Sub Tests Perceived by Teachers

	Source of Variation	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Hyperactivity	Between	3	139.04	46.35	1.25	.29
	Within	313	11630.99	37.16		
	Total	316	11770.03			
Impulsivity	Between	3	87.30	29.33	1.33	.27
	Within	313	6919.89	22.11		
	Total	316	7007.87			
Inattention	Between	3	383.30	127.76	3.34**	.02
	Within	313	11806.24	37.80		
	Total	316	12189.53			
Total	Between	3	1618.88	539.63	2.20	.09
	Within	313	76753.40	245.22		
	Total	316	78732.28			

\*\* significant difference at .01

Table 14.0 showed that students who were Asians perceived most problem in Hyperactivity with the mean score of 7.07 followed by subjects who were Americans, European with a mean values of 5.21, 4.90 and 4.34 respectively. In Impulsivity showed that the students who were Asian perceived most problem in this area with a mean values of 5.59 followed by subjects who were American. Thai and European with mean values of 4.18, 3.73 and 3.54. In Inattention, subjects who were Asian perceived most problem with the mean vale of 8.67 followed by Thai, American and European with their mean scores of 5.27, 5.19 and 4.10 respectively. Viewing as a whole, the ADHDT showed that the subjects who were Asians perceived more of these behaviors with the mean scores of 21.33 followed by Americans, European and Thai with their mean scores of 14.57, 13.90 and 11.98 respectively. However, there is a statistical difference at .01 in Inattention sub test and accepting the null hypothesis in Hyperactivity and Impulsivity sub tests.

Table 14.1

Summary of t-test Results Between Nationality Groups Perceived By Teachers.

	N= 52		N= 160		N= 27		N=78		
	M	SD	M	SD	M	SD	M	SD	F-value
Hyperactivity	4.34	6.39	5.21	5.77	7.07	6.90	4.90	6.25	1.25
Impulsivity	3.54	5.37	4.18	4.36	5.59	5.96	3.73	4.41	1.33
Inattention	4.10	6.16	5.19	5.50	8.67	9.10	5.27	6.15	3.34*
Total	11.98	16.72	14.57	14.51	21.33	21.96	13.90	15.25	

\* significant different at .05



All the subjects were grouped according to nationality into four group. The F-test one-way ANOVA was employed to determine whether any differences would emerge from the comparison of the mean values, and the results are presented in Table 14.1. However, F-values did reveal significant findings in one problem area at .05 level.

1. Inattention

Therefore, accepting the null hypothesis.

- a. There is no significant difference between age in Hyperactivity sub test.
- b. There is no significant difference between age in Impulsivity sub test.

The findings are illustrated with the use of a bar graph for clearer understanding and presented in Figure 20.

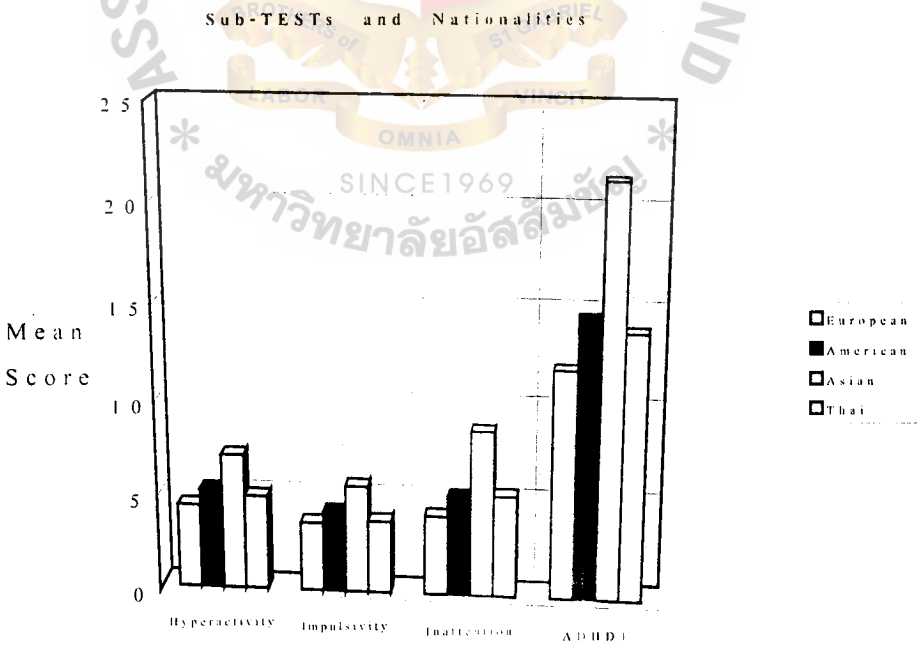


Figure 20 Comparison of Mean Score in Three Sub tests between Nationality

Table 14.2

Comparison Between Nationality in Hyperactivity Sub test Perceived By Teachers

Hyperactivity Sub test	Euro	American	Asian	Thai	F-value	Sig.f
	Mean	Mean	Mean	Mean		
1. Loud	.29	.37	.70	.46	2.89	.034*
2. Constantly "on the go"	.35	.44	.52	.49	.60	.617
3. Excessive running, jumping, climbing	.31	.39	.41	.32	.32	.805
4. Twisting and wiggling in seat	.41	.49	.44	.54	.41	.745
5. Easily excited	.43	.49	.70	.51	1.11	.346
6. Grabs object	.25	.30	.22	.17	1.23	.299
7. Excessive talking	.43	.47	.81	.45	2.50	.060
8. Difficulty remaining seated	.43	.45	.56	.44	.25	.861
9. Constantly manipulating objects	.27	.29	.48	.19	1.90	.129
10. Inability to play quietly	.22	.39	.30	.26	1.82	.143
11. Fidgets	.29	.34	.63	.32	2.71	.077
12. Restless	.35	.39	.59	.40	1.05	.369
13. Squirms	.37	.37	.70	.36	2.52	.058
Total	4.40	5.18	7.06	4.91		

\* significant difference at .05

The F-test one-way ANOVA was employed to determine whether any differences would emerge from the comparison of the mean values and the results were presented in Table 14.2. However, F-values did not reveal any significant findings at .05 level in all the problem areas in **Hyperactivity** sub test between nationality (See Appendix E).

Therefore, accepting the null hypothesis for the following:

1. There is no significant difference between nationality in the Loud.
2. There is no significant difference between nationality in the Constantly “on the go”.
3. There is no significant difference between nationality in the Excessive running, jumping, climbing.
4. There is no significant difference between nationality in the Twisting and wiggling in seat.
5. There is no significant difference between nationality in the Easily excited.
6. There is no significant difference between nationality in the Grabs object.
7. There is no significant difference between nationality in the Excessive talking.
8. There is no significant difference between nationality in the Difficulty remaining seated.
9. There is no significant difference between nationality in the Constantly manipulating objects.
10. There is no significant difference between nationality in the Inability to play quietly.
11. There is no significant difference between nationality in the Fidgets.
12. There is no significant difference between nationality in the Restless.
13. There is no significant difference between nationality in the Squirms.

The differences in the mean score for each item in Hyperactivity Sub test between nationality can be presented in the form of a bar graph as shown in Figure 21 below.

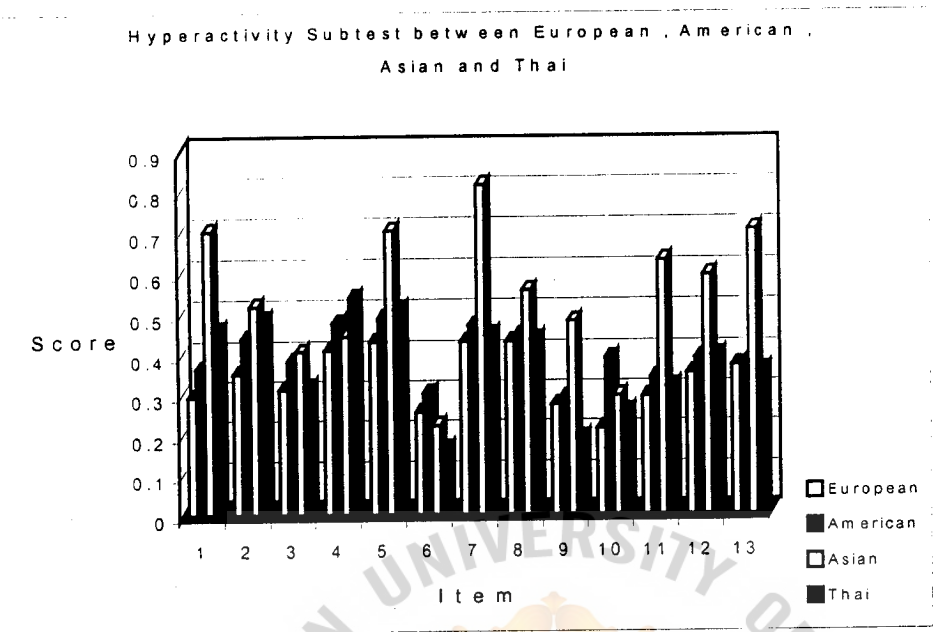


Figure 21 Comparison of Mean Score Per Item in Hyperactivity Between Nationality

Table 14.3

Comparison Between Nationality in Impulsivity Sub test Perceived By Teachers.

Impulsivity Sub test	Euro Mean	American Mean	Asian Mean	Thai Mean	F-value	Sig.f
14. Acts before thinking	.29	.40	.52	.31	1.48	.219
15. Shifts from one activity to the next	.31	.40	.30	.28	.95	.416
16. Fails to wait for one's turn	.31	.39	.39	.41	.34	.798
17. Difficulty waiting turn	.31	.38	.48	.28	.47	.703
18. Blurts out answers	.39	.43	.81	.41	3.50	.016*
19. Impulsive	.43	.54	.70	.33	2.96	.033*
20. Interrupts conversations	.41	.42	.67	.66	1.26	.287
21. Intrudes on others	.45	.43	.67	.35	1.78	.151
22. Does not wait for direction	.35	.40	.63	.42	1.40	.244
23. Fails to follow rules of game	.31	.36	.41	.37	.17	.912
Total	3.56	4.15	5.58	3.13		

\*\* significant difference at .01

\* significant difference at .05

The F-test one-way ANOVA was employed to determine whether any significant would emerge from the comparison of the mean values and the results were presented in Table 14.3. However, F-values did reveal significant findings in two problem behaviors which attained a statistical significance at the .05 level in **Impulsivity** between nationality;

1. Blurts out answers
2. Impulsive

Therefore, accepting the null hypothesis in the following:

- a. There is no significant difference between nationality in the Acts before thinking.
- b. There is no significant difference between nationality in the Shifts from the activity to the next.
- c. There is no significant difference between nationality in the Fails to wait for one's turn.
- d. There is no significant difference between nationality in the Difficulty waiting turn.
- e. There is no significant difference between nationality in the Interrupts conversation.
- f. There is no significant difference between nationality in the Intrudes on others.
- g. There is no significant difference between nationality in the Does not wait for directions.
- h. There is no significant difference between nationality in the Fails to follow rules of games.

The differences in the mean score of the Blurts out answers problem among subject's nationality could be confirmed in the Scheffe Procedure ranges for the .05 level was shown in Table 14.3.1 (See Appendix F).

Table 14.3.1

Multiple Comparisons of Mean in Impulsivity Sub test (Item # 18) of Each Group By Scheffe Testing Method According to Nationality Subgroups Perceived By Teachers.

Subgroups	Mean	Europeans	Americans	Thai	Asian
		.3922	.4348	.4103	.8148
European	.3922	-			
American	.4348		-		
Thai	.4103			-	
Asian	.8148	*	*	*	-

\* p<.05

As shown in Table 14.3.1, it was reported that in this area of problem, there were three pairs of group where the mean scores were significantly different. Those subjects who were Asian and those who were European with the mean scores of .8148 and .3922. The second one was subjects who were Asian and who were American with the mean scores of .8148 and .4348. The third one was subject who were Asian and who were Thai with the mean scores of .8148 and .4103. So, it could be confirmed why this problem area attained a statistical significance at the .01 level.

The differences in the mean score in Impulsivity Sub test between birth order can be presented in the form of a bar graph as shown in Figure 22 below.

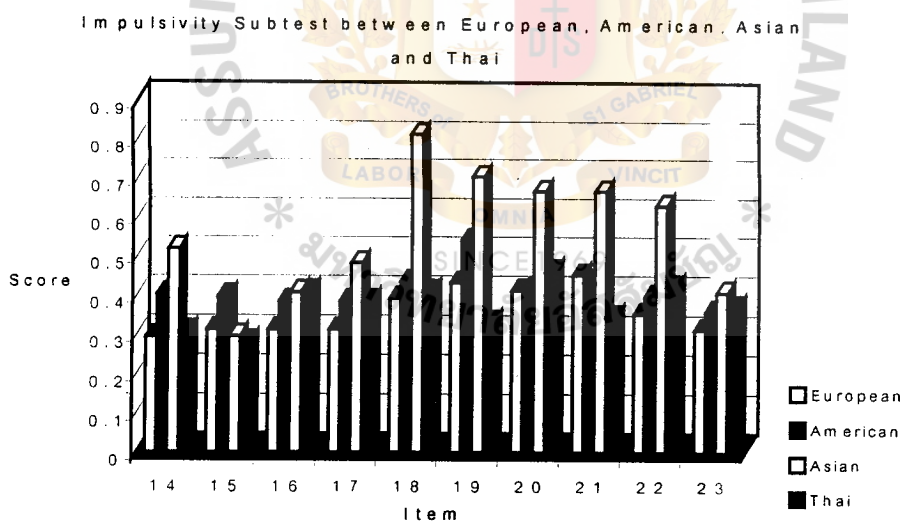


Figure 22 Comparison of Mean Score Per Item in Impulsivity Between Nationality



Table 14.3

Comparison Between Nationality in Inattention Sub test Perceived By Teachers.

Inattention Subtest	Euro Mean	American Mean	Asian Mean	Thai Mean	F-value	Sig.f
24. Poor concentration	.29	.43	.78	.45	3.62	.014*
25. Fails to finish projects	.35	.41	.59	.46	.96	.414
26. Disorganized	.25	.29	.67	.40	3.64	.013*
27. Poor planning ability	.29	.34	.56	.29	1.62	.184
28. Absentminded	.18	.27	.56	.26	3.49	.016*
29. Inattentive	.31	.44	.67	.45	2.02	.111
30. Difficulty following directions	.37	.34	.59	.37	1.50	.215
31. Short attention span	.39	.43	.67	.40	1.39	.245
32. Easily distracted	.47	.60	.70	.63	.86	.464
33. Difficulty sustaining attention.	.37	.45	.81	.47	3.09	.027*
34. Difficulty staying on task	.31	.42	.78	.45	3.43	.017*
35. Difficulty completing tasks	.29	.40	.70	.49	3.09	.027*
36. Frequently loses things	.25	.34	.59	.15	5.18	.002**
Total	4.12	5.16	7.41	5.27		

\*\* significant difference at .01

\* significant difference at .05

For the **Inattention** sub test, the F-test one way ANOVA was used to determine whether any differences would emerge from the comparison findings attained of the mean values and the results were presented in Table 14.3. However, F values did reveal significant findings in some areas at .01 level.

1. Poor concentration
2. Disorganized

3. Absentminded projects.
4. Difficulty sustaining attention
5. Difficulty staying on task
6. Difficulty completing tasks
7. Frequently loses things

Therefore, accepting the null hypotheses are the following:

- a. There is no significant differences between nationality in the fails to finish projects.
- b. There is no significant differences between nationality in the Poor planning ability.
- c. There is no significant differences between nationality in the Inattentive.
- d. There is no significant differences between nationality in the Difficulty following directions.
- e. There is no significant differences between nationality in the Short attention span.
- f. There is no significant differences between nationality in the Easily distracted.

The differences in the mean score of the Poor concentration problem among subject's nationality could be confirmed in the Scheffe Procedure ranges for the .05 level was shown in Table 14.4.1 (See Appendix G).

Table 14.4.1

Multiple Comparisons of Mean in Inattention Sub Test (Item # 24) of Each Group By Scheffe Testing Method According to Nationality Subgroups Perceived By Teachers.

Subgroups	Mean	Europeans	Americans	Thai	Asian
		.2941	.4348	.4487	.7778
European	.2948	-			
American	.4348		-		
Thai	.4487			-	
Asian	.7778	*	*	*	-

\* p<.05

As shown in Table 14.4.1, it was reported that in this area of problem, there were three pairs of group where the mean scores were significantly different. Those subjects who were Asian and those who were European with the mean scores of .7778 and .2941. The second one was subjects who were Asian and who were American with the mean scores of .8148 and .4348. The third one was subject who were Asian and who were Thai with the mean scores of .8148 and .4487. So, it could be confirmed why this problem area attained a statistical significance at the .01 level.

The differences in the mean score of the Disorganized problem among subject's nationality could be confirmed in the Scheffe Procedure ranges for the .05 level was shown in Table 14.4.2

Table 14.4.2

Multiple Comparisons of Mean in Inattention Sub Test (Item # 26) of Each Group By Scheffe Testing Method According to Nationality Subgroups Perceived By Teachers.

Subgroups	Mean	Europeans	Americans	Thai	Asian
		.2549	.2981	.3974	.6667
European	.2549	-			
American	.2981		-		
Thai	.3974			-	
Asian	.6664	*	*		-

\*  $p < .05$

As shown in Table 14.4.2, it was reported that in this area of problem, there were two pairs of group where the mean scores were significantly different. Those subjects who were Asian and those who were European with the mean scores of .6664 and .2549. The second one was subjects who were Asian and who were American with the mean scores of .6664 and .2981. So, it could be confirmed why this problem area attained a statistical significance at the .01 level.

The differences in the mean score of the Absentminded problem among subject's nationality could be confirmed in the Scheffe Procedure ranges for the .05 level was shown in Table 14.4.3

Table 14.4.3

Multiple Comparisons of Mean in Inattention Sub Test (Item # 28) of Each Group By Scheffe Testing Method According to Nationality Subgroups Perceived By Teachers.

Subgroups	Mean	Europeans	Americans	Thai	Asian
		.1765	.2733	.2564	.5556
European	.1765	-			
American	.2733		-		
Thai	.2564			-	
Asian	.5556	*			-

\*  $p < .05$

As shown in Table 14.4.3, it was reported that in this area of problem, there was one pair of group where the mean scores was significantly different. That subjects who were Asian and those who were European with the mean scores of .5556 and .1765. So, it could be confirmed why this problem area attained a statistical significance at the .01 level.

The differences in the mean score of the Difficulty sustaining attention problem among subject's nationality could be confirmed in the Scheffe Procedure ranges for the .05 level was shown in Table 14.4.4.

Table 14.4.4

Multiple Comparisons of Mean in Inattention Sub Test (Item # 33) of Each Group By Scheffe Testing Method According to Nationality Subgroups Perceived By Teachers.

Subgroups	Mean	Europeans	Americans	Thai	Asian
		.3725	.4472	.4744	.8148
European	.3725	-			
American	.4472		-		
Thai	.4744			-	
Asian	.8148	*			-

\* p<.05

As shown in Table 14.4.4, it was reported that in this area of problem, there was one pair of group where the mean scores was significantly different. That subjects who were Asian and those who were European with the mean scores of .8148 and .3725. So, it could be confirmed why this problem area attained a statistical significance at the .01 level.

The differences in the mean score of the Difficulty staying on task problem among subject's nationality could be confirmed in the Scheffe Procedure ranges for the .05 level was shown in Table 14.4.5.

Table 14.4.5

Multiple Comparisons of Mean in Inattention Sub Test (Item # 34) of Each Group By Scheffe Testing Method According to Nationality Subgroups Perceived By Teachers.

Subgroups	Mean	Europeans	Americans	Thai	Asian
		.3178	.4224	.4487	.7778
European	.3178	-			
American	.4224		-		
Thai	.4487			-	
Asian	.7778	*			-

\*  $p<.05$

As shown in Table 14.4.5, it was reported that in this area of problem, there was one pair of group where the mean scores was significantly different. That subjects who were Asian and those who were European with the mean scores of .5556 and .1765. So, it could be confirmed why this problem area attained a statistical significance at the .01 level.

The differences in the mean score of the Difficulty completing tasks problem among subject's nationality could be confirmed in the Scheffe Procedure ranges for the .05 level was shown in Table 14.4.6.



Table 14.4.6

Multiple Comparisons of Mean in Inattention Sub Test (Item # 35) of Each Group By Scheffe Testing Method According to Nationality Subgroups Perceived By Teachers.

Subgroups	Mean	Europeans	American	Thai	Asian
		.2941	.3975	.4872	.7037
European	.2941	-			
American	.3975		-		
Thai	.4872			-	
Asian	.7037	*			-

\*  $p < .05$

As shown in Table 14.4.6, it was reported that in this area of problem, there was one pair of group where the mean scores was significantly different. That subjects who were Asian and those who were European with the mean scores of .5556 and .1765. So, it could be confirmed why this problem area attained a statistical significance at the .01 level.

The differences in the mean score of the Frequently loses things problem among subject's nationality could be confirmed in the Scheffe Procedure ranges for the .05 level was shown in Table 14.4.7.

Table 14.4.7

Multiple Comparisons of Mean in Inattention Sub Test (Item # 36) of Each Group By Scheffe Testing Method According to Nationality Subgroups Perceived By Teachers.

Subgroups	Mean	Europeans	Americans	Thai	Asian
		.2549	.3354	.1538	.5926
European	.2549	-			
American	.3354		-		
Thai	.1538			-	
Asian	.5926	*			-

\*  $p < .05$

As shown in Table 14.4.7, it was reported that in this area of problem, there was one pair of group where the mean scores was significantly different. That subjects who were Asian and those who were European with the mean scores of .5556 and .1765. So, it could be confirmed why this problem area attained a statistical significance at the .01 level.

The differences in the mean score in Inattention Sub test between birth order can be presented in the form of a bar graph as shown in Figure 23 below.

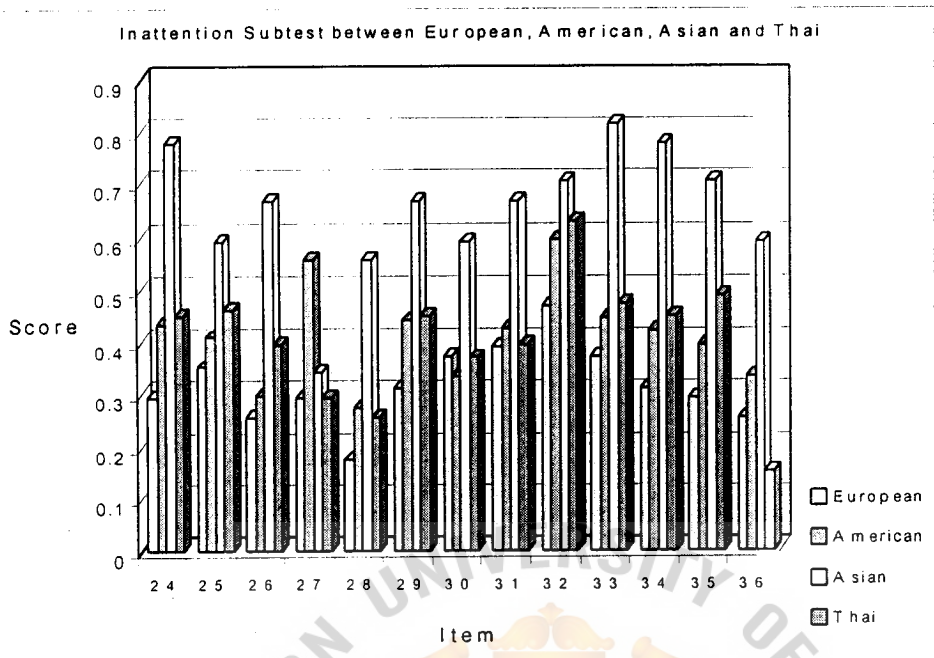


Figure 23. Comparison of Mean Score Per Item in Inattention Between Nationality

Table 14.5

Multiple Comparisons of Mean in Inattention Sub Test of Each Group By Scheffe Testing Method According to Nationality Subgroups Perceived By Teachers.

Subgroups		Europeans	Americans	Thai	Asian
	Mean	4.0962	5.1875	5.2693	8.6667
European	4.0962	-	1.0913	1.1731	4.5705
American	5.1875		-	.0818	-0.617
Thai	5.2693			-	3.3974
Asian	8.6667	2.7917*	3.3974*		-

\* p<.05

The researcher employ  $p < 0.05$  for testing the significance of the differences between each pair of groups. Results showed significant differences between the subgroups of nationality of Europeans versus American, Thai and Asian.

## CHAPTER V

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This study was conducted to identify ADHD among international kindergarten schools in Bangkok. The conclusion and recommendations would be presented in this chapter, divided into the following topics:

1. Objective of the study
2. Significance of the Study
3. Research Design
4. Sample
5. Instruments
6. Sampling Procedure
7. Summary of the Findings
8. Recommendation



**Objective of the Study:** The purpose of this study is to identify ADHD among selected international kindergarten schools in Metropolitan Bangkok.

1. To assess the level of hyperactivity, impulsivity and inattention that the child is currently experiencing as perceived by teachers.
2. To assess the level of hyperactivity, impulsivity and inattention that the child is currently experiencing as perceived by parents.
3. To compare hyperactivity, impulsivity and inattention between data collected as perceived by the teachers and data gathered from parents.

4. To identify the difference between hyperactivity, impulsivity and inattention with the variables of age (class level), gender, nationality, and birth order as perceived by teachers.

**Significance of the Study :** The study can help teachers and parents identify and spot children with ADHD at an early stage so that proper remedies and appropriate teaching methods can be applied earlier in their development years. It helps schools become more aware of any ADHD child so that a learning program can be tailored to bring out the best in the ADHD child. Early detection of ADHD helps the child become more successful especially in their adult life by learning new things in a more tailored program structure that matches his/her attention and other requirements and needs.

**Research Design :** This research employed a survey questionnaire in identifying ADHD. It examines the difference of evaluation results obtained between teachers and parents by using a behavior checklist in collecting the data.

**Sample :** The respondents in the study were the teachers and parents of the selected students in the International Kindergarten in Metro Bangkok aged from 3 to 9 years old for the school years 1998-1999 and 1999-2000. Student population totaled 317.

**Instrument :** The instrument conducted for this study was the ADHDT (Attention Deficit Hyperactivity Disorder Test) by James E. Gilliam (1995) was used to identify ADHD. It consists of three level namely: Hyperactivity (13 items), Impulsivity (10 items) and Inattention (13 items). A total of 36 items.

**Sampling Procedure :** Sampling with the purpose of obtaining small n was used to select the group of students. It covers a total number of 317 students consisting of two sample groups: namely, the teachers and the parents of these 317 students. As was stated

in the methodology, the parents and the teachers were made respondents, not the students themselves, being too young to understand the questionnaire and being unaware of ADHD symptoms as listed in the survey questionnaire.

**Data Collection :** The questionnaires were distributed to the teachers and parents who were assured that the data gathered would be kept confidential. The completed questionnaires were collected until completed.

**Data Analysis :** The data were divided into demographic data and hypothesis testing data. Frequencies and percentages were used for the demographic data. The mean and standard deviation were determined in order to test the hypothesis. The t-test was employed to find significant differences between three groups (birth order, gender, teachers and parents) in the sample. The F- test was used to find the significant relationship among the two groups (age and nationality) in the sample. The analysis of variance was used to analyze data gathered from the three groups of nationality. The Scheffe Testing Method was employed to find the significant differences between the age, nationality and the sub tests.

## Summary of the Findings

The findings could be summarized as follows:

1. **Demographics.** There were 317 selected international kindergarten students in teachers and parents survey, of which 164 or 51.7 % were male students and 153 or 48.3% female students. There were 160 (50.5%) Americans, followed by Thais 78 (24.6%), Europeans 52 (16.4%), and the least were Asians 27 (8.5%). There were 169 (53.3%) 3 to 5 years of age followed by 112 (35.3%) 6 to 7 years old and the least

were 36 (11.4%) 8 to 9 years old. The largest population of birth order were 183 (57.7%) of First-Borns and the remaining were "Others".

2. The results showed that subject's most experienced problem as perceived by teachers were found to have the highest perceived problem in Inattention followed by Impulsivity and the least problem was in Hyperactivity. However, it could be concluded that the problems were minimal for all. The problem behaviors of Inattention were easily distracted, difficulty sustaining attention and difficulty staying on tasks. For Impulsivity, the problem behaviors were Impulsive, intrudes on others and blurts out answers. In Hyperactivity, the problem behaviors were easily excited, excessive talking and twisting and wiggling in seat.
3. Findings showed that the subject's most experienced problem by parents were found to have the highest perceived problem in Inattention followed by Hyperactivity and the least was the Impulsivity. However, the mean values on all the problem behaviors were not in the severity level, it could be concluded that the problems were minimal for all. In Inattention, parents perceived the subjects as difficulty following directions, inattentive, short attention span. For Hyperactivity, these were easily excited, constantly "on the go" and twisting and wiggling in seat.
4. Findings showed that there is no significant difference between teachers and parents in Hyperactivity, Impulsivity and Inattention as perceived by both group (teachers and parents).
5. Furthermore, teacher and parents do exhibited significant difference at .01 level in the problem behaviors of Hyperactivity as loud, excessive running, jumping, climbing, grabs object, excessive talking, difficulty remaining seated, constantly manipulating objects, restless and squirms. For Impulsivity, these were shifts from one activity to



the next, fails to wait for one's turn, difficulty waiting turn, does not wait for directions and fails to follow rules. In Inattention, the subjects have poor concentration, disorganized, poor planning ability, absentminded, difficulty following directions, easily distracted, difficulty sustaining attention, difficulty staying on task, and difficulty completing tasks.

6. There was a statistical significant difference at .01 level between male and female in Hyperactivity, Impulsivity and Inattention as perceived by teachers.
7. Male subjects in comparison with female subjects seemed to perceived more problem behaviors in Hyperactivity, Impulsivity and Inattention except in fails to follow rules of games and frequently loses things.
8. There was no statistical significant difference at .05 level between First-Borns and "Others" in Hyperactivity, Impulsivity and Inattention as perceived by teachers.
9. Findings showed that there was a statistical significant difference at .05 level among age group in Hyperactivity and these behaviors were grabs object and inability to play quietly. In Impulsivity, the subject shifts from one activity to the next, fails to wait for one's turn and difficulty waiting turn. For Inattention, the subjects fails to finish projects, disorganized and absentminded.
10. There was a statistical significant difference at .01 level among subject's nationality as perceived by teachers in Inattention. Subjects who were Asian in comparison with the European, American and Thai seemed to display more problems in Inattention

## **Recommendation**

After completing this research, the researcher proposes the following recommendation:

### Recommendation for the School and Teachers

1. Since the most perceived problem of students by teachers in ADHD which include Hyperactivity, Impulsivity and Inattention, in order to control these problems, the school should arrange regular meetings for the teacher concerned together with the parents of the child and the school guidance counsellor ( if there is) to discuss the achievements and day-to-day problems of the child and come to common terms on how to help ease the child from current and impending pains and pressures of educational learning and social development. The school should conduct professional training of teachers in terms of developing their psychological ability to cope and handle problem children.
2. The teacher should structure the curriculum to suit the needs and requirements of problem children. He/she should plan variable group of activities which do not require a long attention span. ADHD children should have a rotating group of activities that match their learning moods and ease learning pressures. For example, one child spends 10 minutes on art works, 10 minutes on computer works, another 10 minutes for Math or reading or Physical activities and have a break time in between to dispel the monotony of sitting down in one place. Perhaps a number of work stations should be set up in the school so that there is a physical change of place especially for those who are tired sitting in one place for quite a long period of time.

### **Recommendation for Parents**

1. Findings in this study can serve as a guideline for the parents to join “Support Group” whose main goal is to encourage each other. Parents of problem children meet regularly to air their frustrations and pains of rearing hyperactive children and reinforcing each other.
2. Parents should avoid denial of their child’s real situation. Rather, parents should accept their child as what he really is helping to cope with pain of his development growth.
3. Parents should actively encourage their children to transform the negative effects of the disorder into self-awareness, self-acceptance, and strength, every scrap of energy, every seat utilized. For example, enroll the child in a swimming school so his high energy level is expended on learning swimming techniques. He could be a great swimmer and excel in such an endeavor.
4. Parents should deal with a child who exhibits symptoms of hyperactivity, impulsivity and inattention with a lot of lasting patience and acceptance of his weaknesses. A lasting change begins with the process of self-empowerment. Only an empowered parent can struggle with the disorder and win.
5. By parent empowerment, they should tune in to their fundamental needs as a unique individual, being aware of who they are, and allowing them to express themselves every day.

### **Recommendations for Further Study.**

Further research is recommended to:

1. Study the developmental changes in the life stages from childhood to adulthood of ADHD children such as the inclusion of age brackets over nine-year old children;

2. Study the different coping styles appropriate for teachers as well as parents of ADHD children;
3. Extend the study on ADHD children from local Thai schools in order to come up with constructive recommendations appropriate for concerned school, parents and teachers;
4. Include greater coverage of nationalities so as to make the results of the study more meaningful, more significant and more useful to a larger group of parents and schools;
5. Conduct an in-depth study on the short-term and long-term effects of parents denial on the developmental growth of the ADHD child, the concerned family, the school and the community;
6. Employ a battery of tests (not just one test as was used in this research) in order to come up with greater significant findings of survey results of children under study.

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## Section VI. Key Questions

Does the person demonstrate six or more symptoms of inattention, or six or more symptoms of hyperactivity, impulsivity listed in each subtest?

Does the person exhibit the behavioral problems in a variety of environments?

Does the person demonstrate the behaviors considerably more frequently than do most people of the same mental age?

Has the person demonstrated the behaviors for at least 6 months?

Did the person first demonstrate the behaviors before age 7?

Is the person's functioning (at school, home, and work) significantly impaired?

Are there other conditions that could possibly be causing the behavioral problems? If yes, what are the conditions?

Who has previously evaluated this person and what were the results?

What specific interventions have been attempted to treat the person's problems?

What additional information needs to be collected?

## Section VII. Recommendations and Comments



Impulsivity Subtest

	Not a Problem	Mild Problem	Severe Problem
14. Acts before thinking	0	1	2
15. Shifts from one activity to the next	0	1	2
16. Fails to wait for one's turn	0	1	2
17. Difficulty waiting turn	0	1	2
18. Blurts out answers	0	1	2
19. Impulsive	0	1	2
20. Interrupts conversations	0	1	2
21. Intrudes on others	0	1	2
22. Does not wait for directions	0	1	2
23. Fails to follow rules of games	0	1	2

Impulsivity Sum

Inattention Subtest

	Not a Problem	Mild Problem	Severe Problem
24. Poor concentration	0	1	2
25. Fails to finish projects	0	1	2
26. Disorganized	0	1	2
27. Poor planning ability	0	1	2
28. Absentminded	0	1	2
29. Inattentive	0	1	2
30. Difficulty following directions	0	1	2
31. Short attention span	0	1	2
32. Easily distracted	0	1	2
33. Difficulty sustaining attention	0	1	2
34. Difficulty staying on task	0	1	2
35. Difficulty completing tasks	0	1	2
36. Frequently loses things	0	1	2

Inattention Sum

Section V. Response Form

DIRECTIONS: Please indicate which of the following behaviors/characteristics are a problem for this individual. Mark or circle 0 if the behavior is *not a problem* (the subject rarely demonstrates this problem, and it does not impair his or her functioning) or if you have not had the opportunity to observe the behavior. Mark or circle 1 if the item refers to a behavior that is a *mild problem* (the subject sometimes demonstrates this behavior, and it occasionally causes problems and impairs his or her functioning.) Mark or circle 2 if the item refers to a behavior that is a *severe problem* for this individual (the subject frequently demonstrates this behavior, and it usually causes problems and impairs his or her functioning.) Do not skip any items.

Hyperactivity Subtest

	Not a Problem	Mild Problem	Severe Problem
1. Loud	0	1	2
2. Constantly "on-the-go"	0	1	2
3. Excessive running, jumping, climbing	0	1	2
4. Twisting and wiggling in seat	0	1	2
5. Easily excited	0	1	2
6. Grabs objects	0	1	2
7. Excessive talking	0	1	2
8. Difficulty remaining seated	0	1	2
9. Constantly manipulating objects	0	1	2
10. Inability to play quietly	0	1	2
11. Fidgets	0	1	2
12. Restless	0	1	2
13. Squirms	0	1	2

Hyperactivity Sum

# ADHDT

## Attention-Deficit/ Hyperactivity Disorder Test

A Method for Identifying  
Individuals with ADHD

### SUMMARY/RESPONSE FORM

156

Section I. Identifying Information

Nationality: Birth Order:

School: Child's Sex: M  
F

Age:

Section II. Score Summary

	Raw Score	SS	%	SE <sub>M</sub>
Activity				1
ity				1
on				1
um of Standard Scores				
ADHD Quotient				3

Section IV. Profile of Scores

	ADHDT Subtests	ADHDT Composite	Other Measures of Intelligence, Achievement, or Behavior
	Hyperactivity Impulsivity Inattention	Composite Quotients	ADHD Quotient
Subtest Standard Scores	Hyperactivity Impulsivity Inattention	Composite Quotients	ADHD Quotient
20		160	
19		155	
18		150	
17		145	
16		140	
15		135	
14		130	
13		125	
12		120	
11		115	
10		110	
9		105	
8		100	
7		95	
6		90	
5		85	
4		80	
3		75	
2		70	
1		65	
		60	
		55	

Section III. Interpretation Guide

ADHD Quotient	Degree of Severity	Probability of ADHD
131+	High	Very High
121-130		High
111-120		Above Average
90-110		Average
80-89		Below Average
70-79		Low
≤ 69	Low	Very Low

13 November 1998

Mr. Michael Matthews  
Executive Officer/Deputy Headmaster  
New International School of Thailand  
Sukhumvit Soi 15  
Bangkok

**Re: ADHD Survey for Masteral Thesis in Psychology  
Ms. CAROLYN L.LAMADRID**

Dear Mr. Matthews

We refer to your letter regarding the survey on ADHD students requested by our students in our Masters in Counselling Psychology Program, Ms. CAROLYN L.LAMADRID.

We assure your school and your pupil that Ms. Carolyn, the thesis panel members and everyone concerned will observe strict confidentiality of every information gleaned from said survey.

As to the anonymity of subjects under survey, Ms. Carolyn needs the following variables only based on the respondent's information:

1. Child's sex (Male / Female)
2. Child's age and birthday
3. Nationality
4. Number of children in the family
5. Annual Family Income (in US\$, combined income if both parents are working)

Please note that the child's name and/or parent's name are not included in the survey information.

As to the ethical standards of the research, we assure you that the text, summary, conclusions and recommendations will not mention any particular name of the respondent nor school. Ms Carolyn gives further reassurance to the respondents and the school by providing them on request a copy of her masteral thesis.

Ms. Carolyn as an administrator and teacher of an international kindergarten school in Bangkok. With the nature of her job, she realizes that ADHD is a most fitting topic of her thesis. Any information derived from the survey as well as her thorough research, conclusions and recommendations will shed more light to parents and teachers on how to better handle, teach and understand ADHD student.

On behalf of Ms. Carolyn, we are indebted to your invaluable assistance and support you have extended to our masteral candidate.

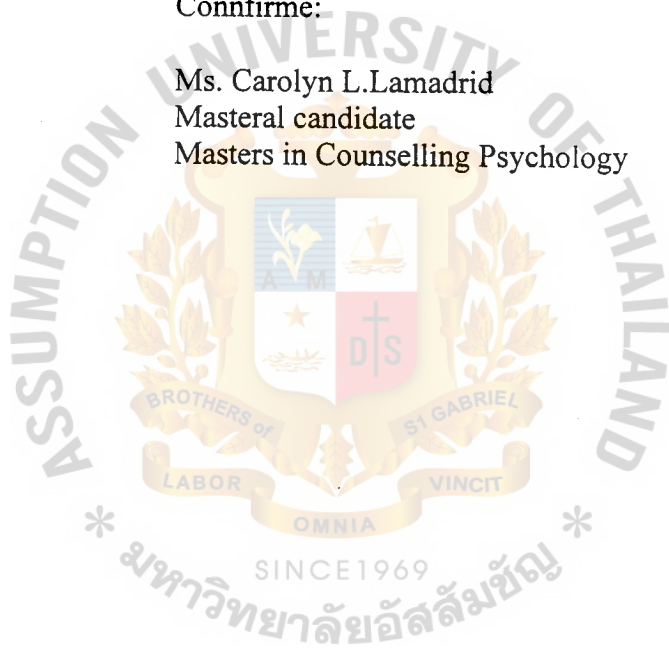
Sincerely,

Dr. Dolores de Leon  
Dean  
Masters in Counselling Psychology

Dr. Sumalee Sungsi  
Thesis Adviser

Connfirme:

Ms. Carolyn L.Lamadrid  
Masteral candidate  
Masters in Counselling Psychology



13 November 1998

Mr. Michael Matthews  
Executive Officer/ Deputy Headmaster  
New International School of Thailand

**Re: ADHD Survey for Masteral Thesis Program**

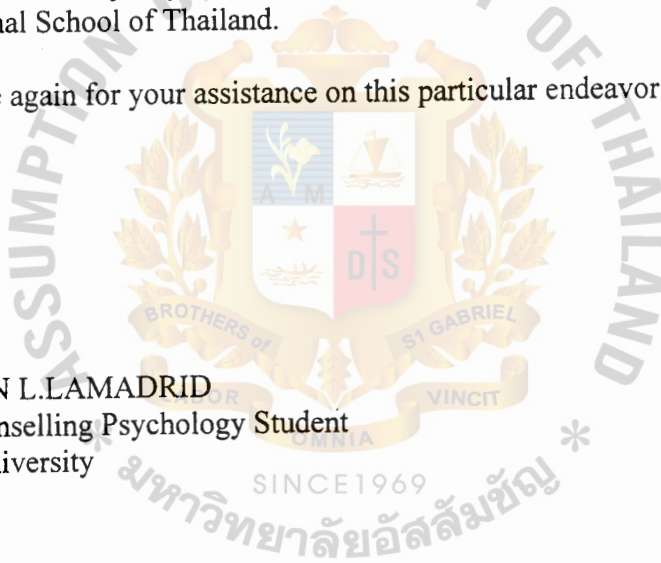
Dear Mr. Matthews:

With reference to your letter dated October 27<sup>th</sup> regarding the above captioned subject, I have enclosed herewith the required letter from our university regarding the confidentiality and anonymity of information that are to be gathered from the pupils of New International School of Thailand.

Thank you once again for your assistance on this particular endeavor.

Sincerely,

Ms. CAROLYN L.LAMADRID  
Masters in Counselling Psychology Student  
Assumption University





Dear Parents and Teachers:

I am Ms. Carolyn L. Lamadrid, a masteral candidate under the Masters in Counselling Psychology Program of Assumption University. I am undertaking a survey on ADHD children as part of my masteral thesis.

I would appreciate if I could conduct survey from your pupils/students that I may use for my masteral thesis. I assure you that confidentiality and anonymity are strictly observed in presenting the data gathered from said survey. Please note that the name of the pupil or the parent is not included in the survey. Aside from the attached questionnaire, I need the following information:

A. Child: sex, age, birthday, nationality, number of siblings.

B. Parent: annual income (in US\$ and combined income if both parent are working)

Please sign the permission slip below to indicate approval/non-approval.

My indebtedness and deep gratitude go to the teachers, parents, the school and the pupils.

Sincerely,

Ms. Carolyn Lamadrid

**Please return to the teacher immediately. Thank you.**

I allow/ do not allow my child to be part of the ADHD Survey.

Name of Child: \_\_\_\_\_

Grade Year/ Level and teacher.

\_\_\_\_\_  
Parents/Teachers and Signature

## Appendix B

Results of ANOVA for the Grouped According to Age for Each Item in Hyperactivity Sub test.

Hyperactivity Sub test	Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
1. Loud	Between	2	.23	.12	.28	.756
	Within	314	130.27	.41		
	Total	316	130.50			
2. Constantly "on the go"	Between	2	1.35	.67	1.69	.186
	Within	314	124.94	.40		
	Total	316	126.28			
3. Excessive running, jumping, climbing	Between	2	.73	.36	.92	.399
	Within	314	124.27	.40		
	Total	316	125.00			
4. Twisting and wiggling in seat	Between	2	1.17	.58	1.39	.2611
	Within	314	135.95	.43		
	Total	316	137.12			
5. Easily excited	Between	2	2.07	1.03	2.51	.083
	Within	314	129.18	.41		
	Total	316	131.24			
6. Grabs object	Between	2	1.85	.92	3.36	.036
	Within	314	86.45	.28		
	Total	316	88.30			
7. Excessive talking	Between	2	.26	.13	.30	.744
	Within	314	136.95	.44		
	Total	316	137.21			
8. Difficulty remaining seat	Between	2	.41	.20	.45	.635
	Within	314	140.09	.45		
	Total	316	140.49			
9. Constantly manipulating objects	Between	2	.30	.15	.50	.609
	Within	314	95.71	.30		
	Total	316	96.01			

## Appendix B (cont.)

Results of ANOVA for the Grouped According to Age for Each Item in Hyperactivity Sub test.

Hyperactivity Sub test	Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
10.Inability to play quietly	Between	2	2.56	1.28	4.16	.017
	Within	314	96.62	.31		
	Total	316	99.18			
11. Fidgets	Between	2	.76	.38	1.12	.328
	Within	314	107.66	.34		
	Total	316	108.43			
12. Restless	Between	2	.52	.26	.73	.482
	Within	314	111.79	.36		
	Total	316	112.32			
13. Squirms	Between	2	.90	.05	.12	.887
	Within	314	117.83	.38		
	Total	316	117.92			

## Appendix C

Results of ANOVA for the Subjects grouped According to Age for Each Item in Impulsivity Sub test.

Impulsivity Sub tests	Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob
14. Acts before thinking	Between	2	.32	.16	.51	.602
	Within	314	97.76	.31		
	Total	316	98.08			
15. Shifts from one activity to the next	Between	2	2.91	1.45	4.92	.008
	Within	314	92.92	.30		
	Total	315	95.83			
16. Fails to wait for one's turn	Between	2	2.20	1.10	3.57	.029
	Within	314	96.62	.31		
	Total	316	98.81			
17. Difficulty waiting turn	Between	2	2.51	1.25	3.57	.029
	Within	314	110.31	.35		
	Total	316	112.81			
18. Blurts out answers	Between	2	.52	.26	.67	.053
	Within	314	120.07	.38		
	Total	316	120.59			
19. Impulsive	Between	2	2.02	1.01	2.39	.094
	Within	314	133.16	.42		
	Total	316	135.19			
20. Interrupts conversations	Between	2	.45	.23	.55	.576
	Within	314	127.94	.41		
	Total	316	128.39			
21. Intrudes on others	Between	2	1.41	.70	1.80	.167
	Within	314	122.52	.39		
	Total	316	123.92			
22. Does not wait for directions	Between	2	2.08	1.04	2.94	.054
	Within	314	110.96	.35		
	Total	316	113.03			

## Appendix D

Results of ANOVA for the Subjects grouped According to Age for Each Item in Inattention Sub test

Inattention Subtest	Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob
23. Fails to follow rules of games	Between	2	1.42	.71	2.11	.123
	Within	314	105.59	.34		
	Total	316	107.00			
24. Poor concentration	Between	2	.92	.46	1.17	.311
	Within	314	123.36	.39		
	Total	316	124.28			
25. Fails to finish projects	Between	2	2.96	1.48	3.73	.025
	Within	314	124.69	.40		
	Total	316	127.65			
26. Disorganized	Between	2	4.96	2.48	7.29	.000
	Within	314	106.87	.34		
	Total	316	111.83			
27. Poor planning ability	Between	2	.44	.22	.69	.499
	Within	314	98.77	.31		
	Total	316	99.21			
28. Absentminded	Between	2	1.28	.64	2.50	.083
	Within	314	80.29	.26		
	Total	316	81.57			
29. Inattentive	Between	2	.01	.00	.02	.985
	Within	314	116.16	.37		
	Total	316	116.17			
30. Difficulty following directions	Between	2	.37	.18	.54	.584
	Within	314	107.71	.34		
	Total	316	108.08			
31. Short attention span	Between	2	1.75	.87	2.21	.112
	Within	314	124.18	.40		
	Total	316	125.92			

## Appendix D (cont.)

Results of ANOVA for the Subjects grouped According to Age for Each Item in Inattention Sub test

Inattention Subtest	Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob
32. Easily distracted	Between	2	1.24	.62	1.35	.262
	Within	314	145.26	.46		
	Total	316	146.50			
33. Difficulty sustaining attention	Between	2	.33	.17	.40	.672
	Within	314	130.69	.42		
	Total	316	131.02			
34. Difficulty staying on task	Between	2	.21	.11	.28	.759
	Within	314	123.95	.39		
	Total	316	124.17			
35. Difficulty completing task	Between	2	.75	.38	1.01	.364
	Within	314	116.90	.37		
	Total	316	117.65			
36. Frequently loses things	Between	2	.91	.46	1.60	.203
	Within	314	89.62	.29		
	Total	316	90.53			

## Appendix E

Results of ANOVA for the Subjects Grouped According to Nationality For Each Item in Hyperactivity Sub test.

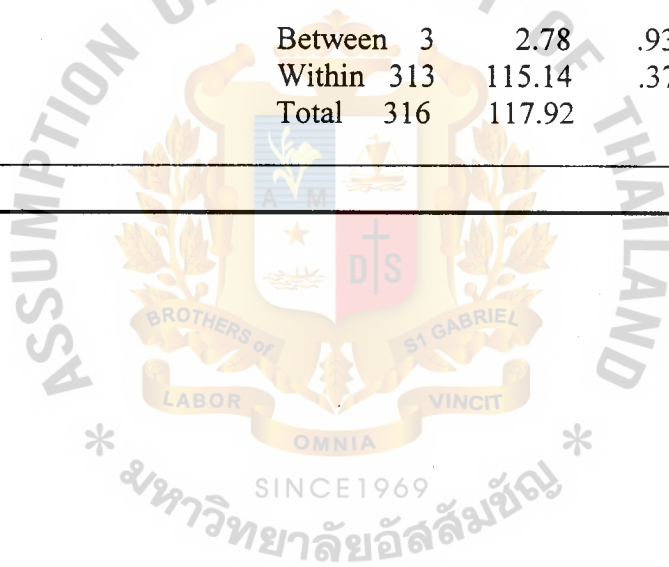
Hyperactivity Sub test	Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
1. Loud	Between	3	3.52	1.17	2.90	.035
	Within	313	126.98	.41		
	Total	316	130.50			
2. Constantly "on the go"	Between	3	.72	.24	.59	.617
	Within	313	125.56	.40		
	Total	316	126.28			
3. Excessive running, jumping, climbing	Between	3	.39	.13	.33	.805
	Within	313	124.61	.40		
	Total	316	125.00			
4. Twisting and wiggling in seat	Between	3	.54	.18	.41	.411
	Within	313	136.58	.44		
	Total	316	137.12			
5. Easily excited	Between	3	1.38	.46	1.11	.346
	Within	313	129.86	.41		
	Total	316				
6. Grabs object	Between	3	1.03	.34	1.23	.299
	Within	313	87.27	.28		
	Total	316	88.30			
7. Excessive talking	Between	3	3.21	1.07	2.50	.060
	Within	313	134.00	.43		
	Total	316	137.21			
8. Difficulty remaining seated	Between	3	.33	.11	.25	.862
	Within	313	140.16	.45		
	Total	316	140.49			
9. Constantly manipulating objects	Between	3	1.72	.57	1.90	.129
	Within	313	94.29	.30		
	Total	316	96.01			



## Appendix E (cont.)

Results of ANOVA for the Subjects Grouped According to Nationality For Each Item in Hyperactivity Sub test.

10. Inability to play quietly	Between	3	1.70	.57	1.82	.143
	Within	313	97.47	.31		
	Total	316	99.18			
11. Fidgets	Between	3	2.35	.78	2.31	.077
	Within	313	106.08	.34		
	Total	316	108.43			
12. Restless	Between	3	1.12	.37	1.05	.369
	Within	313	111.19	.36		
	Total	316	112.32			
13. Squirms	Between	3	2.78	.93	2.52	.059
	Within	313	115.14	.37		
	Total	316	117.92			
<hr/>						
Total						
<hr/>						



## Appendix F

Results of ANOVA for the Subjects Grouped According to Nationality For Each Item in Impulsivity Sub test.

Impulsivity Sub test	Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
14. Acts before thinking	Between	3	1.37	.46	1.48	.219
	Within	313	96.70	.31		
	Total	316	98.07			
15. Shifts from one activity to the next	Between	3	.87	.29	.95	.416
	Within	313	94.96	.30		
	Total	316	95.83			
16. Fails to wait for one's turn	Between	3	.32	.11	.34	.798
	Within	313	98.49	.31		
	Total	316	98.81			
17. Difficulty waiting turn	Between	3	.51	.17	.47	.703
	Within	313	112.31	.36		
	Total	316	112.81			
18. Blurts out answers	Between	3	3.91	1.31	3.51	.016*
	Within	313	116.67	.37		
	Total	316				
19. Impulsive	Between	3	3.73	1.24	2.96	.033
	Within	313	131.46	.42		
	Total	316	135.17			
20. Interrupts conversations	Between	3	1.54	.51	1.26	.287
	Within	313	126.86	.41		
	Total	316	128.39			
21. Intrudes on others	Between	3	2.08	.69	1.78	.151
	Within	313	121.85	.39		
	Total	316	123.92			
22. Does not wait for directions	Between	3	1.49	.50	1.40	.244
	Within	313	111.54	.36		
	Total	316	113.03			
23. Fails to follow rules of games	Between	3	.18	.06	.18	.912
	Within	313	106.82	.34		
	Total	316	107.00			

## Appendix G

Results of ANOVA for the Subjects Grouped According to Nationality For Each Item in Inattention Sub test.

Inattention Subtest	Source	D.F	Sum of Squares	Mean Squares	F Ratio	F Prob.
24. Poor Concentration	Between	3	4.17	1.39	3.62	.014*
	Within	313	120.12	.38		
	Total	316	124.28			
25. Fails to finish projects	Between	3	1.16	.39	.956	.414
	Within	313	126.50	.40		
	Total	316	127.65			
26. Disorganized	Between	3	3.77	1.26	3.64	.013*
	Within	313	108.06	.35		
	Total	316	111.83			
27. Poor planning ability	Between	3	1.52	.51	1.62	.184
	Within	313	97.68	.31		
	Total	316	99.21			
28. Absentminded	Between	3	2.65	.88	3.50	.016*
	Within	313	78.93	.25		
	Total	316	81.5			
29. Inattentive	Between	3	2.20	.74	2.02	.111
	Within	313	113.96	.36		
	Total	316	116.17			
30. Difficulty following directions	Between	3	1.51	.51	1.50	.215
	Within	313	106.55	.34		
	Total	316	108.08			
31. Short attention span	Between	3	1.66	.55	1.40	.245
	Within	313	124.26	.40		
	Total	316	125.92			

## Appendix G (cont.)

Results of ANOVA for the Subjects Grouped According to Nationality For Each Item in Inattention Sub test.

Inattention Sub tests	Source	D.F.	Sum of Squares	Mean Squares	F value	F Prob.
32. Easily distracted	Between	3	1.19	.40	.86	.464
	Within	313	145.31	.46		
	Total	316	146.50			
33. Difficulty sustaining attention	Between	3	3.76	1.26	3.07	.027*
	Within	313	127.25	.41		
	Total	316	131.02			
34. Difficulty staying on task	Between	3	3.95	1.32	3.43	.018*
	Within	313	120.22	.38		
	Total	316	124.17			
35. Difficulty completing tasks	Between	3	3.39	1.13	3.10	.027*
	Within	313	114.26	.37		
	Total	316	117.65			
36. Frequently loses things	Between	3	4.28	1.43	5.18	.002*
	Within	313	86.25	.28		
	Total	316	90.53			



