

Attitudes of educators towards children with Attention Deficit
Hyperactivity Disorder

by

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A dissertation submitted to the Faculty of education in fulfillment of the
requirements for the degree

of

Masters of Education in Psychology

University of Zululand

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DECLARATION

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Declaration form

I, Ntuli Busisiwe Nokukhanya sincerely declare that the work on “Attitudes of educators towards children with Attention Deficit Hyperactivity Disorder” is original and is my own work. The product is the result of my effort through the professional guidance of the recognized supervisor whose name appears below:

Candidate's name: _____

Candidate's signature: _____

Date: _____

Supervisor

Name: _____ Signature: _____

Date: _____

DEDICATION

This dissertation is dedicated to:

My husband Mbusiseni Samuel Ntuli, my two sons Thuthuka Mpumelelo Ntuli and Ntobeko Linda Ntuli; and my daughter Nomalungelo Thembeka Ntuli.

ACKNOWLEDGEMENTS

I wish to address my sincere gratitude and appreciation to the following people whose names appear below. Without their support and help this study would not have been possible.

- To my God Jehovah Jireh, the provider of renewed strength whenever I felt discouraged. To the ancient of days whom I trust, who made me to rise on wings like eagles; to run and not get weary; to walk and not grow weak.
- To the Head of Section in the Department of Educational Psychology, Professor D.R. Nzima for his expertise, subject knowledge, guidance, support and experience in the preparation of this dissertation and the success of the research study.
- I am greatly indebted to Dr.S.P. Mchunu and Edgar Jembere from the Department of Computer Science for their tireless effort, time, motivation, positive and valuable advice throughout this study. They have given me support in analysing data, in using his facility when typing and finalising my research.
- To our family friends, Richard and Karen Bond for assisting me with current and relevant books. To Mati Chili;the late Mrs N.C.

Ntuli for helping me in using their facilities when typing and finalising this research.

- My gratitude also goes to the Department of Education; Lower Umfolozi Circuit Manager Dr. L.M. Madondo, Ward manager Mr. V.O. Mhlungu for their kind consideration of my request to do the project in their schools; also my ex-school principal Mr M.K. Thenjwayo for moral support.
- To Mr Victor Netshidzivhani for computer work and assistance in the analysis of data. To principals of schools that granted me permission to undertake the Research Project. My deepest gratitude to my husband who always believed in my ability to succeed.
- A special word of thanks to my colleagues D.B. Nxumalo & Gcina Mathenjwa who are undoubtedly my pillar of strength; sisters (Bongekile and Nomthandazo) and brother (Mduduzi and his wife Nonceba).

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ABSTRACT

The aim of the study was to investigate educators' knowledge and attitudes towards children with Attention Deficit Hyperactivity Disorder (ADHD). In particular the study sought:

1. To determine the level of educators knowledge and attitudes about ADHD
2. To ascertain whether or not is a significant difference in attitude between educators in the mainstream school and those in the resource centre (remedial school);and
3. To determine the relationship, if any, between educators' perceptions of ADHD children and certain educators' characteristics discussed further in the study.

In this study, the focus was on primary school learners. Primary school learners are learners who are between grades one and seven. The target population was primary school educators in a mainstream school and in a resource centre. Sixty nine educators were divided into two groups:48 educators taught at a mainstream school (Group 1) and 21 educators teach at a resource center (remedial school) and deal with ADHD cases regularly (Group 2).A questionnaire was given to each responded as a method of data collection instrument.

The study concludes that mainstream education for ADHD children (with individualized education if necessary) causes considerable difficulty for all concerned. The educators' attitudes towards ADHD children were far from ideal, and their knowledge is insufficient.

One interesting finding from this study was that knowledge of Special Education seems to have a positive influence on the educators' attitude towards learners with ADHD.

CHAPTER ONE

Overview of the study

1. Introduction

1.1. *Motivation for the study to be undertaken*

Educators in general education are expected to cope with learners with diverse needs. They might not always be ready or sufficiently supported to meet these challenges. Parsarum cited in Gal, Schreur and Yeger (2010, p.91) contends that many of the educators' characteristics such as age, gender, education levels and years of teaching experience could affect their attitude to disabilities, hence to the inclusion of children with disabilities in their classes. Among these, those that correlate most significantly with educators' attitudes to inclusion are contact or experience with people with special needs, and amount of teaching experience.

ADHD most often presents itself in the early school years, and is quite pervasive across primary and secondary schooling with an average of one child per classroom having this disorder (Barkley, 2006). Therefore, primary school teachers are most likely to be among the first people to notice ADHD related behaviour in children.

“While there are numerous published studies in relation to children with ADHD and issues such as comorbidity, its assessment and aetiology - very little is known about the knowledge and attitudes of the educators of these children. It appears that there are very few studies that have adequately assessed educators’ knowledge of ADHD (i.e., knowing specific information about ADHD) and the relationships between educator characteristics and their knowledge of the disorder. Even fewer studies have adequately assessed educators’ attitudes toward ADHD (i.e., beliefs and feelings about ADHD)” (Kos, Richdale & Hay, 2006, p.151).

The dearth of literature in this area is somewhat surprising considering that a common source of information for parents of children with ADHD is the school system. Educators also often provide inaccurate advice to parents, which they frequently follow.

Research by (Kos....*et al* 2006,p.152) has also indicated that educators’ attitudes are mediated by their perceptions of competence. Findings revealed that the more competent an educator felt, the more favourable their attitudes were regarding educating children. Moreover, while training and attitude were not related, there was a significant positive correlation between perceived competence and years of teaching experience. Further research by (Gal....*et al* 2010,p.92) has demonstrated that educators who

have previously taught a child with ADHD than are educators' without this experience, are more tolerant.

Attitudinal barriers are perceived to be the basis of all other environmental barriers, and are the most difficult to change. They are reflected in misconceptions, stereotypes, labeling, fear of the unknown, resistance, misunderstanding people's rights and opportunities, and further isolation of children with disabilities (Gal, Scheur and Yeger ,2010, p.91). Recent research results by Gal, Schreur and Yeger (2010, p.96) suggest that children with learning disabilities, ADHD or emotional regulation disabilities present bigger challenges for the educators than children with sensory or motor disabilities. One possible explanation for this distinction rests on the high co-morbidity between these populations; for example, many children with learning disabilities also have ADHD, so they may be viewed similarly by educators.

The groups of participants in Bekle's study were relatively small and the questionnaire short (a modified version of the Jerome one), the study is interesting because of the comparison of in-service educators (N=30) and undergraduate trainee educators (N=40). The two groups had similar levels of endorsement of "myths" about ADHD, such as food additives can cause ADHD, while many more in-service educators recognised that children can be ADHD without having to be overactive. The in-service

educators' had more accurate knowledge about ADHD, despite only 23% having had some ADHD information in their training, compared with 95% of the undergraduates.

A study by the World Federation for Mental Health across eight countries found that "the impact of Attention-Deficit Hyperactivity Disorder (ADHD) was felt most by parents in the United Kingdom. Generally, 91% of the 766 parents surveyed felt stressed and worried about their children's condition" (Barkley, 2006, p.37). According to DuPaul and Stoner (2002), one must be aware that ADHD child often does very well in unique or novel situations, or in one-to-one situations. This would include a visit to a physician or a therapist to diagnose a problem. There are dozens of distractions, pressures and rules which can be difficult for the child. Educators have frequent contact with the child and base their judgements on numerous observations of the child's behaviour in the natural environment, as opposed to a clinician's examination or interview.

Rief (2005) contends that even though such a disorder and its symptoms can be hard to understand, it is not a rare condition. It is estimated that 3% to 5% of children and teens have ADHD, which means 3-5 out of 100 children in every grade have such a disorder. If a child has such a disorder a child may feel misunderstood at times. It might seem like a child is always losing homework, having trouble following educator's instructions

or a child may have trouble making friends or getting along with family members. “Besides learning difficulties, these learners often experience emotional and social problems, and there are a number with attention deficit/hyperactivity disorders (AD/HD) which cause disinhibition and problems with interrelationships. Often they are unpopular and cause frustration to peers and teachers alike” (Landsberg....*et al* 2005, p 378).

Lawlis (2004) contends that one of the most important strategies for children with Attention-Deficit Disorder is providing them with a supportive learning environment that includes positive interactions with their educators. The researcher has been motivated to embark on this study because many children with Attention-Deficit Disorder lack the motivation to be successful learners. Motivation is dependent on a range of factors, such as the setting, the people involved, the task and the learning environment, a variety of instructional techniques and curriculum accommodations may be necessary to motivate learners.

1.2. *Statement of the problem*

Research shows that there are several things happening in the brain of the ADHD child which causes disorder. The main problem is that certain parts of the central nervous system (CNS) are under-stimulated, while others may be over-stimulated. In some hyperactive children there is also

an uneven flow of blood in the brain, with some parts of the brain getting considerable blood flow; and the other centers not getting as much.

Most educators seem to understand obvious disabilities such as blindness and other disabilities. They seem to have a preconception about children with ADHD, believing them to be lazy or deliberately disruptive. With mainstream classes having many barriers to learning, such as having a large pupil-educator ratio and poor educator resources, children with special needs are often ignored and are more likely to receive punishment.

The research questions are:-

- i) What is the educators' knowledge and attitudes about ADHD?
- ii) Is there a significant difference in attitude between educators in the mainstream school and those in the resource centre (previously known as the remedial school)?
- iii) Is there a relationship between educators' characteristics such as age, gender, type of school, teaching experience qualifications and their perceptions of ADHD children?

1.3. *Aims of the study*

1.3.1. To determine the level of educators' knowledge and attitudes about ADHD.

1.3.2. To ascertain whether there is a significant difference in attitude between educators in the mainstream school and those in the resource centre (remedial school).

1.3.3. To determine the relationship, if any, between educators' perceptions of ADHD children and the following educators' characteristics:

- i) age
- ii) gender
- iii) type of school
- iv) teaching experience
- v) educator qualifications

1.4. Hypotheses

1.4.1. Educators have little knowledge and negative attitude about ADHD children.

1.4.2. There will be no significance difference in attitude between educators in the mainstream school and those in the resource center (remedial school).

1.4.3. There is no relationship between educators' perceptions of ADHD children and the following educators' characteristics:

- i) age
- ii) gender
- iii) type of school
- iv) teaching experience
- v) qualifications

1.5. Definition of terms

1.5.1. ADHD

“Attention-Deficit Hyperactivity Disorder (ADHD) is the most common neurobehavioural disorder of childhood “(Rief, 2005, p.40). ADHD is a dimensional disorder of human behaviors that all people exhibit at times to certain degrees. Those with ADHD display these symptoms to a significant degree that is maladaptive and developmental inappropriate compared to others that age. The National Institute of Mental Health contends that ADHD refers to a family of related, chronic neurobiological disorders that interfere with an individuals’ capacity to regulate activity level (hyperactivity), inhibit behavior (impulsivity) and attend to tasks (inattention) in developmentally appropriate ways.

“It is also among the most prevalent chronic health conditions affecting school aged children” (American Academy of Pediatrics, 2000, p.1160).

1.5.2. Learners

The term shall refer to children who are attending school in order to gain academic knowledge. In this study, the focus is on primary school learners. Primary school learners are learners who are between grades one and seven.

1.5.3. Attitudes

In this study the term shall refer to the educators’ way of thinking or feeling and their degree of perceptions of learners with Attention-Deficit Hyperactivity Disorder.

1.5.4. Remedial school

A remedial school is a public school which caters for learners with Special Education Needs particularly learners who experience specific learning difficulties. White Paper No. 6 says it will become a resource-centre in the District like schools for the Deaf, Severely Mentally Handicapped, etc. Learners are referred to remedial school for short, medium and long-term intervention.

1.5.5. Mainstream school

In this study the mainstream refers to a regular school consisting of learners, whereby the class or subject educator handles the problem himself or herself. This takes place during the process of teaching and learning.

1.6. Methodology and research design

1.6.1. Target population

The target population was comprised of primary educators in a mainstream school and in a resource centre. Forty six educators were divided into two groups: 25 educators teach at a mainstream school (Group 1) and 21 educators teach at a resource center (remedial school) and deal with ADHD cases regularly (Group 2).

1.6.2. Methods of data collection and analysis

A combination of quantitative and qualitative approach will be used to collect data. The researcher will give a questionnaire to each respondent and collect it after two weeks. In addition to the questionnaire the researcher will also accept comments for clarification purposes. The combination of a questionnaire and comments will reduce misunderstanding so as to get valid results.

Data will be analysed for dominant, sub-dominant and divergent themes on each of the questionnaires with a view to understand discourse patterns of meaning, contradictions and inconsistencies. Information gathered through notes taking will be summarized.

1.6.3. Value of the study

This study is crucial since the Attention Deficit Hyperactive Disordered children are considered either as troublesome or neglected by educators. They are often disadvantaged in the mainstream schools and are not encouraged towards a bright future. This study aims to provide educators and parents with intervention strategies in assisting children with Attention-Deficit Hyperactive Disorder.

1.6.4. Ethical considerations

This study focused on educators in both the mainstream and the remedial school. The researcher, therefore, bore in mind that whenever human beings are the focus of investigation, ethical implications of what is proposed to be done should be considered (Leedy & Omrod, 2005, p.85). According to Leedy and Omrod (2005, p.101) “most ethical issues in research fall into one of the four categories: protection from harm, informed consent, right to privacy and honesty with professional colleagues.”

In the same vein (Kumar 2005, p.212) asserts that “it is considered unethical to collect information without the knowledge of the participants and their expressed willingness and informed consent.” The most common methods in medical and social research is seeking informed consent. Informed consent implies that respondents are made adequately aware of the type of information wanted from them, why the information is being sought, what purpose it will be put to, how they are expected to participate in the study and how it will directly or indirectly affect them (Kumar,2005 p.212). Kumar (ibid) further states that “it is important that consent should be voluntary and without pressure of any kind”.

Schinke and Gilchrist (1993,p.83) state that under standards set by the National Commission for the protection of Human Subjects, all informed-consent procedures must meet three criteria: participants must be competent to give

consent; sufficient information must be provided to allow for a reasoned decision; and consent must be voluntary and uncoerced.

Competency, according to Schinke and Gilchrist (1993, p.83) “is concerned with the legal and mental capacities of participants to give permission”. For example, some very old people, those suffering from conditions that exclude them from making informed decisions, people in crisis, people who cannot speak the language in which the research is being carried out, people who are dependent upon others for a service and children are not considered competent (Kumar,2005,p.213).

The researcher, therefore, wrote a letter to respondents requesting them to participate in the study, i.e. educators from one mainstream school and the remedial school. It was mentioned that participation in this study was strictly voluntary. The letter contained the following information:

- A brief description of the nature of the study;
- A description of what participation would involve in terms of activities;
- The guarantee that all response would remain confidential and anonymous;
- The researchers name and information about how the researcher could be contacted;
- An offer that provided detailed information about the study (e.g. recommendations that would be made in this study) upon completion; and

- A place for the participants where they signed and dated the letter, indicating agreement to participants

Right to privacy: The research study respected participant's right to privacy. Questionnaires were in sealed envelopes to each participant and were returned in the same way by individual respondents. Sharing information about a respondent with others for purposes other than research is unethical. Information provided by respondents was kept anonymous. The researcher ensured that after information was collected, its source could not be known. Names of respondents were treated as confidential to protect them from embarrassment, or loss of self-esteem or any psychological discomfort that could occur.

1.7 Summary

This chapter focused on the motivation for the study to be undertaken, statement of the problem, aims of the study, hypotheses, definition of terms, methodology and research design.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter will focus on the classification of ADHD, in terms of the theoretical framework for the study research on medication and impact of medication.

Attention Deficit Hyperactivity Disorder (ADHD) is the disorder that affects the brain. People with ADHD have problems in two major ways: the first is that they have trouble focusing on tasks or subjects. The second is that they may act impulsively (without thinking) and often get in trouble. Behavioural manifestations must appear in more than one setting in order for diagnosis to be made. It first manifests itself in childhood (American Psychiatric Association, 2000, p.79).

2.2. Classification of ADHD

Throughout much of the world, the official coding system is the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD -10). ICD-10 consists of an official coding system and other related clinical and research documents and instruments. The codes and terms provided in DSM-IV are fully compatible with both ICD-9-CM and ICD-10. The diagnostic criteria for ADHD, firstly: - there must be clear evidence of clinically significant impairment in social academic or occupational functioning. Secondly: - the

symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g. Mood Disorder, Anxiety Disorder, Dissociative Disorder or a Personality Disorder). Some impairment must be present in at least two settings.

The coding system is based on the type of ADHD. The Combined Type coded as 314.01; the Predominantly Inattentive Type coded as 314.00 and the Predominantly Hyperactive- Impulsive Type coded as 314.01. Attention- Deficit Hyperactivity Disorder Not Otherwise Specified coded as 314.9, is the category for disorders with prominent symptoms of inattention or hyperactivity- impulsivity that do not meet criteria for ADHD.

2.3. Theoretical framework for the study

A growing body of research suggests that children with ADHD have a neuroanatomical abnormality in the brain regions that regulate attention and motor behaviour (Meyer and Wolraich, 2001, p. 47). This refers particularly to the frontal lobe and parts of the limbic system. Barkley (cited in Meyer, 2001, p. 47) maintains that, research has shown smaller frontal lobe areas in children with ADHD. It also shows decreased frontal lobe blood flow and metabolism. Barkley (2006, p. 220) maintains that both children and adults suffering from the prefrontal region demonstrate deficits in sustained attention, inhibition, regulation of emotion and motivation, and the capacity to organize behaviour across time.

Multiple etiologies may lead to ADHD. Evidence points to neurological and genetic factors as the greatest contributors to this disorder (Barkley, 2006, p. 210). Biological factors are thought to have a significant role in the development of most cases of ADHD. Genetic factors have been implicated as one cause of neurological abnormalities underlying ADHD. Research shows increased incidence of ADHD in biological relatives of children with ADHD. ADHD has been found to be more common in the first-degree biological relatives of children with ADHD than in the general population (American Psychiatric Association, 2000, p. 90).

Exposure to environmental toxins, especially lead, has been shown to have a small, but consistent and statistically significant relationship to the symptoms constituting ADHD (Barkley, 2006, p. 230). Other types of environmental toxins found to have some relationship to inattention and hyperactivity are prenatal exposures to alcohol and tobacco smoke. The relationship between maternal smoking during pregnancy and ADHD remains significant. It is true even after symptoms of ADHD in the mother are controlled for. Maternal smoking shows the strongest association with the risk for ADHD. Meyer and Wolraich (2001, p. 47) maintains that in addition to genetics, damage to the developing foetus has been implicated as a risk factor for some case of ADHD.

Differences in neurotransmission may explain some of the neurological findings in studies of the etiology of ADHD. Barkely (cited in Meyer, 2001, p. 47) mentions dopamine, a neurotransmitter as mostly responsible for attention and motor behaviour.

One psychosocial factor that has attracted public's attention in the popular media is the degree of children's exposure to television. Gupta and Cooper 2006 were discussing an article in the journal *Pediatrics*. The article suggested that early television exposure is associated with later increased attention problems in childhood. Gupta and Cooper cited in Barkley (2006, p. 233) took this article as implying that ADHD or at least its attention symptoms, could arise from watching too much television in early childhood. It was further stated that preventive action can be taken with respect to attention problems in children. It can be done by limiting their exposure to television during formative years of brain development. This may reduce children's subsequent risk of developing ADHD.

There may be a history of child abuse or neglect, multiple foster placements, lead poisoning, infections, drug exposure or Mental Retardation. Low birth weight may sometimes be associated with ADHD. Most children with low birth weight do not develop ADHD and most children with ADHD do not have a history of low birth weight (American Psychiatric Association, 2000, p. 88).

Other ingested substances, such as food additive and sugar, have been suggested as reasons for the development of ADHD. Empirical research has not supported the role of food as a factor causing ADHD in most children (Barkley, 2006, p. 230). It is conceivable, however, that food allergies or sugar cause over-activity in an occasional child.

Psychological and environmental factors are likely to contribute to the severity and specific characteristics of the disorder. Chaos in the environment may mean that the child is rarely exposed to structure and organization. It would therefore, reduce social learning experiences in these areas (Meyer, 2001, p. 48).

2.3.1. Evaluating educator perception of the characteristic behaviour of children with attention deficit and hyperactivity disorder (ADHD)

Research conducted by Glass and Weigar (2000, p. 413) emphasizes the widely publicized condition of ADHD affecting approximately five percent of American school-age children over the past two decades. In comparison the number of South African children with ADHD are not conclusive in comparison, however, 8 to 10, 5 percent of the population are estimated as having ADHD.

Barkely (2006) is quick to blame these children for their behaviour instead of looking to the adults and authorities that the child comes into contact with; since they control the conditions the child is in. The above authors seem to argue that society is also quick to medicate these children whom they believe to have a

genetic and biochemical cause to this disorder and seen to have a 'mental illness'.

Glass and Wagar's (2000, p. 413) studies compare closely with those of Breggin and Breggin. They too view ADHD as being socially construed. Glass and Wagar concluded their findings by questioning the legitimacy of diagnosing children with ADHD on characteristics alone, which may be assessed by educators who do not have sufficient knowledge on ADHD type behaviours and normal childhood behaviours. The researcher's concerns are that with the current stressful teaching conditions, which include many learners in one classroom and limited resources educators may lack motivation. Also, educators may tend to ignore exploring different teaching methods, finding it easier and less time-consuming to over identify children with problem behaviours such as having ADHD.

A number of studies by Durbach (2001), Greene (2002) and Winzer have shown that children in special schools, particularly schools for children with emotional and behavioural difficulties and learner referral units, have a higher likelihood of having ADHD. ADHD is subject to a great deal of debate and many opinions are expressed from many different quarters regarding behaviour identification and causes and these are abundantly documented globally. Unfortunately, research material focusing on the perceptions of educators in this regard is extremely wanting. These views are also expressed by Glass (2001, p. 72), having conducted a similar study. The researcher wishes to express opinion that since

ADHD's characteristics are globally defined, research material provided for this study was sourced from many international researchers and considered a necessary step towards setting a trend in viewing ADHD children in terms of educators' perceptions.

Children with ADHD may find it difficult to keep up with academic demands. They need a great deal of support to stay on task and not be distracted. They also need support to be attentive, support at following classroom instructions and to be consistent. All of this can result in a greatly decreased volume of work being done. For other children with ADHD, the verbal impulsiveness may mean that there is frequent calling out in class and physical impulsiveness may mean other children being hit or punched, or things flicked across the room. High energy levels may also be problematic in the classroom. Frequent complications of difficulties in organization, planning and time management; problems with motor planning, co-ordination and specific learning difficulties may also influence the situation Kewley (2005, p. 67).

Diagnosing children with ADHD is difficult, bearing in mind the numerous symptoms, characteristics and combination of symptoms. ADHD children are most likely to be identified by educators based on their observations of symptoms. Examples of symptoms include hyperactivity, short attention span, poor social skills, insubordination, high levels of frustration and disruptive behaviour, which educators need to know in order to associate them with

ADHD. Identification of ADHD characteristics, which rest upon the educators' ability, is subjective and is considered to be an art rather than a science.

Children diagnosed with ADHD whose symptoms are related to neurological problems are not dumb or stupid either. They simply learn in different and unique ways. They too must find patient and willing educators who understand their challenges. ADHD children learn differently because their brains operate on more limited frequencies. They do not respond well to the regimented approaches typically used in a classroom of mainstream children. The researcher's concerns are that very few educators have received some training in dealing with ADHD learners. Educators generally tend to go with what works for the majority of learners because of large numbers in class.

In most public schools educators often argue that today they are saddled with having to teach for mandatory progress tests required by the school systems. These requirements and the ever-growing number of learners in their classrooms have robbed educators of the little time they once had to give special attention to individuals with special needs. Children with ADHD do not do well at all in highly structured educational systems with a syllabus to be covered within a short time because they demand extra attention and cause disruptions. They are often seen as threats to quality control by those educators who are under intense pressure to make on-time delivery of their children to the next stage of the process (Lawlis, 2004, p. 237).

DuPaul (2003) tries to draw distinction between what is appropriate behaviour for a child and what is not. His investigation of the correct procedure for diagnosing ADHD begins with thorough interviews of the parents in order to obtain a complete case history. The child is then interviewed in order to understand how he or she views the problems. A complete medical examination is done to rule out physiological problems. The child is then given an intelligence and achievement test and screened for other mental problems. Only then are the parents' and teachers' ratings evaluated and a diagnosis reached. Since very few physicians spend such a lengthy time performing these examinations, the ADHD diagnoses are left to the educators and parents who fill out the behaviour rating scales. The objective assessments, done by the physician, need to be correlated to parent and teacher rating scales in order to reach a diagnosis.

The responses to questions that is, 'strongly agree', 'agree', 'disagree', 'strongly disagree' draw that distinction between what is appropriate and what is pathological. Other responses to question such as 'yes' or 'no' will be drawing a distinction on teachers' knowledge and attitudes. This is based purely on the judgement of the experience of the rate on that particular child's behaviour. An educator can experience a child's distractibility, forgetfulness and fidgetiness as nuisance, but acceptable behaviour for a child, and as such can give those behaviours a low rating, while teachers can see the same behaviours as nuisance and intolerable and can give it a high score.

2.3.2.Educator's views of social relations of children with Attention Deficit and Hyperactivity Disorder (ADHD)

Many studies by Young (2000), Barkley (2006), Weiss & Hechtman have highlighted how ADHD impinges on the physical, emotional, and social well-being of a child or adolescent with the disorder. These individuals are at an increased risk of academic underachievement, aggressive behaviour, and substance use (McDougall, Hay & Bennett, 2006, p. 148) of particular concern is the negative impact the disorder may have on the child or adolescent's interpersonal relationships. Negative peer relationships often plague many children and adolescents with ADHD. Even after brief periods of contact, individuals with ADHD are often rejected by their peers (Bagwell, Molina, Pelham & Hoza, 2001) and form fewer friendships than those children without the disorder. There is a tendency for ADHD children to prefer other ADHD children as playmates, which raises interesting issues for the bond between twins discordant for ADHD (McDougall, Hay & Bennett, 2006, p. 148).

Educators often bring preconceived attitudes and misconceptions into the teaching or learning environment relating to children with exceptional conditions. One's perceptions can be influenced by one's personal characteristics, viz, age, gender and level of education. An educator, who believes in a child, who understands the child's strengths and weaknesses and who nurtures his or her self-esteem is very well placed to positively influence the child's life and is a very valuable asset Kewley (2005, p. 68).

The White Paper 6 (2001, p. 49) has a set of guidelines for educators on how to minimize barriers to learning. These include educators being aware of what learners experience as problematic in the class and making a special effort through developing the required competencies, so that the learning environment can be a fun, safe and productive place to be in.

Children with ADHD want friends but get the social dialogue wrong. They know what to do, but are unable to put it into action, it is a performance problem rather than a total lack of skill. They may be set up by other children to do dangerous things and may do so to try and establish friendships Kewley (2005, p. 32).

Gifted children with ADHD frequently seem aware of their failure, and lack of social skills may be their most obvious symptom, as their high intelligence may initially enable them to function reasonably well academically. Social skills difficulties in adolescence may be isolating. These difficulties may persist into adulthood Kewley (2005, p. 32).

Durbach's (2001, p. 11) study supports the systemic view of ADHD. ADHD children are no longer blamed for their behaviour; instead, their behaviour is viewed as a product of their interrelationships with others. Their relationships with others can result in positive behaviour and productivity brought about by

compatibility and 'goodness-of-fit' that exists in the group. If these factors are lacking, children may respond through aggression, frustration and disruption.

Children with ADHD frequently have marked variation in their symptoms over hours, days or weeks. Some experts regard this as one of the most common features of ADHD. It seems to be unrelated to management techniques or any other clear cause and may possibly be related to overall neurotransmitter variations. Such variability makes management very difficult for educators. Unfortunately, children tend to be judged by their good days. On the bad days they are often reminded that they could do it previously, but it needs to be remembered that this variability is outside the child's control.

Researchers (Barkley;2005;Bekle;,2004;Fabiano....et al 2010 acknowledge that children with ADHD experience impairments in peer relations, which causes them to be easily rejected by peers after only a brief interaction with them and having much fewer friends than their non-ADHD counterparts. They seem to have problems in regulating their feelings and sustaining their associative play. As a result, they tend to prefer playing with other ADHD youths (Bagwel....et al 2001, p.12). This indicates that others, like themselves, do not have social skills that determine acceptable behaviour and they are likely to feel more comfortable with them.

Landau and Moore cited in Govender (2003) refer to various studies done on social skills using samples of ADHD children regarding cognitive measures of social perspective taking. They found that both normal and ADHD children seem to be similar in identifying positive and negative behaviours of others. However, having the knowledge of these skills does not make ADHD children competent in using them to make friends. They had difficulty in toning down their aggressiveness enough to make and maintain friendships.

Barkley (2006, p. 325) identifies the ADHD child as belonging to one of two groups, as the socially rejected or the socially withdrawn. Those children that are neglected are the ones with ADHD but without hyperactivity. They seem anxious and depressed instead and withdraw by isolating themselves from others. The children who are rejected are those who are mostly disruptive and aggressive. They are often cast out of peer groups and forced to play with others like themselves.

2.3.3. Educators characteristics and children with Attention Deficit Hyperactivity Disorder (ADHD)

The inattentive and/or hyperactive- impulsive behaviours that typify attention deficit/ hyperactivity disorder (ADHD) have been associated with increased stress in parents of children who are so diagnosed and are known to adversely affect the quality of parent-child interactions. Far less is known, however, about the effects of ADHD on interactions between children with the disorder and their educators and on level of educator stress. The stress reported by educators in a

study by Greene (2000).....& Goring (2002) was highly individualized.
[http://ebx.Sagepub. Com/](http://ebx.Sagepub.Com/) Accessed on 11-09-2012.

Barkley (2006, p. 355) had developed many rating scales for the ADHD assessment and stressed the importance of accurate monitoring of symptoms by educators in order to provide appropriate intervention.

It is surprising though, that with all the research done on ADHD, Barkley's contribution on perceptions of significant others, with whom the ADHD child interacts daily, is noticeably limited.

The brief mention referred to by Govender (2003, p. 24) that educators' attitudes and lack of knowledge, lead to misconceptions about the disorder. As a result educators often choose the incorrect form of intervention. Educators may lack the motivation to try different types of behaviour programmes for lack of training or for having a preconceived view of ADHD, or for resenting to change their teaching styles. It is assumed that educators are then more likely to support the medical intervention. There are some concerns that the level of educators' tolerance of children with ADHD can affect their perceptions regarding these learners. It can in turn affect the reporting and ratings that can in turn impact on the intervention programmes used. A suggestion is made to informally screen educators for the appropriate qualities needed to teach these children.

Studies referred to by Greene (2002, p. 2) show that the very behaviours that include hyperactive-impulsivity and inattentiveness, can result in stress brought about by the day to day experiences with problematic children, that can adversely affect the perceptions made by educators. It is also this type of stress that adversely effects the perceptions made by educators. It is this type of stress that determines the degree of compatibility between children's motivated behaviour and the expectations and demands made by the educator.

Motivation by Glass (2001, p .72) for her research was based on the absolute need to know more about the educator variables that affect their outlook of children with ADHD. She emphasizes that this need was also promoted by the scarcity of literature in this field. Maintaining her stance in earlier work referred to by Durbach (2001, p. 11), Glass argues that the educator's tolerance level of the ADHD child will determine the educators-child relationship in the class and that this level of tolerance often influences the way the educators interact with the child. The age of the educators, the years taught and the knowledge gained over the years, will determine the teaching styles used (Glass, 2001, p. 71).

Many educators with very few years of teaching experience find themselves ill-equipped to cope with ADHD children in their class, simply because they are thought to have less experience and knowledge about ADHD and are unable to identify the symptoms or characteristics.

Glass (2001, p. 71) correlates the age of the educator to the years taught and relates this to more experienced educator who are more likely to use positive teaching strategies. Indicating that educators with more experience are more flexible and have more confidence and more resources at their disposal, compared to non-experienced educators who adopt a more rigid teaching style.

Studies conducted by Glass and Wagar (2000, p. 416) revealed that even though educators knew the general accepted incidence of ADHD to be approximately five percent, thirty-six percent of educators identified six to fifteen percent of the children in their class to having ADHD, twenty-three percent identified sixteen to twenty-five percent of their children to having ADHD and thirteen percent identified twenty-six percent and more of their children to having the disorder. This implies that educators tend to presuppose children with behaviour problems to possibly having ADHD.

Whether the educators were from public or private schools, did not offer much influence on their perceptions as shown in the above study. It also revealed that after confirming the diagnosis of ADHD children, the estimated mean incidence of educators' perceptions of ADHD in public schools were found to be eight percent and the mean incidence in private schools to be twelve percent. Educators' perceptions from both types of schools where children displayed ADHD type behaviours, increased to 71, 55 percent of the teachers believing that more children were ADHD than were originally diagnosed. These findings

suggest that educators believe the problem of ADHD to be beyond their control and having that view, releases educators from the responsibilities of dealing with the disorder, thus leaving it to medication instead (Glass & Wagar, 2000, p. 416).

Children with ADHD, learning disabilities and behaviour disorders, are generally not physically distinguishable from other children without disabilities, making their condition invisible or hidden. In his study on educators' views toward these children, Cook (2001, p. 6) found that educators were less knowledgeable of the characteristics and needs of hidden disabilities and seemed to be more indifferent toward them.

An interpretation of Cook's (2001, p.6) studies revealed that educators differentiate children according to the obviousness of their disability. The more obvious the disability (physically observable), the more attention is paid to them, not necessarily appropriate or positive attention is given. Govender (2003, p. 28) in her research maintains that, when children have hidden disabilities, they appear physically normal and educators tend to believe that they are deliberately violating the educator's expectations and are troublemakers. Schools adopt a uniform level of acceptable behaviour despite children's problems. Schools tend to down play the disabilities and educators are not aware or not knowledgeable to the facts, resulting in demands placed on children that are difficult to meet. This leads to low educator tolerance and rejection of children with problem behaviour, often blaming them for their behaviour and performance in the

classroom. Cook emphasizes that schools should be transparent with disabled children and prepares educators for the inclusion of such a child (Cook, 2001, p. 6).

2.4. Research on medication

According to O'Connor cited in Govender (2003) a South African researcher has evaluated some controversy over the diagnosis of ADHD children and the medication involved. He emphasizes that there is yet, no one cause of ADHD, though American and British studies suggest biochemical and neurobiological reasons of ADHD symptoms. He briefly mentions skeptics calling ADHD a fraud and others stating that it has been a disorder around for centuries and has evolved through the stresses of modern times.

O'Connor expresses his concern over the increase in prescribing Ritalin for ADHD, since studies reviewed in his paper show that only four out of ten children experience success with this drug. He makes reference to a single case study of a child on Ritalin, for four years and for now, as a recovering drug addict holding Ritalin responsible for her habit and feeling inactive for three hours after ingesting it. O'Connor stresses that it holds a schedule seven (restricted) status and should be closely monitored by parents and educators in order to prevent its abuse.

While not every ADHD child requires medication, modern medicines can transform the lives of ADHD children and their families. The decision to prescribe

medication is based on how the child's symptoms negatively affect his functioning in daily life, his routines at home, his social life or his school work. In terms of treatment, more look these days must be at quality of life outcomes, not just at treating core symptoms or correcting a problem. A good outcome means that the child is happy, there is no personality change, he or she socializes well, copes academically and is an integrated part of the family (Brown, 2004, p. 130).

Despite the overwhelming amount of research documenting the efficacy of stimulants for the symptoms of ADHD, the stimulants should rarely be the only form of therapy provided to individuals with ADHD (Barkley, 2006, p. 609). For some children with mild ADHD, enhanced organizational skills, cognitive – behavioural therapies, education about the disorder, school may be sufficient to lessen the impact of the disorder on daily life. It is important to recognize that stimulants are the only treatment modality to date that have produced significant improvement in symptoms of inattention, impulsivity and overactive behaviour for many individuals with ADHD. MTA Cooperative Group, cited in Barkley (2006, p. 609) maintains that the effect size of stimulants has been found to be greater than the effect size of psychosocial therapies for the core symptoms of ADHD.

The process of deciding whether to medicate a child starts with making the correct diagnosis. Brown (2004, p. 133) explains that one must make sure it is ADHD. There are other medical and emotional conditions that can cause a child not to concentrate. Next, the doctor should look for co-morbid conditions like

anxiety or depression, developmental delays and learning problems that often go along with ADHD. Only once one has a firm diagnosis and has identified the problems affecting the child, will one look at a treatment protocol for the specific child.

Therapy must be individualized for the specific child. One would take into account the child's problems, and the nature of his school day. A child who mainly struggles in school and with homework, but has no behaviour problems, would probably be prescribed Ritalin or Concerta. They work quickly and are out of the system swiftly. However, if the child needs 24-hour help, for instance, if home life and familiar relations are suffering because of his behaviour problems, strattera would be the choice (Brown, 2004, p. 131).

Most parents are understandably loathed to medicate young children. To do so is a difficult decision, often arrived at after years of trying other methods. The fact is that for many children medication is very effective in controlling hyperactivity, inattentiveness and impulsivity. Brown (2004, p.134) quotes the National Institute of Mental Health Multimodal Treatment Study of ADHD which compared children on stimulant therapy and behavioural therapy. This study found that in the right child, a combination of medication and therapy gets the best long term results.

Brown's (2004) experience in his practice bears this out. He argues that around 25% of children will come right on their own. They will learn to cope, using their

individual strengths. The problem is that we do not know who that 25% would be. If we treat and support all the children diagnosed with ADHD, 75% of them eventually settle down, learn to cope and are able to function well. Twenty-five percent would, however, need support even into adulthood (Brown, 2004, p.134).

It is tempting to take a “wait-and-see” attitude hoping that with maturity, the child would learn to manage his own behaviour more effectively. The trouble with this approach is that in the years when the child is struggling, he may fall behind in school, develop social problems, or suffer from falling self-esteem. In children with untreated ADHD (inattentive type) 50-70% will develop depression or anxiety, due to the fact that they try their best but never succeed. In the hyperactive group 50-70% will develop behaviour problems because of their impulsivity. The sooner you help these children, the better the chance that they would develop coping and behaviour modification skills and that they would not get other co-morbid conditions. If you can help children in Grade 0 and Grade 1, the outcome is generally good and by 10 or 12 years old they have settled down and no longer need treatment.

Those children may go back onto medication when they reach adolescence, or when they get into the pressurized years of Grade 11 or 12. They may struggle to cope with change, and find themselves needing medication when they enter high school or go off to university. About 25% need support through school and into adulthood. Medication is seen as part of a treatment plan, not the solution to the

problem. A psychologist might be enlisted to help with behaviour modification or emotional problems; because 60-80% of ADHD children would have other developmental delays, such as reasoning problems, coordination, visual or auditory processing problems the child might need speech and auditory, remedial or occupational therapy. Brown (2004, p. 133) maintains that parent guidance is probably the most important part of general therapy. Parents need to learn to cope with the problem and support the child.

2.4.1. Impact of medication

With ADHD, levels of the neurotransmitters dopamine or non-adrenalin are too low in specific areas of the brain. Drugs for ADHD work by increasing the levels of these neurotransmitters. It, therefore, normalizes focus, planning and impulse control so that normal development can take place and other interventions can be more effective.

There are two basic types of medication, stimulants and non-stimulants. The most widely prescribed are the stimulants, such as methylphenidate (Ritalin or Concerta). It has long been common practice to stop giving a child Ritalin on weekends and during the holidays. Brown (2004) maintains that the latest research indicates that this is not ideal. Research shows that children who use methylphenidate everyday do better in the long term. If one keeps the concentration at the right level, one helps the brain to learn to function correctly and the child learns to cope (p. 135).

Stimulant treatment for ADHD is available as short-acting Ritalin (effective for about four hours), intermediate-acting Ritalin LA (eight hours) or long-acting Concerta (10-12 hours). Side effects may include appetite suppression, stomach ache, headache and, occasionally, tics. Emotional instability may occur in younger children.

Non-stimulant treatment available in South Africa under the brand name strattera-controls symptoms for a full 24 hours with one dose a day. Unlike stimulants, non-stimulant treatment does not reach its full effect from the first dose. Four to six weeks of treatment are required for treatment to be fully effective. Side effects include nausea, vomiting, stomach-ache and sleep disturbances.

Neither stimulants nor non-stimulants change the brain and that they are safe to use, even for life. Stimulants have been in use for almost 60 years worldwide. Long-lasting behaviour, emotional and other problems are not the result of medication, but consequences of the condition. The appropriate use of medication decreases the incidence of behaviour problems, depression and even substance abuse in adolescents and adults (Brown, 2004, p. 135).

2.5. Summary

Almost all of the studies and research articles pertaining to ADHD state the need for further research (Greene & Goring, 2002). Despite the limitations, findings suggest areas for future inquiry including examination of the characteristics of educators who report high and low levels of stress in teaching children with ADHD, also examination of differences in educator responses to the same children with ADHD either within the same year or inconsecutive years.

It is of great concern when extending research to examine what sorts of artistic, mechanical, scientific, dramatic, or personal contributions children with ADHD can make to their schools and communities; what kind of positive learning styles or combination of intelligence they use successfully in the classroom.

Parents, educators and evaluators need to be well informed about ADHD and its subtypes. They should learn about associated symptoms, recognize the presence of possible comorbid disorders – and ask questions about their concerns. Children with ADHD often exhibit difficult behaviour patterns in the classroom. Improvement in these behaviours seems to be due to stimulant related medications that are duly noted on teacher rating scales. This implies that the impact of medicating ADHD children, may improve their social environment.

The quick decision to medicate is an obvious account for growing number of children on prescription drugs. The ultimate goal is for all children, including

those diagnosed with ADHD, to develop successful coping strategies so they may better understand lessons, remain involved in activities and build strong social skills. The classroom educator is an important part of the child's environment and educators' behaviour and variables have a critical affect on children with ADHD. Educators' perceptions of what deviant or deficient behaviours are can greatly influence the potential for children to be diagnosed with ADHD (Greene, 2001, p. 84).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter follows on chapter two which dealt with the theoretical framework for the study. Accordingly, the theoretical framework laid the foundation for exploring the problem further through the use of data collection instrument, which is described in this chapter. Through a questionnaire, questions were asked in order to provide the necessary answers to the research questions of the study. The chapter focuses on the research design and methodology used in the data collection, the description of the population and sample, instrumentation as well as ethical considerations.

3.2 Research design

Schumacher and McMillan (2010, p.20) refer to research design as the plan and structure of the investigation used to obtain evidence to answer research questions. A research design is, therefore, the consideration and creation of means of obtaining reliable, honest, transferable and valid data, by means of which pronouncements about the phenomenon being investigated may be confirmed or rejected. This is also the view of Mac Kendrick (1987, p.256), who states that research design is an overall plan or strategy by which questions are answered by testing hypotheses.

The study can be placed within the pragmatic paradigm, as both qualitative and quantitative methods were combined (Morgan, 2007, p.72). According to Cohen and Manion cited in Mchunu (2009), a case study is a technique the researcher uses to observe characteristics of an individual unit, for example, a child, a school or a community.

In this study, the target population was Empangeni education district educators. A sample comprising educators from one main stream school and a remedial school was studied. Two schools were selected using non-probability sampling method called convenience sampling. According to Leedy and Ormrod (2005, p.206).

Convenience sampling (also known as accidental sampling) makes no pre-tense of identifying a representative subject of a population. Convenience sampling takes people or other units that are readily available – for instance, those that arrive on the scene by chance. Convenience sampling may be appropriate for some less demanding research problems.

In order to determine attitudes of educators towards ADHD children, a questionnaire was administered to educators of grades R-7. The questions that were asked aimed at obtaining quantitative data (the educators' qualifications,

experience in teaching primary school children) as well as qualitative data (educators' knowledge, feelings and beliefs).

A trial run questionnaire (earlier version of appendix A) was administered to educators in one public school. These educators were drawn from a school not selected for the main study. The basic purpose of a pilot study is to determine how the design of the subsequent study can be improved and to identify flaws in the measuring instrument (Mchunu 2009, p.171) Furthermore, a pilot study provides the researcher with an idea of what the method will actually look like in the operation and what effects (intended or not) it is likely to have. This implies that by generating many of the practical problems that will ultimately arise, a pilot study enables the researcher to avert these problems by varying procedures, instructions and questions. The results of the pilot study suggested that a few changes were necessary. Some of these items had to be re-worded after certain educators left out some of the crucial questions. Indeed, this trial run proved to be invaluable in refining the instrument.

Through the utilization of the pilot study as “pre-test” the researcher was satisfied that the questions asked in the questionnaire complied adequately with the requirements of the study.

3.3. *The research instrument*

Barkley (2006) developed ADHD's Rating Scale in order to evaluate the occurrence of ADHD symptoms in children. It is the same scale that was used as a guide to developing a questionnaire. They used 14 items from the DSM-IV—R criteria to format the rating scale. The items on the scale were used to identify Inattentive-Hyperactivity and Impulsive-Hyperactivity behaviour to assist in diagnosing ADHD in children. This scale was also designed to be completed by educators (Barkley, 1992, p.45). Behaviour rating scales offer a means of gathering information from informants who may have spent months or years with a child. The fact that behaviour rating scales provide a means to qualify the opinions of others, often along qualitative dimensions, and to compare these scores to norm collected on large groups of children is further affirmation of their merits (Barkley, 2006, p.353).

3.4. *Sample selection*

The study sample consisted of educators from both types of schools who volunteered to be participants. A total number of forty five questionnaires were sent to educators of a remedial school and one public school. Remedial school educators deal with ADHD children on a daily basis. One public school on the outskirts of Empangeni was selected. Low return rate of questionnaires from this school was more evident. One public school was then selected in the Empangeni area. Both schools are English medium schools catering for children from grades R to 7.

3.5. *Permission to conduct research*

The researcher contacted the relevant senior educational managers with regard to permission to conduct research. The personnel include the district Manager of Empangeni Education District, the Circuit Manager and the Ward Manager of the Lower Umfolozi Education Circuit. The researcher received written permission from the above-mentioned education managers to conduct research, there was also a provision, however, and that permission should be obtained firstly from the school principals.

3.6. *Procedure*

The principal of each school was contacted telephonically, given information about the purpose of the study and given a chance to (or not to) agree to an appointment to discuss the research further. A letter addressed to the principal was delivered to the school requesting their permission for participation in the study. A similar letter was also later provided to the educators requesting them to participate in the study. (See Appendix A to E for copies of five letters).

The principal at a resource centre communicated their willingness with educators to participate and indicated that a meeting was unnecessary. The principal at a public school agreed to a meeting to discuss the focus of the research. A day was agreed upon for delivery and collection of questionnaires in these cases.

Questionnaires were hand delivered to principals to save time and to prevent loss of information if questionnaires were sent by post. The principals were then requested to give all questionnaires to each respondent on a chosen morning suitable to all respondents and collect all of them in the afternoon. Emphasis was made that a day of responding to questionnaires should be within a minimum of one day and a maximum of five days including delivery at each school. The researcher did not wait for respondents to fill in the questionnaires in her presence, but preferred respondents to do it in a relaxed mood in order to obtain spontaneous answers.

The researcher considered the period after the final examination of children to be a suitable and a convenient time for educators to fill in the questionnaires, because educators would still have fresh memories of children's behaviours in class. To encourage honest answers, educators were not required to identify themselves on the questionnaire. The principal from each school telephonically requested the researcher to collect the questionnaires from the school after completion.

3.7. Data gathering

The questionnaire comprised 3 sections. Section 1 and 2 consisted of closed ended type questions. Educators were given an opportunity to voice their opinion about ADHD as well as about expert assistance on the subject. Section 1 dealt mainly with biographical information with variables pertaining to gender, age,

educators' qualifications, years of experience and type of school currently teaching in.

One of the popular methods of measuring attitudes is the method of summated ratings, commonly referred to as the Likert-type scale. Sometimes a four-point scale is used; this is a forced choice method since the middle option of "Neither agree nor disagree" is not available. This type of questionnaire (Likert-type scale) minimizes potential errors from respondents and coders. Furthermore, Imenda & Muyangwa (2006, p.121) posit that "peoples participation in surveys is voluntary, a questionnaire has to help in engaging their interest, encourage their cooperation and elicit answers as close as possible to either feelings, opinions and/or ideas in relation to the issues of interest." A number of techniques may be used in structuring one's questionnaire.

Section 2 consisted of a table comprising 19 statements on ADHD behaviour/symptoms as described by Barkley in his ADHD scale for educators (Appendix F). A four point scale was distributed from which the respondents had to choose whether they "Strongly Agree", "Agree", "Disagree", or "Strongly Disagree". Statements 1, 2, 8, 9, and 19 referred to the variable of hyperactivity in ADHD. Statements 4, 6, 15 and 16 pertained to the variable of impulsivity. Statements 3, 5, 7, 10 and 11 related to inattention. Statements 12, 13, 14, 17 and 18 referred to social components which have been identified by those in the medical field as sometimes present in the behaviour of children with ADHD.

Section 3 consisted of a table comprising 10 statements on educators' knowledge of ADHD and attitude (Appendix F). In this section respondents were requested to indicate their responses by ticking YES or NO. Statements 1, 2, and 3 referred to the variable of educators' knowledge about ADHD. Statements 4, 5, 6, 7, 8, 9 and 10 referred to the variable of educators' attitude towards ADHD children. Statements 3, 4, 5, 6, 7, 8 and 10 referred to the variable of educators' belief towards ADHD children. Statements 3, 5, 8, 9 and 10 referred to the variable of educators' affective component towards ADHD children.

3.8. Validity and reliability of research instruments

There are two concepts that are of critical importance in understanding issues of measurement in social science research, namely validity and reliability (Huysamen, 1989, pp.1-3). Validity and reliability are especially important in educational research because most of the measurements attempted in this area are obtained indirectly. It is therefore necessary to assess the validity and reliability of these instruments. An educational researcher is expected to include in his or her research report an account of the validity and reliability of the instruments he or she has employed.

3.8.1. Validity of the questionnaire

Schumacher and Mcmillan (2010 p.20) refer to research design as the "plan for interventions and collecting data." They further state that "the purpose of a

research design is to specify a plan for generating empirical evidence that would be used to answer the research questions” (Schumacher & Mcmillan, 2010 p.20)

For validity purposes, the researcher made attempts to validate the research instrument. The researcher submitted the questionnaire (Appendix A) to the supervisor. As an expert in the field of Educational Psychology, he attended the research instrument of the study. The supervisor looked at the grammar, wording and the structure of the instrument (face and content validity). Comments were made on the instrument for the attention of the researcher. The researcher attended to the comments and changes were made to the instrument. The supervisor also attended to the content of the instrument to ensure that it fell in line with the objectives of the study.

The instrument was further cross- validated by three Educational Psychology Specialists. The comments were used to improve the instrument (questionnaire). This procedure was done in order to establish content and face validity, to clear out misleading and ambiguous texts. According to Kumar (2005), the judgement that an instrument is measuring what it is supposed to measure is primarily based upon the logical link between the questions and the objectives of the study. Imenda and Muyangwa (2006), Leedy and Ormrod (2005) are of the opinion that content validity refers to the extent to which the content of interest has been covered by a particular measurement.

3.8.2. Reliability of an instrument used in this research study

According to Mulder cited in Mchunu (2009) reliability is a statistical concept and relates to consistency and dependability. Consistency refers to the constancy of obtaining the same relative answer when measuring phenomena that have not changed. A reliable measuring instrument is one that, if repeated under similar conditions, would present the same result or near approximation of the initial result.

With regard to reliability of the research instrument, Golafshani (2003, p .601) points that “to ensure reliability in qualitative research, examination of trust worthiness is, therefore crucial.” Coetzee (2008) states that a good research depends to a large degree upon the reliability (consistency) and validity (precision) of the instrument used to collect data and to accurately measure the variables of interest. The instrument that was used was reliable because results from the pilot study were near approximation of the main study. To maintain reliability, the researcher used closed ended questions where respondents had to choose answers.

When the questionnaire is used as an empirical research instrument there is no specific method, for example the “test-retest” method, to determine the reliability of the questionnaire. Therefore, it would be difficult to establish to what extent the answers of the respondents were reliable. The researcher, however, believes that the questionnaires in this investigation were completed with the necessary

honesty and sincerity required to render the maximum possible reliability. Frankness in responding to questions was made possible by the anonymity of the questionnaire. In the coding of the responses to the questions it was evident that the questionnaires were completed with the necessary dedication.

3.9. *Ethical considerations*

This study focused on educators in both the mainstream and the remedial school. The researcher, therefore, bore in mind that whenever human beings are the focus of investigation, ethical implications of what is proposed to be done should be considered (Leedy & Ormrod, 2005, p.85). According to Leedy and Ormrod (2005, p.101), “most ethical issues in research fall into one of the four categories: protection from harm, informed consent, right to privacy, and honesty with professional colleagues.”

In the same vein Kumar (2005, p.212) asserts that “it is considered unethical to collect information without the knowledge of the participants, and their expressed willingness and informed consent.” Seeking informed consent, “is probably the most common methods in medical and social research” (Mchunu 2009). Informed consent implies that respondents are made adequately aware of the type of information wanted from them, why the information is being sought, what purpose it will be put to, how they are expected to participate in the study and how it will directly or indirectly affect them (Kumar, 2005, p.212). Kumar (ibid)

further states that “it is important that consent should be voluntary and without pressure of any kind.”

Schinke and Gilchrist cited in Imenda and Muyangwa (2006) state that under standards set by the National Commission for the protection of Human Subjects, all informed-consent procedures must meet three criteria: participants must be competent to give consent; sufficient information must be provided to allow for a reasoned decision; and consent must be voluntary and uncoerced.

Competency, according to Schinke and Gilchrist (1993, p. 83) “is concerned with the legal and mental capacities of participants to give permission.” For example, some very old people, those suffering from conditions that exclude them from making informed decisions, people in crisis, people who cannot speak the language in which the research is being carried out, people who are dependent upon others for a service and children are not considered competent (Kumar, 2005, p. 213).

The researcher, therefore, wrote a letter to respondents, requesting them to participate in the study. It was mentioned that participation in this study was voluntary. The letter contained the following information:

- A brief description of the nature of the study;
- The researcher’s name, plus information about how the researcher can be contacted; and

- An offer to provide detailed information (introduction, literature review on ADHD and recommendations) at the end of the study.

3.10. Summary

In this chapter the research designs, procedures and methods, research tools and techniques used in this study were discussed. The researcher did not encounter problems with access to the chosen mainstream school and the remedial school. The principals were willing to share as much information as they could. The next chapter will focus on the presentation and analysis of the research findings.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

4.1 Introduction

In the chapter, data which was collected from the completed questionnaires is interpreted, analysed and discussed. Data comprises biographical information, statements on ADHD behaviour/symptoms and discussion on findings.

4.2 Administration of scale

All 69 questionnaires were returned. Three of them were incomplete and as a result they were rendered invalid. The composition of the final study sample was as can be seen from the table below showing Demographic disparities.

The study was interested in investigating the educators' perception of ADHD, knowledge of ADHD and attitude towards learners with ADHD.

A set of 19 questions on a 4-point likert scale were used to measure the educators' perception of ADHD in learner. The responses for the likert scale were; Strongly Disagree with a score of 1, Disagree with a score of 2, Agree with a score of 3, and Strongly Agree with a score of 4. These questions were then used to calculate a perception score for each respondent. The score was calculated as the average of the 19 responses the respondent gave. The score were then rescaled to a scale ranging from zero to one by dividing them by 4.

The questions measuring knowledge of ADHD and Attitude towards learners with ADHD had binary responses with a score of 2 for yes and 1 for no. Each category had 10 questions (i.e. 10 for knowledge of ADHD and 10 for attitude towards learners with ADHD). To get the scores for each category, average of the 10 responses was calculated. The scores were also rescaled to a scale ranging from zero to one by dividing the scores by 2.

4.3 Demographic disparities

Table 4.1 shows the demographic distribution in the sample used in the study. 62.3% of the respondents were from public school and 33.3 were from remedial school.

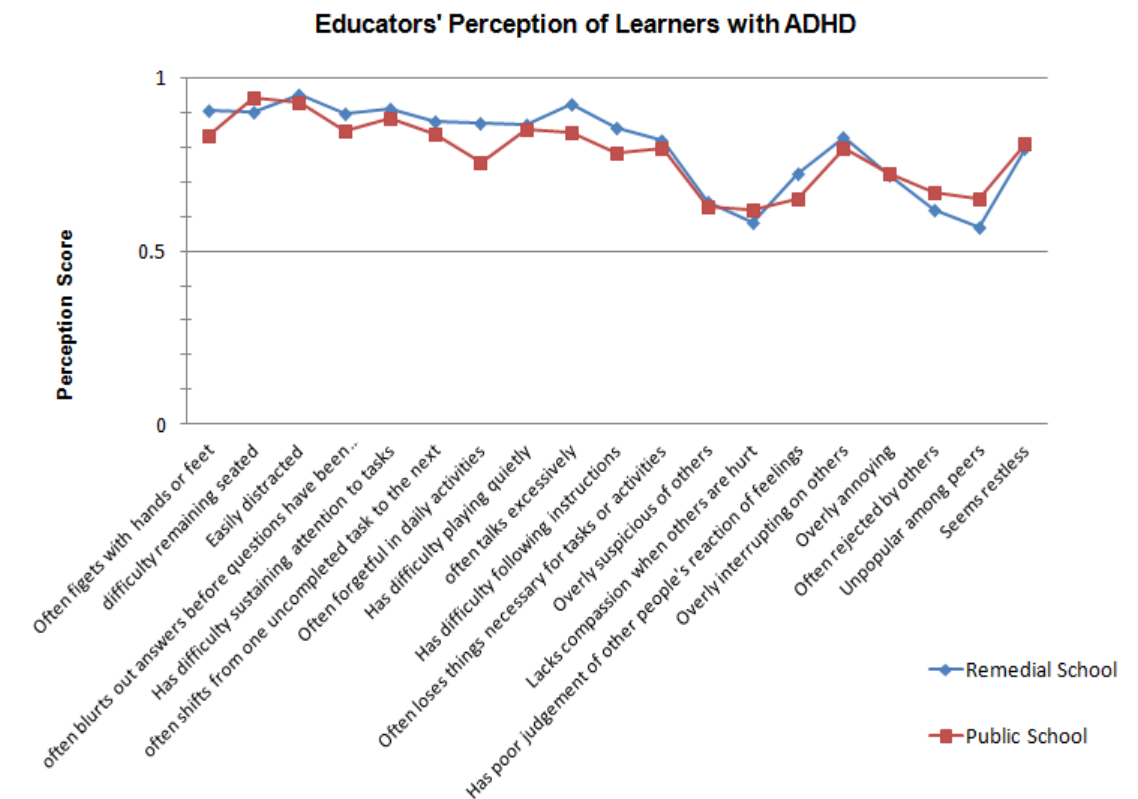
Table 4. 1: Demographic distribution for type of school, gender, age, level of qualification and teaching experience.

		Frequency	Percent	Valid Percent	Cumulative Percent
Type of School	Public School	43	62.3	65.2	65.2
	Remedial School	23	33.3	34.8	100.0
	Total	66	95.7	100.0	
Missing	System	3	4.3		
Total		69	100.0		
Gender	Male	7	10.1	11.1	11.1
	Female	56	81.2	88.9	100.0
	Total	63	91.3	100.0	
Missing	System	6	8.7		
Total		69	100.0		
Age	20-29	14	20.3	20.6	20.6
	30-39	14	20.3	20.6	41.2
	40-49	24	34.8	35.3	76.5
	50-59	11	15.9	16.2	92.6
	60 and above	5	7.2	7.4	100.0
	Total	68	98.6	100.0	
Missing	System	1	1.4		
Total		69	100.0		
Level of Qualification-ion	Matric	3	4.3	4.9	4.9
	Matric with knowledge of Special Education	7	10.1	11.5	16.4
	Teaching Diploma	16	23.2	26.2	42.6
	Teaching Diploma with Knowledge of Special Education	11	15.9	18.0	60.7
	Degree	13	18.8	21.3	82.0
	Degree with knowledge of Special Education	11	15.9	18.0	100.0
	Total	61	88.4	100.0	
Missing	System	8	11.6		
Total		69	100.0		
Teaching Experience- nce	0-4 years	10	14.5	14.7	14.7
	5-8 years	7	10.1	10.3	25.0
	9-12 years	11	15.9	16.2	41.2
	13-15 years	11	15.9	16.2	57.4
	16-19 years	10	14.5	14.7	72.1
	20 + years	19	27.5	27.9	100.0
	Total	68	98.6	100.0	
Missing	System	1	1.4		
Total		69	100.0		

4.4 Educators' Perception of Learners with ADHD

On average all educators can perceive symptoms of ADHD in learners. Slight difficulties in perception of learners with ADHD by both educators from public and remedial schools were noticed in perception of the fact that learners with ADHD are “Overly suspicious of others” and “lack compassion when others are hurt”.

Figure 4. 1: Educators' Perception of Learners with ADHD



These had perception score slightly above 0.6. Educators from Remedial schools seem to be better (though not statistically significant) in perceiving ADHD symptoms than those from public schools. However, on average educators from remedial schools are worse off than those from public schools in perceiving that learners with ADHD “are often rejected by others” and “are unpopular among peers”. This could be a backlash of the fact that in remedial schools the peers hereto referred are learners with a similar condition, and hence the rejection and

unpopularity of the learners with ADHD is not as prevalent as it is in public schools.

4.4.1: Perception disparities with the Type of School

A chi-square test for correlation between the type of school and Perception of learners with ADHD reveal that there is no correlation between the type of school one teaches and the perception of learners with ADHD. The Asymptotic level of significance for the Pearson Chi-square correlation test was found to 0.587, which is greater than 0.05 (See Table 4.2), resulting in failure of rejection of the hypothesis that the Perception of ADHD is independent of the type of school.

Table 4. 2: Chi-square test for correlation between the type of school and perception.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.930 ^a	3	.587
Likelihood Ratio	2.904	3	.407
N of Valid Cases	66		

To check whether there are any differences in perception of ADHD among educators from public and remedial schools a T-Test of difference between two means was carried out using the Perception scores. Table 4.3 shows the Sig. (2-tailed) values (0.320 and 0.295) are greater than 0.05 assuming both equal and unequal variances. This leads to failure of rejection of the belief that there is no difference in perception of ADHD among educators from public schools and those from remedial schools.

Table 4. 3: T-test for difference in ADHD perception between educators from remedial and public schools.

Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	T	df	Sig. (2-tailed)
Perception	Equal variances assumed	1.711	.196	-1.002	63	.320
	Equal variances not assumed			-1.057	52.743	.295

Table 4.3 shows that Females are better at perceiving ADHD than males. 89.3% percent of the females were found to be good in perceiving ADHD compared to 71.4% for males.

Table 4.4: Cross tabulation of gender against perception.

	Perception				Total
		Good	Moderate	Poor	
Male	1 _a 14.3%	5 _b 71.4%	1 _{a, b} 14.3%	0 _b 0.0%	7 100.0%
Female	0 _a 0.0%	50 _b 89.3%	2 _{a, b} 3.6%	4 _b 7.1%	56 100.0%
Total	1 1.6%	55 87.3%	3 4.8%	4 6.3%	63 100.0%

Table 4.4 also shows that the majority of educators in the research sample were females. This finding tallies with the fact that in general, most educators are females. Possible reasons for this phenomenon are the following:

- The research sample only involved primary schools which tend to appoint more female than male educators;
- In the past, a female educator was perceived by authorities as the most suitable role model for the young children at primary school; and
- The statistics of training facilities for educators show that males opt for secondary school qualifications, while most females obtain a primary school qualification.

The chi-square test for correlation between gender and perception of ADHD had a level of significance of 0.017, which is less than 0.05. We, therefore, reject the null hypothesis and conclude that perception of ADHD is dependent on gender. A hypothesis can, therefore, be postulated from Table 4.4 that females are better at perceiving ADHD than males. To validate this hypothesis a t-test for difference between two means was carried out.

Table 4.5: Chi-square test for correlation between gender and perception.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.227 ^a	3	.017
Likelihood Ratio	6.624	3	.085
N of Valid Cases	63		

Table 4.5 shows that there is no significant (0.264 and 0.237 are greater than 0.05) difference between male and female teachers in perceiving ADHD in learners

Table 4. 6: T-test for difference in ADHD perception between male and female educators

Independent Samples Test					
		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	T	Sig. (2-tailed)
Perception	Equal variances assumed	.098	.755	-1.128	.264
	Equal variances not assumed			-1.299	.237

4.4.2 Perception disparities with Age

Table 4. 7: Chi-square test for correlation between age and perception.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.954 ^a	12	.151
Likelihood Ratio	10.873	12	.540
N of Valid Cases	68		

The chi-square test for correlation between the age of an educator and perception of ADHD had a level of significance of 0.151, which is greater than 0.05. Therefore we fail to reject the hypothesis that perception of ADHD is independent of age of an educator. There is no correlation between these two

variables; this implies that the age of an educator has no effect on the perception of ADHD.

An ANOVA test for difference of perception across the different age groups, shown in Table 4.8, reveals that there is no difference in the perception of ADHD across all age groups.

Table 4. 8 The table below shows ADHD perception in different age groups.

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Perception	Between Groups	.461	4	.115	.434	.784
	Within Groups	16.482	62	.266		
	Total	16.943	66			

4.4.3 Perception disparities with Level of Qualification

Table 4.9 shows the results of a chi-square test for correlation between the level of qualification and perception of ADHD. The Pearson Chi-square level of significance is 0.602, which is greater than 0.05. We, therefore, fail to reject the null hypothesis which postulates that perception of ADHD is independent of the level of education of an educator.

Table 4. 9: Chi-square test for correlation between level of qualification and perception.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.999 ^a	15	.602
Likelihood Ratio	14.079	15	.520
N of Valid Cases	61		

The Sig value for an ANOVA test for difference in ADHD across different levels of education is 0.177, which greater than 0.05. This results in failure to reject the null hypothesis and concluding that there is no significant difference in perception of ADHD across Qualification levels

Table 4. 10: A t-test for difference in ADHD perception across different levels of qualification.

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Perception	Between Groups	1.937	5	.387	1.596	.177
	Within Groups	13.108	54	.243		
	Total	15.045	59			

4.4.4 Perception disparities with teaching experience

The Asymptotic level of significance for the Pearson chi-square correlation test was found to 0,954, which is greater than 0,05 (See Table 4.11), resulting in failure of rejection of the hypothesis that perception of ADHD is independent of teaching experience.

Table 4. 11 Chi-square test for correlation between teaching experience and perception.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.139 ^a	15	.954
Likelihood Ratio	8.350	15	.909
N of Valid Cases	68		

The Sig value of 0.429 in the ANOVA table in Table 4.12 is greater than 0.05, Thus we fail to reject the null hypothesis that perception of ADHD is not significantly different across different years of teaching Experience.

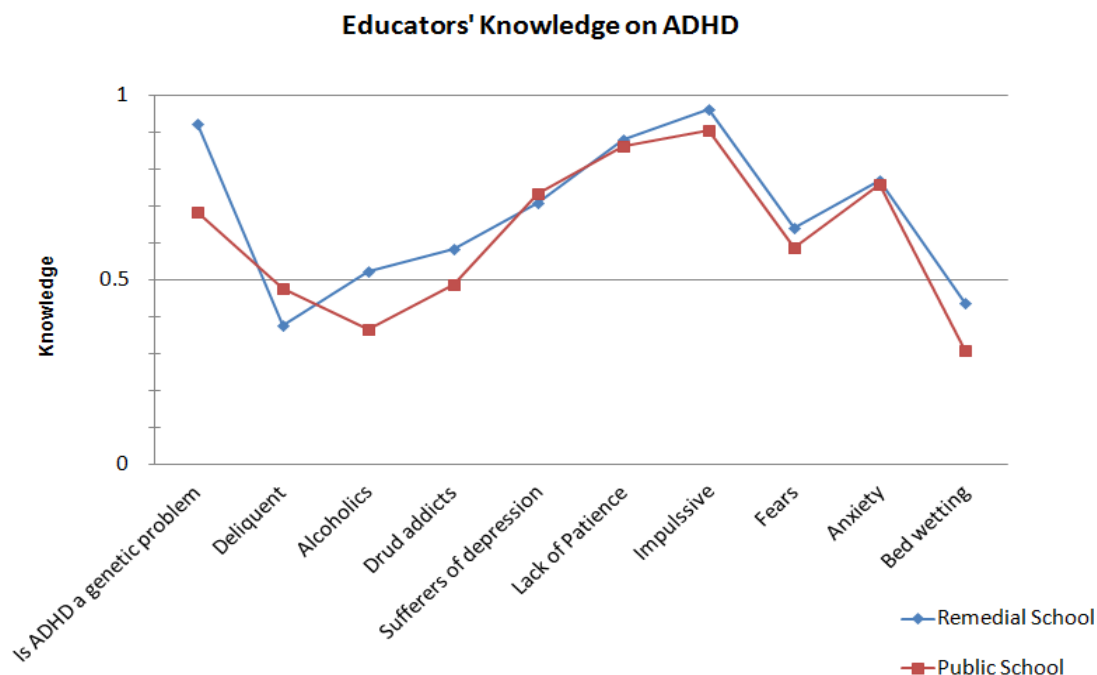
Table 4. 12: A t-test for difference in ADHD perception across different teaching experience levels.

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Perception Score	Between Groups	1.256	5	.251	.994	.429
	Within Groups	15.418	61	.253		
	Total	16.674	66			

4.5. Educators Knowledge on ADHD

It is evident from figure 2 above that educators from the remedial school are more knowledgeable on ADHD than educators from the mainstream school. A few similar responses were noticed by educators from both schools regarding knowledge on ADHD. Responses include the following: “Are ADHD children sufferers of depression?”; “Does ADHD include lack of patience and lack of anxiety?”. These had knowledge scores above 0.7. Educators from the remedial school seem to be better (though not statistically significant) in having more knowledge on ADHD children.

Figure 4. 2: Educator’s knowledge on ADHD



Response on “Is ADHD a genetic problem?” was slightly higher than 0.9. Regarding the following statements: “Are ADHD children at risk to become delinquent, alcoholics, drug addicts?” These risks depend on a number of factors after a child has been diagnosed as having ADHD. Factors might include lack of family support, lack of school support, no support group for parents of a child with ADHD, low self esteem, social rejection by peers and no early identification of the child with ADHD. The response to “Does ADHD include bed wetting?” was

slightly below the mean, which is 0.4. Possible reasons for bed wetting (depends on the intensity of the disability) are genetic aetiology, anxiety, social rejection and management of fluid intake before bedtime.

4.5.1: Knowledge disparities with the type of school

Table 4.13 reflects that the Sig value from the Chi-square test is 0.257 which is greater than 0.05. Thus we fail to reject the null hypothesis concluding that there is no correlation between knowledge of ADHD and the Type of school an educator teaches.

Table 4. 13:Chi-square test for correlation between the type of school and knowledge of ADHD.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.043 ^a	3	.257
Likelihood Ratio	4.752	3	.191
N of Valid Cases	66		

A t-test of significance of difference in the educators' knowledge of ADHD between those teaching in remedial schools and those teaching in public schools failed to reject the hypothesis that there is a difference in knowledge of ADHD between them. The Sig. (2-tailed) values 0.321 and 0.291 were all greater than 0.05.

Table 4. 14: A t-test for difference between the type of school an educator teaches and knowledge.

Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	T	df	Sig. (2-tailed)
Knowledge	Equal variances assumed	2.256	.138	-.999	62	.321
	Equal variances not assumed			-1.066	54.718	.291

4.5.2: Knowledge disparities with gender

Table 4. 15: Chi-square test for correlation between gender and knowledge.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.345 ^a	3	.341
Likelihood Ratio	3.372	3	.338
N of Valid Cases	63		

The results of the chi-square test for correlation between Gender and Knowledge of ADHD are shown in Table 4.15. The Sig value of 0.341 is greater than 0.05, thus we fail to reject the Null hypothesis and conclude that Knowledge of ADHD is independent of one's gender

To check whether there are any differences in knowledge of ADHD across, a t-test of difference between two means was carried out. Table 4.16 shows that the Sig. (2-tailed) value (0.017) is less than 0.05. We, therefore, reject the null hypothesis and conclude that there is difference in the level of knowledge of ADHD between males and females. Table 4.16a shows that females have a higher mean knowledge score than males, implying that female educators are more knowledgeable on ADHD than male educators.

Table 4. 16: A t-test for difference in knowledge of ADHD between males and females.

Independent Samples Test					
	Levene's Test for Equality of Variances		t-test for Equality of Means		Sig. (2-tailed)
	F	Sig.	T	df	
Knowledge Equal variances not assumed			-2.939	8.703	.017

Table 4.16a: Group statistics for t-test for difference in knowledge of ADHD between males and females

Table 4. 16a: Group statistics for t-test for difference in knowledge of ADHD between males and females

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
Knowledge Score	Male	6	.48333	.144145	.058847
	Female	55	.68247	.249099	.033588

4.5.3: Knowledge disparities with Age

Table 4. 17: Chi-square test for correlation between knowledge of ADHD and age.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.095 ^a	12	.086
Likelihood Ratio	19.200	12	.084
N of Valid Cases	68		

Table 4.17 shows the results of a chi-square test for independence between age and knowledge of ADHD. The Sig value of 0.086 below is greater than 0.05, thus we Fail to reject the null hypothesis and conclude that knowledge of ADHD does not dependent on the one's age.

Table 4. 18: An ANOVA test for difference in knowledge of ADHD across different age groups.

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Knowledge	Between Groups	.204	4	.051	.812	.523
	Within Groups	3.839	61	.063		
	Total	4.044	65			

An ANOVA test was carried out to test for difference in ADHD knowledge levels across deferent age groups. The results obtained (see Table 4.18) failed to reject the null hypothesis concluding that there are no significant differences in ADHD knowledge levels across the age groups.

4.5.4: Knowledge disparities with Level of Qualification

Table 4. 19: Chi-square test for correlation between knowledge and level of qualification.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.589 ^a	15	.481
Likelihood Ratio	16.396	15	.356
N of Valid Cases	61		

A chi-square test for independence between knowledge of ADHD and level of qualification shown in Table 4.19 has a Sig. value of 0.481 which is greater than 0.05. This results in the rejection of null hypothesis concluding that knowledge of ADHD is independent of the educators' level of qualification.

Table 4. 20: T-test for difference in knowledge of ADHD across levels of qualification.

ANOVA					
		Sum of Squares	df	Mean Square	F
Knowledge	Between Groups	.279	5	.056	.986
	Within Groups	3.003	53	.057	
	Total	3.282	58		

The Sig. value of 0.435 in Table 4.20 is greater than 0.05, we fail to reject the null hypothesis stating that there is no significant difference in knowledge of educators across the levels of qualification.

4.5.5: Knowledge disparities with Teaching Experience

Table 4. 21: Chi-square test for correlation between knowledge of ADHD and teaching experience

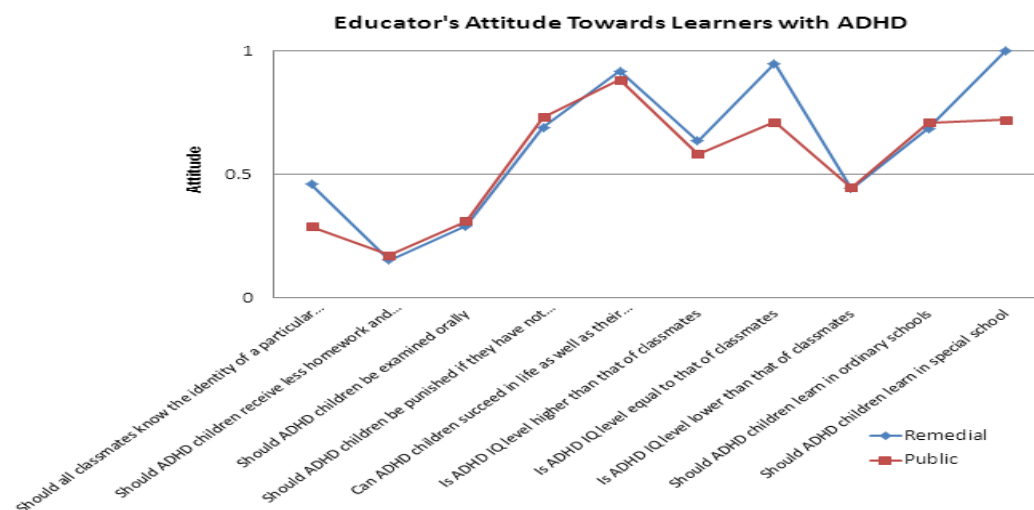
Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.137 ^a	15	.063
Likelihood Ratio	21.497	15	.122
N of Valid Cases	68		

A chi-square test for correlation between teaching experience of educators and knowledge of ADHD reveal that there is no correlation between teaching experience of educators and knowledge (Table 4.21). The asymptotic level of significance for the Pearson Chi-square correlation test was found to 0.063, which is greater than 0.05 in Table 11B, resulting in failure to reject the hypothesis that knowledge of educators is independent of their teaching experience.

4.6. Educator's Attitude towards Learners with ADHD

On average educators from both schools do not seem to agree that all classmates should know the identity of a particular child with ADHD. Educators from a Remedial school scored slightly below 0.5, which is indicative that it is not a great concern if classmates know, or do not know the identity of an ADHD child. There is a remarkable difference in scores on the factor "Is ADHD IQ level equal to that of classmates?" Educators from the Remedial school had a score of 0.9 due to the reason that they deal with such learners on a daily and are able to group them accordingly when necessary. The score on the factor "Should ADHD children learn in special school?" by educators from the Remedial school is 0.999. The score is suggestive of the fact that there is maximum benefit to ADHD children who need intensive scholastic support.

Figure 4. 3: Educators' Attitude towards learners with ADHD



4.6.1: Attitude towards Learners disparities with Type of School

Table 4. 22: Chi-square test for correlation between attitude and type of school.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.329 ^a	2	.009
Likelihood Ratio	9.327	2	.009
N of Valid Cases	66		

The type of school that an educator teaches at was found to have an effect on the educator's attitude towards learners with ADHD (see Table 4.22). Table 4.23 reflects that more educators from the Remedial school (60.9%) have a more positive attitude towards learners with ADHD compared with those from public schools (23.3%). The Sig. value from the chi-square test is 0.009 which is less than 0.05. We, therefore, reject the null hypothesis. Attitude depends on the type of school an educator teaches.

Table 4. 23: Cross tabulation of Type of school and Attitude towards Learners with ADHD

		Attitude			Total
		Negative	Neutral	Positive	
Type of School	Public School	23 _a 53.5%	10 _a 23.3%	10 _b 23.3%	43 100.0%
	Remedial School	7 _a 30.4%	2 _a 8.7%	14 _b 60.9%	23 100.0%
Total		30 45.5%	12 18.2%	24 36.4%	66 100.0%

Table 4. 24: T-test for difference in attitude between educators from remedial schools and those from public schools.

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	T	df	Sig. (2-tailed)
Attitude	Equal variances assumed	3.156	.080	-3.199	64	.002
	Equal variances not assumed			-2.935	35.569	.006

The Sig. 2 tailed value in Table 4.24, 0.02 is less than 0.05. We reject the null hypothesis and conclude that the educators' attitude towards are learners with ADHD are significantly different. Table 4.25 reflects that educators from the Remedial school have a more positive attitude towards learners with ADHD (attitude score =0.565) compared to those from the public school (attitude score = 0.459).

Table 4. 25: Group statistics for the t-test for difference in attitude between educators from remedial schools and those from public schools

Type of School	N	Mean	Std. Deviation	Std. Error Mean
Public School	43	.459	.1138	.0174
Remedial School	23	.565	.1516	.0316

4.6.2: Attitude towards Learners disparities with gender

Table 4. 26: Chi-square tests for correlation between attitude and gender.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.524 ^a	2	.770
Likelihood Ratio	.522	2	.770
N of Valid Cases	69		

The Sig. value from the chi-square test results in Table 4.26 is 0.770 which is greater than 0.05; thus we fail to reject the null hypothesis. The educators' attitude towards learners with ADHD is independent of one gender.

Table 4. 27: T-test for difference in attitude towards Learners with ADHD between males and females.

Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	T	df	Sig. (2-tailed)
Attitude Score	Equal variances assumed	3.163	.080	-.634	67	.528
	Equal variances not assumed			-.875	30.965	.388

To check whether there are any differences in gender and attitude amongst educators from the mainstream and the Remedial school, a T-test of difference between two means were carried out using the gender scores. Table 4.27 shows the Sig (2 tailed) value 0.388 which is greater than 0.05. We therefore fail to reject the null hypothesis.

4.6.2: Attitude towards Learners disparities with age

Table 4. 28: Chi-square test for correlation between attitude and age.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.064 ^a	8	.530
Likelihood Ratio	7.870	8	.446
N of Valid Cases	68		

The Sig. value from the Chi-square test 0.530 is greater than 0.05, thus we fail to reject the null hypothesis and conclude that there is no evidence to support that the educators' attitude depend on one's age.

Table 4. 29: ANOVA test for difference in attitude towards Learners with ADHD across different age groups.

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Attitude	Between Groups	.065	4	.016	.832	.510
	Within Groups	1.222	63	.019		
	Total	1.287	67			

The Sig. value in Table 4.29, 0.510 is greater than 0.05. We fail to reject the null hypothesis and conclude that the educator's attitude towards learners with ADHD is not significantly different across different age groups.

4.6.3: Attitude towards Learners disparities with level of qualification

Table 4. 30: Chi-square tests for correlation between attitude and level of qualification.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.342 ^a	10	.158
Likelihood Ratio	19.700	10	.032
N of Valid Cases	61		

Table 4.30 shows the results of a chi-square test for independence between educators' attitude towards learners with ADHD and level of qualification. The table reveals that there is no correlation (0.158 is greater than 0.05) between the level of qualification of educators and their attitude toward ADHD children.

Table 4. 31: ANOVA test for difference in attitude towards learners with ADHD across different levels of qualification.

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Attitude	Between Groups	.222	5	.044	2.485	.042
	Within Groups	.983	55	.018		
	Total	1.205	60			

From the ANOVA Table 4.31, educator's attitude was found to be significantly different across the educators' qualification level (0.042 is less than 0.05). From Table 4.32 showing post hoc analysis of the ANOVA test, significant differences were identified on educators with Matric with knowledge of Special Education versus those with Degrees only and educators with a Teaching Diploma with knowledge of Special Education versus those with Degrees only.

Educators with Matric with knowledge of Special Education and those with a Teaching Diploma with knowledge of Special Education were found to be having the highest score on attitude towards children with ADHD with values 0.603 and 0.534. The scores for educators with Degrees with knowledge of Special Education though not significantly different from any other attitude score, but it

comes third with a score of 0.506. This seems to suggest that knowledge of Special Education seems to have a positive influence on the educator's attitude towards learners with ADHD.

The table below shows comparisons in level of qualification between educators in both remedial and mainstream school.

Table 4. 32: Post Hoc tests for ANOVA test for difference in attitude towards learners with ADHD across different Levels of qualification

Multiple Comparisons					
Dependent Variable	(I) Level of Qualification	(J) Level of Qualification	Mean Difference (I-J)		
Attitude	Matric	Matric with knowledge of Special Education	-.1276	.0923	.172
		Teaching Diploma	-.0154	.0841	.855
		Teaching Diploma with knowledge of Special Education	-.0584	.0871	.505
		Degree	.0770	.0856	.373
		Degree with knowledge of Special Education	-.0302	.0871	.730
	Matric with knowledge of Special Education	Matric	.1276*	.0923*	.172*
		Teaching Diploma	.1122*	.0606*	.069*
		Teaching Diploma with knowledge of Special Education	.0692	.0646	.289
		Degree	.2046*	.0627*	.002*
		Degree with knowledge of Special Education	.0974	.0646	.137
	Teaching Diploma	Matric	.0154	.0841	.855
		Matric with knowledge of Special Education	-.1122	.0606	.069
		Teaching Diploma with knowledge of Special Education	-.0430	.0524	.415
		Degree	.0924	.0499	.070

	Teaching Diploma with knowledge of Special Education	Degree with knowledge of Special Education	-.0148 [*]	.0524 [*]	.779 [*]
		Matric	.0584	.0871	.505
		Matric with knowledge of Special Education	-.0692	.0646	.289
		Teaching Diploma	.0430	.0524	.415
		Degree	.1354	.0548	.017
		Degree with knowledge of Special Education	.0282 [*]	.0570 [*]	.622 [*]
	Degree	Matric	-.0770	.0856	.373
		Matric with knowledge of Special Education	-.2046	.0627	.002
		Teaching Diploma	-.0924	.0499	.070
		Teaching Diploma with knowledge of Special Education	-.1354	.0548	.017
		Degree with knowledge of Special Education	-.1072	.0548	.055
	Degree with knowledge of Special Education	Matric	.0302	.0871	.730
		Matric with knowledge of Special Education	-.0974 [*]	.0646 [*]	.137 [*]
		Teaching Diploma	.0148 [*]	.0524 [*]	.779 [*]
		Teaching Diploma with knowledge of Special Education	-.0282	.0570	.622
		Degree	.1072 [*]	.0548 [*]	.055 [*]

Table 4. 33: Chi-square tests for independence between attitude and teaching experience.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.630 ^a	10	.760
Likelihood Ratio	7.013	10	.724
N of Valid Cases	68		

The Sig. value from the chi-square test results in Table 4.33, 0.760 is greater than 0.05, thus we fail to reject the null hypothesis and conclude that there is no

evidence of correlation between teaching experience of educators and their attitude towards learners with ADHD.

Table 4. 34: ANOVA test for difference in attitude towards learners with ADHD across different levels of teaching experience.

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Attitude Score	Between Groups	.098	5	.020	1.023	.412
	Within Groups	1.185	62	.019		
	Total	1.282	67			

The Sig. value (0.412) for the ANOVA test results represented in Table 4.34 is greater than 0.05. Thus we fail to reject the null hypothesis and conclude that the educators' attitude towards learners with ADHD is not different across different levels of teaching experiences

4.7 Discussion of Results

The purpose of this study was to provide some indication of educators' level of awareness and attributions of ADHD as well as management techniques used in the classroom to minimise disruptive behaviour. A questionnaire was used to establish these factors. In particular, the study sought to address the research objectives listed below:

- To determine the level of educators' knowledge and attitudes about ADHD.
- To ascertain whether there is a significant difference in attitude between educators in the mainstream school and those in the resource centre (remedial school).

- To determine the relationship, if any, between educators' perceptions of ADHD children and the following educators' characteristics:
 - (i) age
 - (ii) gender
 - (iii) type of school
 - (iv) teaching experience
 - (v) educator qualifications

Regarding the first objective, it was found that educators' knowledge differ markedly when comparing educators from the public and the remedial school. Educators showed understanding that the disorder has a genetic basis. There is greater awareness of hyperactivity signs than impulsivity and inattention signs; especially among educators from a public school. Knowledge of the types of ADHD, that is hyperactive, inattentive, and the combined type is far from ideal. Most educators seem to be aware that children's self esteem need to be nurtured. Social components are another area that most educators are not aware of, that can also impact negatively on the scholastic performance.

With reference to the second objective, it was found that there is a significant difference in attitude between educators in the mainstream school and those in the resource centre (remedial school).

Regarding the third objective, it was found that there is a relationship between educators' perceptions of ADHD children and educators' characteristics of age, gender, type of school, teaching experience and educator. Research results indicate that there is no significance difference in attitude amongst educators in different age groups towards children with ADHD. Age has no effect on perception. The age of educators do not positively influence the knowledge of ADHD children.

Research results indicate that there is a significant difference on gender of respondents and their attitude towards ADHD children. Results indicate that male respondents have a negative attitude compared to female respondents who have a positive attitude towards children with ADHD. Educators may not be aware that gender might be the barrier towards understanding and accommodating children displaying such behaviours.

There is a relationship between the type of school educators teach in and attitude. More educators in the mainstream school have a negative attitude whereas at a remedial school more educators have a positive attitude.

Knowledge of special education seems to have a positive influence on the educator's attitude towards learners with ADHD. It was found that there was a significant difference between educators with and without special education i.e.

Matric with knowledge of special education & those with a Teaching Diploma with knowledge of Special Education.

The results were discussed on the premise that theory informs practice and therefore that educator' awareness and attributions of the disorder affects their perception of children with ADHD. This consequently also influences their management of such children as well as the teaching strategies and medication they use with such children.

4.8. Summary

In this chapter, statistical analysis was dealt with. It was found that the type of school an educator teaches in has an impact on attitude towards children with ADHD. Knowledge of special education was found to have a positive influence on educators' attitude towards children with ADHD. Lastly there is a significant difference in attitude between male and female educators towards ADHD children.

CHAPTER FIVE

CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

5.1. Introduction

In this study an empirical investigation was to shed light on the disposition of educators' attitudes towards ADHD children in the classroom situation in primary schools. In chapter four the results of the study were interpreted, analysed and discussed. In this chapter educational implications of findings will be made, summarized, recommended and concluded.

5.2. Educational implications of findings

5.2.1 Teacher education, training and support.

The educational success of children with ADHD involves not only a well-documented behavioural technology. It also involves the presence of educators actively and willingly engaged in the process of working with children who have ADHD, and an administration that supports identification and intervention for ADHD. The latter two components are clearly crucial to treatment success, as behavioural technologies and curriculum modifications can only work if they are deployed regularly in classroom settings. Educators' knowledge of and attitude toward the disorder of ADHD are critical (Barkley, 2006, p 549).

Educators should be aware of the following:-

- ADHD is considered a biologically based educational disability that is treatable, but not curable.
- ADHD is not due to a lack of skill or knowledge, but is a problem of sustaining attention, effort and motivation; and inhibiting behaviour in a consistent manner over time, especially when consequences are delayed, weak or absent. Thus it is a disorder of performing what one knows, not knowing what to do.
- The most effective interventions for improving school performance are those applied consistently within the school setting. Family therapy, individual therapy and parent training, while often beneficial at home, rarely prove to be helpful in improving the academic and behavioural functioning of children with ADHD at school.

5.3. Classroom structure and improving academic skills

Behavioural interventions have long emphasized consequence-based strategies for ADHD, but in recent years, somewhat more attention has been paid to the importance of antecedent-based interventions for improving the school functioning of youth with ADHD (Barkley, 2006, p.542). For children with specific academic skills deficits due to ADHD, specialized curricular may be required; remedial instruction in skill areas such as reading, writing, spelling and maths may be recommended.

5.2.3 Educator administered consequences

Educator administered consequences continue to be the most well researched and commonly used behavioural interventions for children with ADHD. A combination of positive consequences (praise, tangible rewards, and token economies) and negative consequences (reprimands, response cost, and time out) has been shown to be optimal. However, as noted above, their success for children with ADHD is highly dependent upon how and when they are administered. Consequences that are immediate, brief, consistent, salient and (in the case of positive consequences) delivered frequently seem to be most effective.

Without intending to do any harm, they will blurt out inappropriate or hurtful statements. They are unable to understand that things should not be said in certain situations. Due to their difficulties in predicting outcomes, they are often surprised by the negative reaction that their behaviour evokes (Selikowitz, 1998, p51).

Children with ADHD genuinely experience problems with tactfulness and appropriate responses to others. Many researchers suggest that this is due to impaired functioning of the frontal lobes which act as the centre of emotional control in humans (Barkley, 2006, p 530). It is important that this is recognized by adults. However, the fact that educators did not recognize as part of the disorder could suggest that they perceive such behaviour as being under the control of

the child and not as an unintentional act. It may be the case that educators attribute these behaviours to the character or personality of the child, perceiving him or her as being in control. This could lead to the choice of ineffective methods of punishment (such as detention) as a means to curb the problematic responses. Educators may not be fully aware of the fact that ADHD affects the child on a global level of development and that this includes the social sphere.

5.2.4 Management techniques in the classroom

Research results indicate that educators are very concerned with the effective management of ADHD behaviours within their classroom. Most of the sample would prefer to discipline children with ADHD in a calm manner and in private thus preserving the child's sense of integrity. Educators appear to have the right motivation in wanting each child to control their own behaviour as opposed to the implementation of external means of control. However, educators also realize that it is extremely difficult to manage ADHD, especially hyperactivity in class. They are prepared to accommodate these children in the mainstream yet may seriously consider suggesting alternative placement if they are given the opportunity to do so. Most children with ADHD have average to above intelligence and are usually capable of finishing their school work once they can be focused Ostoits, (1999; p.131). Placing them in remedial and special schools may therefore be inappropriate. In any case the new dispensation of inclusion promotes the accommodation of all children within the general classroom.

5.3. Limitations of the study

The following difficulties were encountered by the researcher:

1. Educators who were reluctant to answer some questions or complete the questionnaire due to the workload respondents reported were supposed to keep pace up with.
2. Participation was not always uniform with one school supplying all their completed questionnaires and another school returned four uncompleted ones.
3. The third limitation involves the instrument that was used to collect data. The instrument did not accommodate open-ended questions for respondents to support their responses.
4. Research was limited to educators in an urban area and was exclusive to other racial group of educators. The sample was drawn from one area only and was not extensive.
5. The financial budget that limited attending to other aspects that could have revealed some interesting data and evidence.

5.4. Recommendations

It is important that parents are called in to discuss the difficulties with the educator suggesting that educators do wish to work with parents in helping children. Educators may prefer and require external assistance in managing difficult behaviours in class. This was evident by the strong consensus in sending

the child for a professional assessment and the use of medication in curbing destructive behaviours. In fact a lot of educators also recommend counselling and therapy for the children and their parents. In some cases therapy is necessary and useful in providing the family with emotional support which has not proved to be successful in subduing the behavioural signs of ADHD including aggressive tendencies Armstrong, (1996, p.35).

Educators found it extremely difficult to accept the option of ignoring bad behaviour and only giving attention to cooperative conduct. This has implications for the implementation of behaviour modification techniques at schools. Much behaviour within the classroom can be reinforced through giving of negative attention by the educator. Behaviour modification theorists suggest that, when possible, disruptive behaviour should be ignored in order to extinguish the pay off that the child gets for the behaviour (Barkley, 2006, p.529).

Educators seem to find this very difficult to do especially as the class sizes increase in schools. This could also be related to educators' feelings of competence in being in control of their class. On the other hand, educators really supported the idea of rewarding desirable behaviour. This can be a starting point for further the training of educators in the area of behaviour modification.

The researcher would like to make the following two recommendations which she believes to be of utmost importance:

- Educational authorities should promote continuing education and special training courses for educators in charge of ADHD children as well as mainstream educators. Special training courses would involve learning the most recognized advanced educational techniques in handling ADHD children. Courses would be done by experts in the field, including special educators, neurologists, psychologists and educators with experience in any changing methodologies.
- Media coverage of ADHD should be increased and encouraged by exposing the public to experts in the field who could address the main issues and obstacles facing these children.

5.5. Conclusion

It may be concluded that the mainstream education for ADHD children (with individualized education if necessary) causes considerable difficulty for all concerned. The educators' attitudes on ADHD are far from ideal, and their knowledge is insufficient. There is not yet a continuing education programme to keep educators updated with current knowledge on this subject. Affected children should not be disciplined the same way as their peers. Often these children are removed from their classroom and referred to educational counsellors who frequently are not well informed on these subjects. As time goes by, ADHD children gradually accumulate "academic failures" they then develop low self-esteem and behavioural problems. They are often rejected by their classmates and may fall into substance abuse addiction and truancy.

ADHD children should be identified as early as possible and introduced to an individualised educational programme that will continually re-enforce their strengths, minimizing the impact of poor academic performance. A “positive dynamic” environment should surround these children, involving frequent positive re-enforcement for their individual effort and achievements. All this should be sought during their formative school years, if these children are to become productive individuals as they mature into adulthood.

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APPENDIX A

PO Box 10387
EMPANGENI
3880
22 October 2011

EMPANGENI EDUCATION DISTRICT MANAGER

Dear Sir / Madam

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

I am presently registered for an M.Ed (Psych) Degree in the faculty of education at the University of Zululand. I am conducting a research study entitled: "Attitudes of educators towards ADHD children".

I am requesting access to some of the schools in your district, in order to carry out an investigation regarding the above-mentioned topic. I wish to administer a questionnaire to educators at Zululand Remedial School (Resource Centre) and educators in one public (mainstream) school.

You are assured that the study will not in any way interfere with the normal running of the school. Educators will be requested to complete the questionnaire at school.

A copy of the questionnaire is attached. I hope it meets your approval. The names of the schools and educators will be strictly treated as confidential, but the findings of this research can be forwarded to your office should you wish so. Your permission to conduct research in this circuit will be highly appreciated.

Yours faithfully

B N Ntuli (Mrs)
078 632 1956

APPENDIX B

PO Box 10387
EMPANGENI
3880
22 October 2011

THE CIRCUIT MANAGER

Dear Sir

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

I am presently registered for an M.Ed (Psych) Degree in the faculty of education at the University of Zululand. I am conducting a research study entitled: "Attitudes of educators towards ADHD children".

I am requesting access to some of the schools in your circuit, in order to carry out an investigation regarding the above-mentioned topic. I wish to administer a questionnaire to educators at Zululand Remedial School (Resource Centre) and to educators in one public (mainstream) school in your circuit.

You are assured that the study will not in any way interfere with the normal running of the school. Teachers will be requested to complete the questionnaire at home.

A copy of the questionnaire is attached. I hope it meets your approval. The names of the schools and educators will be strictly treated as confidential, but the findings of this research can be forwarded to your office should you wish so. Your permission to conduct research in this circuit will be highly appreciated.

Yours faithfully

B N Ntuli (Mrs)
078 632 1956

APPENDIX C

PO Box 10387
EMPANGENI
3880
22 October 2011

THE WARD MANAGER

Dear Sir

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

I am presently registered for an M.Ed (Psych) Degree in the faculty of education at the University of Zululand. I am conducting a research study entitled: "Attitudes of educators towards ADHD children".

I am requesting access to some of the schools in your circuit, in order to carry out an investigation regarding the above-mentioned topic. I wish to administer a questionnaire to educators at Zululand Remedial School (Resource Centre) and to educators in one public (mainstream) school in your circuit.

You are assured that the study will not in any way interfere with the normal running of the school. Teachers will be requested to complete the questionnaire at home.

A copy of the questionnaire is attached. I hope it meets your approval. The names of the schools and educators will be strictly treated as confidential, but the findings of this research can be forwarded to your office should you wish so. Your permission to conduct research in this circuit will be highly appreciated.

Yours faithfully

B N Ntuli (Mrs)
078 632 1956

APPENDIX D

Mrs B N Ntuli
Box 10387
Empangeni
3880

19 January 2011

THE PRINCIPAL

DEAR Sir/Madam

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

As per our telephonic discussion, I hereby enclose the questionnaires for completion by your staff.

To re-iterate: I am currently conducting a study on attitudes of educators towards children with Attention Deficit Hyperactivity Disorder. My study includes children between ages of 7 to 15 years.

Please convey the following to staff before commencing:

- Please explain reasons for this research as discussed with you.
- Respond to the questions as per instructions.
- Emphasise that confidentiality will be observed.
- Do not write your names on the questionnaire.

Thank you for assisting me in this endeavour.

Yours truly

B N Ntuli (Mrs)
078 632 1956

APPENDIX E

PO BOX 10387
EMPANGENI
3880

23 January 2011

DEAR Educators

My name is Busisiwe Ntuli and I am currently completing my Master's Degree in the field of Educational Psychology. As part of this degree, I am required to write a research report on a subject of my choice.

The subject I have chosen is Attention Deficit Hyperactivity Disorder. Research undertaken overseas, on this subject has indicated that this is often an area of great difficulty for children and educators. However, little data on South African educators' opinions, on this subject, is available. This is unfortunate, given the increase in children diagnosed with ADHD in this country. If outside institutions are to provide assistance to educators on ADHD, then they need to know what is most needed. We therefore need to find out what educators need, through the use of questionnaires.

The division of Educational Psychology at the University of Zululand has granted me permission of conducting research on this subject. However I can not do so without your help. Should you decide to participate in this research you would be required to fill out an anonymous questionnaire. Your help would be greatly appreciated. Results of my findings will be documented and can be made available to your school after the research has been conducted, should you be interested in the outcome. Information on ADHD and suggestions on how to manage it in the classroom can also be made available at the same time.

Thank you for your kind consideration,

Yours faithfully

B N Ntuli (Mrs) _____.
(0786321956)

APPENDIX F

QUESTIONNAIRE

Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is a disorder that affects the brain. The aim of the study is to investigate educators' knowledge and attitudes towards children with ADHD.

At the end of this study, the school that participated will receive information containing the following:

- 1) An introduction which consists of the reasons for this study.
- 2) Literature Review on ADHD.
- 3) Recommendations made in this study.

This information will hopefully enlighten educators on their perceptions and their limitation regarding children with ADHD.

BIOGRAPHICAL DATA**NOTE:** Do not write your name on the questionnaire.

Please tick in the appropriate column

Independent variables	Response
Type of school currently teaching at	
Public school	
Remedial school	
Male	
Female	
AGE	
20 – 29	
30 – 39	
40 – 49	
50 – 59	
60 and above	

LEVEL OF QUALIFICATION

Matric	
Matric with knowledge of Special Education	
Teaching Diploma	
Teaching Diploma with knowledge of Special Education	
Degree	
Degree with knowledge of Special Education	

TEACHING EXPERIENCE

0 – 4 Years	
5 – 8 years	
9 – 12 years	
13 – 15 years	
16 – 19 years	
20 + years	

EDUCATOR RATING SCALE**Key for Responses**

4 = Strongly Agree

3 = Agree

2 = Disagree

1 = Strongly Disagree

Tick in **one** column which best describes the child with **Attention Deficit Hyperactivity Disorder (ADHD)**.

	SA 4	A 3	D 2	SD 1
1. A child with ADHD often fidgets with hands or feet	SA 4	A 3	D 2	SD 1
2. A child with ADHD has difficulty remaining seated	SA 4	A 3	D 2	SD 1
3. A child with ADHD is easily distracted	SA 4	A 3	D 2	SD 1
4. A child with ADHD often blurts out answers before questions have been completed	SA 4	A 3	D 2	SD 1
5. A child with ADHD has difficulty sustaining attention to tasks	SA 4	A 3	D 2	SD 1
6. A child with ADHD often shifts from one uncompleted task to the next	SA 4	A 3	D 2	SD 1
7. A child with ADHD is often forgetful in daily activities	SA 4	A 3	D 2	SD 1
8. A child with ADHD has difficulty playing quietly	SA 4	A 3	D 2	SD 1
9. A child with ADHD often talks excessively	SA 4	A 3	D 2	SD 1
10. A child with ADHD has difficulty following instructions	SA 4	A 3	D 2	SD 1
11. A child with ADHD often loses things necessary for tasks or activities	SA 4	A 3	D 2	SD 1

12. A child with ADHD is overly suspicious of others	SA 4	A 3	D 2	SD 1
13. A child with ADHD lacks compassion when others are hurt	SA 4	A 3	D 2	SD 1
14. A child with ADHD has poor judgement of other people's reactions or feelings	SA 4	A 3	D 2	SD 1
15. A child with ADHD is overly interrupting on others	SA 4	A 3	D 2	SD 1
16. A child with ADHD is overly annoying	SA 4	A 3	D 2	SD 1
17. A child with ADHD is often rejected by peers	SA 4	A 3	D 2	SD 1
18. A child with ADHD is unpopular amongst peers	SA 4	A 3	D 2	SD 1
19. A child with ADHD seems restless	SA 4	A 3	D 2	SD 1

EDUCATOR'S KNOWLEDGE AND ATTITUDE TOWARDS ADHD

Tick either Yes or No next to the following statements:

	Yes 1	No 2
1. Is ADHD a genetic problem?	Yes 1	No 2
2. Are ADHD children at risk to become:	Yes 1	No 2
Delinquent	Yes 1	No 2
Alcoholics	Yes 1	No 2
Drug addicts	Yes 1	No 2
Sufferers of depression?	Yes 1	No 2
3. Does ADHD include the following:-	Yes 1	No 2
Lack of patience	Yes 1	No 2
Impulsiveness	Yes 1	No 2
Fears	Yes 1	No 2
Anxiety	Yes 1	No 2
Bed wetting?	Yes 1	No 2

4.	Should all the classmates know the identity of a particular ADHD child?	Yes 1	No 2
5.	Should ADHD children receive less homework and easier examinations?	Yes 1	No 2
6.	Should ADHD children be examined orally?	Yes 1	No 2
7.	Should ADHD children be punished if they have not prepared homework assignments?	Yes 1	No 2
8.	Can ADHD children succeed in life as well as their classmates	Yes 1	No 2
9.	Is ADHD IQ level	Yes 1	No 2
	Higher	Yes 1	No 2
	Equal or	Yes 1	No 2
	Lower than that of the classmates?	Yes 1	No 2
10.	Should ADHD children learn in:		
	an ordinary school	Yes 1	No 2
	special school?	Yes 1	No 2

Zululand Remedial Centre
Zoeloeland Remediërende Sentrum

'Reaching Heights through Inclusive Education

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18th November 2011

Prof DR Nzima
Dept of Educational Psychology
& Special Education
UNIZUL
Private Bag X1001
KWA-DLANGEZWA
3886

Dear Prof. Nzima,

RE: RESEARCH STUDY – MRS BN Ntuli

I hereby acknowledge the questionnaire from Mrs BN Ntuli's for the ADHD Study.

I confirm that the research questionnaire has been completed by the staff of ZRC as requested by Mrs Ntuli.

May we thank you for the interest shown in our school and all success with any further studies.

Yours sincerely,

MR DF MILLIN
PRINCIPAL



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2 December 2011

University of Zululand
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Dear Prof. D.R. Nzima

In reference to your letter dated, 18 November 2011, I would like to point out that Mrs B.N. Ntuli has already completed her research on "Attitudes of educators towards learners with Attention Deficit Hyperactivity Disorder (ADHD) in our school in January 2009.

We are looking forward to the results and further wish her success in her studies.

Yours faithfully


Mr G.F. van Wyk
Principal