

**SENSORY INTEGRATION STRATEGIES FOR THE CHILD WITH  
ATTENTION DEFICIT/HYPERACTIVITY DISORDER**

by

JANA RAATH

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**SUPERVISOR: MRS. C. VAN WYK**

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I hereby declare that

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is my own work and that all the resources used are fully referenced and  
acknowledged.

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Signature

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Date

Student number: 33107815

## **Abstract**

In this qualitative research study the focus is on the use of sensory integration strategies with children who have Attention Deficit/Hyperactivity Disorder. Three respondents specialising in sensory integration in the Durbanville area were involved. Individual semi-structured interviews were conducted with each of the respondents in order to gain knowledge on the use of sensory integration strategies with children who have Attention Deficit/Hyperactivity Disorder by a professional other than an occupational therapist. After permission had been obtained, the interviews were captured on video tape and transcribed for use in the empirical study. Seven themes were identified from the interviews and a literature control was done with each of the themes. The researcher did not attempt to generalise the results of the research, but tried to reflect on the information that the respondents provided. The researcher summarised the findings of the empirical study and made recommendations.

### **Key terms**

Sensory integration strategies, child with Attention Deficit/Hyperactivity Disorder, play therapy, professional, sensory integration difficulties, intervention, qualitative, case study.

## **Clarification of terms**

In the context of the study:

- To avoid a clumsy manner of writing, the male form of the pronoun is used when referring to the child or client (“he”, “his” and “himself”). The female form (“she”, “her” and “herself”) is used when referring to the therapist. No prejudice or discrimination was intended.
- The researcher refers to “an AD/HD child” instead of “a child who has AD/HD” because of grammatical design. It was not her intention to stigmatise any child or person referred to in the study.

# 1. CHAPTER ONE: INTRODUCTION TO RESEARCH

## 1.1 INTRODUCTION

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) of the American Psychiatric Association (2000:40, 85), the essential feature of Attention Deficit/Hyperactivity Disorder (hereafter referred to as AD/HD) is a persistent pattern of inattention and/or hyperactivity/impulsivity that is displayed more frequently and is more severe than is typically observed in individuals at a comparable level of development. Individuals with this disorder are easily distracted by irrelevant stimuli and frequently interrupt ongoing tasks to attend to trivial noises or events that are usually easily ignored by others (American Psychiatric Association, 2000:86).

According to Richardson (2006:31) sensory integration is the term used to describe the critical function of the brain responsible for integrating the senses. It is the process whereby sensory input is perceived, processed and a response generated. For most of us effective sensory integration occurs automatically, subconsciously and effortlessly. According to Richardson (2006:129) sensory integration is a process by which information from our senses is interpreted by the brain so that we can respond to our environment in an organised way.

Children suffering from sensory integration dysfunction (SID) or difficulties may receive inaccurate or unreliable sensory input, so that their ability to process information and create appropriate responses is disrupted. They often exhibit a bewildering variety of symptoms, most often thought of as difficult or naughty behaviour. The use of sensory integration strategies will increase the child's comfort zone, and help him through neurological maturation to respond more appropriately to people and situations in his environment (Richardson, 2006:132). Kranowitz (1998:18) says that some children have sensory integration problems, and some have sensory integration problems as well as AD/HD. The symptoms for sensory integration problems and AD/HD are sometimes almost identical and thorough evaluation is needed to differentiate between them (Booyesen, 2006). The child diagnosed with AD/HD could thus benefit from sensory integration strategies, because this will help him to adapt

better to his environment and to respond more appropriately to situations. Professionals working with children diagnosed with AD/HD usually do not attend to sensory integration with these children, according to Booyesen (2006), an occupational therapist specializing in sensory integration. The above-mentioned author said that the basic principles of sensory integration could be used successfully by other professionals working with AD/HD.

According to Kranowitz (1998:17) many symptoms overlap, so that it may be difficult to differentiate one difficulty from another. If a child is inattentive and often has difficulty sustaining attention in tasks or play activities, for example, the child may have sensory integration problems. Therapy that focuses on sensory integration could thus be beneficial for the child with AD/HD. Such therapy would be holistic in nature, because it focuses on different aspects like the emotional and physical (sensory integration) wellbeing of the child.

## **1.2 RATIONALE FOR THE STUDY AND PROBLEM STATEMENT**

According to Booyesen (2006) 20% of her clients are children with AD/HD and 90% of them have sensory integration problems. According to Cook (2006), an occupational therapist working with sensory integration, 60% of her clients are children with AD/HD and 92% of these children have sensory integration problems. These statements may suggest that some children with AD/HD might also have sensory integration difficulties. The reason for the high percentage (92%) may be that she is trained in sensory integration and therefore is able to distinguish the symptoms of sensory integration difficulties more easily.

The researcher felt that not enough research has been done on the use of sensory integration strategies with children diagnosed with AD/HD and thus led to the topic for this research study. A few studies about AD/HD and sensory integration have been done in the occupational therapy field, but they do not explain sufficiently how sensory integration problems and AD/HD are connected and how sensory integration strategies are used during therapy with a child with AD/HD. Occupational therapists are using sensory integration as an intervention method with children diagnosed with AD/HD and although other professionals are also working with such children, they do not implement sensory integration

strategies as part of their intervention method, according to Booyesen (2006). From the researcher's point of view these strategies could help the intervention process with a child with AD/HD because of their broader perspective and deeper insight into sensory integration. An integrated and holistic intervention method can be structured and used when working with children diagnosed with AD/HD.

The researcher's aim is to explore the use of sensory integration strategies when working with children with AD/HD. The term "professionals" used in this research indicates people working in the helping professions and those working with sensory integration.

According to Nel ([sa]:17) hyperactivity is one of the first signs of sensory integration problems. These children are always overactive – walking around, and running instead of walking, and most of these activities are without means. It is impossible for these children to sit still. AD/HD children have the same difficulties, according to Booyesen (2006). Distraction in a group is a big problem for children with sensory integration difficulties, especially in a class room atmosphere where sound, lights and movements distract them (Nel [sa]:17). Children with AD/HD have the same symptoms and difficulties in and outside the school context and are constantly monitoring the scene: They notice everything that is going on, particularly changes or quickly changing things in their environment (Hartmann, 1999:6). Distractibility and inattention are the failure to "stop" or "tune out" unwanted internal thoughts or outside stimuli, such as a voice in the room next door (Martin, 1998:221). AD/HD children find it difficult to keep their room tidy, to do their homework and to remember where they placed something earlier (Nel, [sa]:17). It is the researcher's opinion that sensory integration difficulties might exacerbate the symptoms of AD/HD because these symptoms are so similar. According to Booyesen (2006) the child's sensory integration difficulties can be overlooked in some cases because of the similarity between AD/HD and sensory integration.

According to Richardson (2006:131) sensory integration problems affect each child in a different way. Some children have difficulty with only one sense (such as auditory defensiveness), while others have difficulty with several senses, and

can be either hyperactive or have an extremely low level of sensitivity. Children who are undersensitive simply do not experience sensations in their environment strongly enough, and consequently seek extreme levels of sensation to compensate (like someone who stamps his foot in order to regain feeling when it has “gone to sleep”). This makes them appear hyperactive and aggressive (Richardson, 2006:131). If the child shows symptoms that correlate strongly with those of AD/HD, the parent or therapist should watch the child closely to see whether these symptoms are interfering with his physical and emotional development and his ability to play appropriately for his age and to develop independence. Some of these signs may be an indication of attention deficit disorder, which is a symptom of sensory integration difficulties (Richardson, 2006:132).

Booyesen (2006) stated that a few children showed symptoms of AD/HD and were diagnosed accordingly, but when she started working with them, it turned out that the actual cause of the AD/HD symptoms was emotional issues. It is thus essential to give parents supportive and educational assistance in dealing with their child’s emotional status, as well as helping them cope with the symptoms of AD/HD. According to Axline (2000:54) children’s aggressive type behaviour is sometimes a misdirected drive for self-realization within them. In play therapy the therapist provides the teacher or parent with a technique that may help them to understand and help those maladjusted children with behavioural and somatic problems (Axline, 2000:55). Children with AD/HD are usually seen as being maladjusted in their communities, but they could in fact have deeper emotional issues, for example rejection.

Some specialised occupational therapists are using sensory integration as part of their intervention. According to Booyesen (2006) it would be a better and more holistic intervention if a play therapist or other professional working with children with AD/HD made use of the basic principles or strategies of sensory integration as part of their intervention. For the researcher the above-mentioned constitutes a gap in the intervention of play therapists and other therapists working with children with AD/HD.

Children with AD/HD experience difficulties in many facets of their lives and thus need therapy with a holistic approach sometimes. Such therapy might assist these children to function to the best of their abilities.

In order to address all of the above-mentioned, the research study should be well structured. Thus the researcher will now look at the research question as well as the goals and objectives of the research study.

- Research question

Fouchè and De Vos (2005(a):103) states that if a qualitative study was opted for, the researcher should formulate the research question carefully. Vague thoughts have to be formulated as specific questions about the subject. All questions should be related to the goals, objectives and hypothesis of the investigation. For the purpose of this study the researcher focused on the following research question: What sensory integration strategies can therapists use when working with children with AD/HD?

- Aim and objectives

According to Fouchè and De Vos (2005(a):104) goals can be defined as the end toward which effort or ambition is directed. The terms “goals”, “purpose” and “objectives” are used interchangeably and function as synonyms. However, the term “objective” denotes a more measurable, concrete and speedily attainable conception of such end toward which effort or ambition is directed (Fouchè & De Vos, 2005(a):104). The goal, purpose or aim is the “dream”, and the objective is the one-by-one steps one has to take within a certain time span at grass-roots level in order to attain the dream (Fouchè & De Vos, 2005(a):104).

The goal of this study is to explore the use of sensory integration strategies when working with children with AD/HD. In order to achieve this goal, the following objectives were formulated:

- To do a literature study on AD/HD and sensory integration strategies with the aim of conceptualising a framework for the study.

- To do an empirical study by conducting semi-structured interviews with professionals in order to explore in which way sensory integration strategies can be used during intervention with a child with AD/HD.
- To analyse the data and make use of a literature control.
- To enlighten professionals regarding the use of sensory integration strategies with a child with AD/HD during intervention.

### **1.3 RESEARCH APPROACH**

For the purpose of this study, qualitative research was used. A qualitative study is holistic in nature and aims to understand social life and the meaning that people attach to everyday life. Qualitative research in its broadest sense refers to meaning, experience or perceptions. The qualitative researcher is thus concerned with understanding rather than explaining, naturalistic observation rather than controlled measurement, and the subjective exploration of reality from the perspective of an insider as opposed to the outsider perspective that is predominant in the quantitative paradigm (Fouchè & Delport, 2005:74).

For the purpose of this qualitative research, the researcher was concerned with non-statistical methods and small samples were purposefully selected. The focus was on exploring, understanding and observing rather than controlling and measuring (Fouchè & Delport, 2005:74). The researcher attempted to gain a firsthand holistic understanding of the phenomena in question by means of a flexible strategy of problem formulation and data collection, shaped as the investigation proceeded (Fouchè & Delport, 2005:74). The researcher chose qualitative research since she wanted to understand and form an opinion about the use of sensory integration strategies by a therapist during intervention with an AD/HD child.

- Type of research

For the purpose of this study, applied research was used. According to Fouchè and De Vos (2005(a):105) applied research is aimed at solving specific policy problems or at helping practitioners accomplish tasks. It focuses on solving problems in practice. According to Babbie (2004:28) applied social scientists put

their research into practice in many mundane ways, thereby forming a vital and valid part of the social scientific enterprises.

The researcher's aim was to gain knowledge on the use of sensory integration strategies by therapists working with AD/HD children. The research study is an applied study, because the researcher was doing an explorative study for the purpose of understanding the research problem by means of interviews.

For the purpose of this study, exploratory and descriptive objectives were formulated. According to Fouchè and De Vos (2005(a):106) exploratory research is conducted to gain insight into a situation, phenomenon, community or individual. The need for such a study could arise from a lack of basic information on a new area of interest or in order to get acquainted with a situation so as to formulate a problem or develop a hypothesis.

The researcher conducted semi-structured interviews with professionals who work with children with AD/HD and use sensory integration strategies as part of their intervention, with the aim of gaining more insight into the way sensory integration strategies can be used during intervention with children with AD/HD.

The research is descriptive in nature. According to Fouchè and De Vos (2005(a):106) there are similarities in exploratory and descriptive research, but they also differ in many respects. Descriptive research presents a picture of the specific details of a situation, social setting or relationship, and focuses on "how" and "why" questions.

Research has been done on sensory integration strategies and on AD/HD as separate entities, but research on sensory integration strategies combined with AD/HD is limited. Most of this literature is concerned with occupational therapy, but not other therapy sectors. The researcher aimed to explore in which way sensory integration strategies can be used by therapists working with children with AD/HD, but not from an occupational therapist's point of view. The researcher consequently aimed to describe the nature of these strategies and the perceptions formed by professionals making use of them during and after the study.

- Research strategy

The various strategies used by qualitative researchers will differ depending on the purpose of the specific study, the nature of the research question and the skills and resources available to the researcher in question (Fouchè, 2005(a):268). According to Fouchè (2005(a):269) the qualitative research strategy differs inherently from the quantitative research design in that the former does not usually provide the researcher with a step-by-step plan or a fixed recipe that can be followed. In qualitative research the researcher's choices and actions will determine the design or strategy. Put more simply, qualitative researchers will create the research strategy best suited to their research or even design their whole research project around the strategy selected during the research process. Fouchè (2005(a):269) identifies five strategies of enquiry or methods that could be used to design qualitative research.

For the purpose of this study, the researcher used the case study as a strategy. As Babbie (2004:293) points out, for example a case being studied, might be a period of time rather than a particular group of people. The focusing of attention on a particular aspect of something is the essential characteristic of the case study. According to Fouchè (2005(a):272) the case being studied may refer to a process, activity, event, programme, individual or multiple individuals. The sole criterion for selecting cases for a case study should be the opportunity to learn (Stake in Fouchè, 2005(a):272). The exploration and description of the case takes place through detailed, in-depth data collection methods, involving multiple sources of information that are rich in context (Fouchè, 2005(a):272). These may include interviews, documents, observations and/or archival records. The researcher situates this case study within its larger context, but the focus remains on either the case or an issue that is illustrated by the case.

The type of case study that was used is the instrumental case study. According to Fouchè (2005(a):272) an instrumental case study is used to elaborate on a theory or to gain a better understanding of a social issue, and the case study merely serves the purpose of facilitating the researcher's gaining of knowledge about the social issue. The reason for this choice was that theories on sensory integration and AD/HD already exist, but with this particular study the researcher

aimed to gain a better understanding of the use of sensory integration strategies when working with a child with AD/HD.

The researcher used the case study as an approach because of the type of research and the research question. A detailed method of data collection was used, as well as various sources in terms of semi-structured interviews and a variety of literature. The focus was specifically on the research question. As said earlier, the research is an explorative study and limited research has been done on the research topic, thus providing the opportunity for learning. The research aimed at exploring the use of sensory integration strategies during intervention with a child with AD/HD, including the process and activity involved. Interviews for data collection were conducted with three individuals.

#### **1.4. RESEARCH METHODOLOGY**

The work procedure and research method will be explained according to the different objectives, as set out earlier in this chapter.

- Conceptual framework

The researcher conducted a conceptual framework according to which the use of sensory integration strategies with children with AD/HD was explored. The researcher focused on literature in order to explore the way sensory integration strategies can be used during intervention with a child with AD/HD. The research process starts with a conceptual model or image of the phenomena to be investigated (Riley in De Vos, 2005(a):34). It starts with vague hunches, ideas or nearly formulated propositions on the nature of these phenomena. It is this conceptual model that determines which questions need to be answered by the research. It also determines how empirical procedures are to be used as tools in finding answers to these questions. According to De Vos (2005(a):35) the nature of the conceptual framework is determined by the function that the framework has to fulfil.

The researcher collected information from different fields. Most literature was collected from the occupational therapy and sensory integration field, experts in

AD/HD, literature from various fields on AD/HD and the Gestalt therapy field. Literature was also collected from the internet, because of the difficulty of finding studies done in this particular field, as well as articles by scientists. The researcher had to make use of historic resources such as books older than 10 years. The reason for this is that the basic principles and theories are discussed thoroughly in the historic resources and the researcher needed to consider these theories in order to acquire a holistic view.

- Sampling

The following definitions had to be understood before research could be undertaken: "Universe" refers to all potential subjects who possess the attributes in which the research is interested. "Population" is a term that sets boundaries on the study units. It refers to individuals in the universe who possess specific characteristics (Strydom, 2005(b):193). For the purpose of this study, the universe consists of professionals working with AD/HD children and using sensory integration. The population comprises professional persons working with AD/HD and using sensory integration in the northern suburbs of the Cape Town district. The sample consists of professional persons working with AD/HD and using sensory integration during intervention/therapy in practice in the Durbanville area in the northern suburbs of Cape Town.

Strydom (2005(b):192) states that sampling is one of the most important concepts in the total research endeavour and that it is imperative to understand it clearly before selecting a sampling plan. The term "sample" always implies the simultaneous existence of a population or universe of which the sample is a smaller section or a set of individuals selected from a population (Strydom, 2005(b):193). A sample comprises the elements of the population considered for actual inclusion in the study. It is thus a small portion of the total set of objects, events and/or persons that forms the subject of our study.

The researcher made use of non-probability sampling. Strydom (2005(b):201) states that in non-probability sampling the odds of selecting a particular individual are not known, because the researcher does not know the population size or the members of the population. The following options can be found in non-probability

sampling: accidental, purposive, quota, dimensional, target, snowball and spatial sampling. The researcher made use of purposive sampling. Purposive sampling, according to Strydom (2005(b):202), is the type of sampling based entirely on the judgement of the researcher, in that a sample is composed of elements that contain the most characteristics and representative or typical attributes of the population. The researcher used this method because it is the one most applicable to the type of study – she was able to select a sample that had the most representative characteristics and attributed most towards the study. The researcher is acquainted with a professional person who works with children with AD/HD and uses sensory integration. In order to choose the sample for the study, the researcher applied specific criteria. These criteria are as follows:

- ❖ Occupational therapists working in the Durbanville area in the northern suburbs of Cape Town who have experience in working with children with AD/HD and are making use of sensory integration treatment principles.
  - ❖ Occupational therapists implementing sensory integration treatment principles during intervention with AD/HD children.
- Data collection

The researcher collected the necessary data by means of semi-structured interviews with three selected persons working with sensory integration and children with AD/HD.

According to Greeff (2005:286) the purpose of the research should guide the researcher in choosing the most effective method. Greeff (2005:287) states that interviewing is the predominant mode of data or information collection in qualitative research. All interviews are interactional events and interviewers are deeply and unavoidably implicated in creating meanings that ostensibly reside within participants. Interviewing participants involves describing the experience, but also reflecting on this description (Greeff, 2005:287). Qualitative interviews are defined as “attempts to understand the world from the participant’s point of view, to unfold the meaning of people’s experiences and to uncover their lived world prior to scientific explanations” (Kvale in Greeff, 2005:287). The interview procedures vary little, regardless of the nature of the research question or

approach. According to Greeff (2005:287) the quality of the interview depends mainly on the skills of the researcher as interviewer. Greeff (2005:289) states that active interviewing is not confined to asking questions and recording answers. Trouble-free exchanges rely on mutual attentiveness, monitoring and responsiveness. The researcher implemented these guidelines in the interviews for the study.

According to Greeff (2005:296) semi-structured interviews are generally used during research in order to gain a detailed picture of a participant's beliefs, perceptions or accounts regarding a particular topic. This method gives the researcher and participant more flexibility. Semi-structured interviews are especially suitable when one is particularly interested in complexity or progress, or when an issue is controversial or personal. The flexibility of this type of interview was essential in this study, because the research was exploratory. The researcher allowed the participants to tell their story and share information in a non-limited way. The researcher asked the participants questions regarding the use of sensory integration strategies during intervention, why sensory integration strategies will be beneficial for an AD/HD child, when sensory integration strategies are used with an AD/HD child and how they can be applied. A question was also asked concerning other therapists making use of sensory integration strategies. The researcher did not influence the semi-structured interviews with pre-conceived ideas. The interviews were aimed at the child with AD/HD at all times (Greeff, 2005:296).

Semi-structured interviews were thus the most applicable method to be used in order to reach the goal and objectives of the study and to obtain the necessary data for the study.

- Data analysis

The researcher analysed the data collected during the interviews. According to Greeff (2005:299) it is poor practice to "stack" interviews and to try to synthesise all the tapes afterwards. The researcher should rather transcribe and analyse the interviews while they are still fresh in her memory. Preliminary coding was being useful.

The researcher analysed the data after each interview to ensure that none of it got lost and that the data were still “fresh”. The researcher decided not to give a preliminary report to the participants because it may have had an influence on the credibility of the study.

According to Greeff (2005:311) analysis of data must be done by going back to the purpose of the study. The basis for analysis is transcripts, tapes, notes and memory. The following are critical ingredients of qualitative analysis: It must be systematic, sequential, verifiable and continuous; it requires time; it is jeopardised by delay; it seeks to enlighten; it should entertain alternative explanations; it is improved by feedback and is a process of comparison. The researcher made use of an analytical spiral as described in De Vos (2005(b):334). The steps mentioned are not meant to be used rigidly, and were thus used for guidance.

These steps are as follows:

- Planning for recording of data
- Data collection and preliminary analysis
- Managing or organising the data
- Reading and writing memos
- Generating categories, themes and patterns
- Coding the data
- Testing the emergent understandings
- Searching for alternative explanations
- Representing and visualising (i.e. writing the report)

Literature review refers to the fact that this method can be on either end of the continuum, depending on the type of case study conducted (Delpont & Fouchè, 2005:265). Theory could be used to guide the study in an explanatory way (before data collection), or employed towards the end of the study to compare and contrast it with the theoretical model developed after data collection (Delpont & Fouchè, 2005:265). The researcher conducted a literature review before data were collected as a means to guide her. The research aimed at identifying gaps

in previous research and meeting a demonstrated need, as explained by Delpont and Fouchè (2005:263). The literature review helped the researcher to focus on the topic of the research and to investigate what had already been done in the specialised areas of sensory integration and AD/HD. She searched for journal articles, reports and dissertations on the use of sensory integration strategies when working with a child with AD/HD. This gave the researcher more insight into this phenomenon.

At the end of the study the researcher made recommendations and conclusions that can be used as guiding principles by professionals working in this particular field.

## **1.5. ETHICAL ASPECTS**

The fact that human beings are the objects of study in the social sciences brings to the forefront unique ethical problems which would never be relevant in the pure, clinical laboratory settings of the natural sciences (Strydom, 2005(a):56). For the researcher in the social sciences, the ethical issues are pervasive and complex, since data should never be obtained at the expense of human beings (Strydom, 2005(a):56).

Strydom (2005(a):58-66) identified certain ethical issues; those relevant to the study are discussed below.

- Avoidance of harm

An ethical obligation rests with the researcher to protect subjects within reasonable limits. The responsibility for protecting respondents against harm reaches further than merely attempting to repair or minimise such harm afterwards. Respondents should be thoroughly informed about the potential impact of the investigation beforehand. Such information offers the respondents the opportunity to withdraw from the investigation if they wish to do so (Strydom, 2005(a):58).

For the purpose of this study, the researcher informed all the respondents verbally about the intent and the possible impact of the study, as well as the fact that they could withdraw at any stage if they should wish to do so. The information required could be too revealing to talk about, for example, or the experience of the research could be too emotional for the respondent.

- Informed consent

Obtaining informed consent implies that adequate information on the goal of the investigation, the procedures which will be followed during the investigation, the possible advantages, disadvantages and dangers to which respondents may be exposed and the credibility of the researcher should be made available to potential subjects or their legal representatives (Strydom, 2005(a):59).

The researcher discussed the above-mentioned issue with all respondents. She gave the respondents a contract that explained the impact and confidentiality of the research, their right to participate freely and the fact that they could quit at any time should they wish to do so. An example of the informed consent document is attached in appendix A. All of the respondents gave their consent to participate as well as to video tape the interview after permission was asked by the researcher.

- Deception of subjects and/or respondents

The deception of subjects can be described as deliberately misrepresenting facts in order to make another person believe what is not true, thereby violating the respect to which every person is entitled (Loewenberg & Dolgoff in Strydom, 2005(a):60).

The researcher made sure that no information was withheld from any of the participants and that no incorrect information was given to them at any time during the research. This ensured that all the participants were fully informed and that they were aware of the fact that they could withdraw from the research if they did not agree with the information given and the goals of the research.

- Violation of privacy / anonymity / confidentiality

Strydom (2005(a):61) defines privacy as that which is normally not intended for others to observe or analyse. The right to privacy implies that it is the individual's right to decide when, where, to whom and to what extent his or her attitudes, beliefs and behaviour will be revealed. This principle can be violated in a variety of ways, and it is imperative that researchers should be reminded of the importance of safeguarding the privacy and identity of respondents, and that they should act with the necessary sensitivity when the identity of subjects is revealed (Strydom, 2005(a):61).

The researcher revealed all information with confidentiality, by not making known any names and details that she had not been given consent to reveal. No information was discussed or revealed without written consent from the participants. This was discussed with all participants involved in the research. Only the researcher had access to all the information. The researcher made use of pen names instead of the participants' real identities if they so wished.

- Actions and competence of the researcher

Strydom (2005(a):63) says that the entire research project must run its course in an ethically correct manner. In the case of sensitive investigations, this requirement is even more important. The researcher has an obligation towards all colleagues in the scientific community to report on the analysis of data and the results of the study accurately.

The researcher honoured the ethical guidelines as discussed above throughout the entire research procedure, from the composition of the research population, the sampling procedure, the utilisation of the methodology and the processing of the data to writing the research report. This research study was completed with the guidance of the supervisor. The researcher made herself aware of the values and norms of the community where the research was conducted. She put her opinion and judgements aside and did not let it affect her objectivity towards the study.

- Release or publication of the findings

According to Strydom (2005(a):65) the findings of a study must be introduced to the reading public in writing, otherwise the research will not be viewed as research. According to Dane in Strydom (2005(a):65) such a report should be as clear as possible and should contain “all the information necessary for readers to understand what you have written”.

The researcher compiled the report as accurately and objectively as possible and kept the above-mentioned statement in mind while doing so. All the findings and information are presented in the research report.

## **1.6. DEFINITIONS OF TERMS AND KEY CONCEPTS**

For the purpose of this study, the following concepts are defined:

### **1.6.1 Attention Deficit/Hyperactivity Disorder (AD/HD)**

Attention Deficit/Hyperactivity Disorder is a persistent pattern of inattention and/or hyperactivity/impulsivity that is displayed more frequently and more severely than is typically observed in individuals at a comparable level of development, according to the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000:85). Taylor (1995:2) gives a definition of AD/HD by dividing it in two parts: inattention and hyperactivity. Inattention, according to Taylor (1995:2), is when a child has a very short attention span so that they engage only briefly in constructive activities. Hyperactivity is a pattern of very restless and impulsive behaviour. According to the researcher’s definition of AD/HD these children may have extreme problems with impulsivity and attentiveness and sometimes display acts of overactivity.

### **1.6.2 Sensory integration**

Sensory integration is the process whereby sensory input is perceived and processed and a response is generated (Richardson, 2006:31). According to Kranowitz (1998:8) sensory integration problems are caused by the inability to

process information received through the senses. According to the researcher's definition of sensory integration it is the process whereby sensory input is registered and filtered in the brain for purposeful use.

### **1.6.3. Child**

A child is (i) a person from the time of birth to the time he becomes an adult; (ii) a newly born or unborn baby; (iii) a son or daughter of any age (Cobuild, 1987:234-235). A child is a person under the age of 18 years in terms of the Child Care Act of 1983 (Terminology Committee for Social Work, 1995:8).

### **1.6.4 Gestalt therapy**

Gestalt is a German term and can not be directly translated in English. English and English (1958:2753) defined the term Gestalt as a form, a configuration or a totality that has, as a unified whole, properties which cannot be derived by summation from the parts and their relationships. It may refer to physical structures, to physiological functions or to symbolic units. According to the researcher Gestalt therapy focus on the human as a whole and includes all parts, units or people in his or her life. It is non – threatening and and non analitical but descriptive and uses several of techniques during therapy.

According to the researcher a child is a person, male or female, under the age of 18 years, who is still developing mentally, physically, emotionally and spiritually.

## **1.7. LAYOUT OF CHAPTERS**

This research study consists of four chapters.

Chapter 1 consists of the general introduction to and explanation of the study. This chapter explains the research methodology used, the goals and objectives, the purpose of the study and a concise layout of the research study.

Chapter 2 consists of a literature study, where an exploration regarding the use of sensory integration with a child diagnosed with AD/HD was done. This

literature study aimed to explore all the literature applicable to the research in order to gain an enhanced understanding of the research topic.

Chapter 3 consists of the results of the empirical study. These include data from the semi-structured interviews and the analysis of the interviews.

Chapter 4 consists of the summary, conclusion and recommendations for the study.

## **1.8 CONCLUSION**

A research question had been determined before the research was conducted. The researcher set aims and goals for the research study in order to provide a framework for it. The research is a qualitative study which is exploratory and descriptive. Semi-structured interviews were conducted with three respondents. An instrumental case study strategy was used for the research and a literature control was done. After the interviews had been conducted, the researcher analysed the data collected. Ethical aspects were considered and focused on throughout the study.

In chapter 2 the researcher discusses topics relevant to the research. These topics include AD/HD, causes of AD/HD, subtypes, the use of medication and comorbid disorders, sensory integration, the senses and integration difficulties, as well as Gestalt therapy.

## **2. CHAPTER TWO: LITERATURE STUDY**

### **2.1 INTRODUCTION**

Attention Deficit/Hyperactivity Disorder (hereafter referred to as AD/HD) is a well-known term these days. A lot of research has been done on the causes of AD/HD and its treatment in terms of medication. However, there are a few other treatment options that can be used with or without medication. The researcher wants to explore one of these options: the use of sensory integration strategies when working with children with AD/HD. The researcher will conduct the research with the Gestalt approach as foundation. Gestalt therapy is aimed at getting the child to the here and now. One technique that is used to enable the child to get to the here and now utilises sensory modalities (Schoeman, 2004:137).

The researcher will first look at information about AD/HD in order to understand its symptoms and causes. The researcher will then explore the use of sensory integration strategies with the AD/HD child and Gestalt therapy's view on sensory modalities and AD/HD.

### **2.2 DIAGNOSIS OF AD/HD**

AD/HD can be defined as a biochemical imbalance in certain areas of the brain. There is a strong genetic component involved, which means that AD/HD is strongly hereditary (Bester, 2006:28). Green and Chee (1997:16) agree with Bester that AD/HD is strongly hereditary and that there is an unusual imbalance in the neurotransmitters, i.e. the message-transmitting chemicals of the brain.

AD/HD is diagnosed according to a list of diagnostic criteria or symptoms that are specified in the Diagnostic and Statistical Manual (referred to as the DSM-IV). There is no blood or urine test or other clinical examination such as a scan that can be used to diagnose AD/HD (Silver, 1998:207). In section 2.2.1 the researcher will give a brief summary of the diagnostic criteria for AD/HD as explained in the DSM-IV. These criteria explain the specific symptoms of AD/HD. Although the research study does not focus only on children who are diagnosed

but also on those who are undiagnosed but are showing symptoms of AD/HD, it is important to have a clear understanding of what the specific criteria and symptoms of AD/HD is.

Hallowell and Ratey (1995:6) state that one does not base the diagnosis of AD/HD on the mere presence of these symptoms, but on their severity and duration and the extent to which they interfere with everyday life. This statement is important when looking at the diagnostic criteria, because the symptoms may occur in many children's behaviour, but the parents may only feel the need to find help for their children when these symptoms are severe and interfere with their everyday life. According to Hallowell and Ratey (1995:41) the diagnosis lies mainly in the history of the child. It should thus be taken into consideration when a diagnosis is made, because it will provide information on the severity and manifestation of his behaviour in different environments. The DSM-IV (American Psychiatric Association, 2000:40-41) supports these statements of Hallowell and Ratey that the history, severity and manifestation of the child's behaviour are imperative to the diagnosis.

In the next section of the literature study the researcher will focus on the diagnostic criteria for AD/HD. This will be helpful to understand the symptoms and conditions as set out by the DSM-IV.

### **2.2.1 DSM-IV diagnostic criteria for AD/HD**

In this section the basic symptoms of AD/HD as well as the conditions for diagnosis based on the DSM-IV will be discussed as described by the American Psychiatric Association (2000:40).

#### Section 1: Inattentiveness

- The person often fails to pay close attention to detail and makes careless mistakes in schoolwork or activities.
- The person often has difficulty sustaining attention during tasks and play activities.
- The person often appears not to hear when he is addressed directly.
- Tasks are often not completed.

- The person often avoids, dislikes or is reluctant to engage in tasks that require sustained mental effort.
- The person finds it difficult to organise tasks.
- Items essential to the performance of tasks or activities are often lost, for example toys, notes and pencils.
- The person is easily distracted by extraneous stimuli.
- The person is frequently forgetful in daily activities.

### Section 2: Hyperactivity

- The person often fidgets with his hands or feet or squirms in his seat.
- The person often leaves his seat in the classroom or in other situations where he is expected to sit still.
- He runs or climbs about excessively and inappropriately.
- He often has difficulty playing or engaging in leisure activities quietly.
- The person is often “on the go” or behaves as if he is “motor driven”.
- He often talks excessively.

### Section 3: Impulsivity

- The person often blurts out answers before questions have been formulated completely.
- The person often finds it difficult to await his turn.
- He often interrupts others or intrudes on them during conversations or games.

Before a diagnosis of AD/HD can be made according to the criteria above, the following important conditions must be met:

1. The symptoms must be present continuously for at least six months.
2. The symptoms must be inconsistent with the child’s developmental level.
3. The symptoms must have started to manifest before the age of seven.
4. The symptoms must be causing adaptation problems.
5. The symptoms must be present in at least two environments (at school and at home).

6. At least six symptoms in the list above under “inattentiveness” or six of the symptoms under “hyperactivity” and “impulsivity” must be present (American Psychiatric Association, 2000:40).

It is essential to understand the criteria for diagnosis because it explains the symptoms of AD/HD clearly. Understanding these criteria will help not to confuse overactiveness, for example, with AD/HD. It is important to know that there is a difference between attention deficit disorder (hereafter referred to as ADD) and AD/HD. Children with ADD mostly have problems with inattention, but are not hyperactive and are less impulsive than children with AD/HD. Diagnosis can be made from the age of six years (Bester, 2000:46). Stordy and Nicholl (2002:27) state that symptoms have to be present for at least six months, and some of the symptoms need to have appeared before the age of seven.

### **2.2.2 The three subtypes of AD/HD**

Three subgroups of AD/HD can be identified, namely dreamers, “fidgeters” and tornados. These three categories are based on the different symptoms of AD/HD, which do not manifest in all three types of AD/HD. About 85% of AD/HD sufferers are diagnosed with the “combined type”, i.e. they display all three basic symptoms (Bester, 2006:33). Gottlieb, Shoaf and Graff (2006:3) agree with the three subgroups of AD/HD as explained above.

According to Bester (2000:35) the dreamers are usually not diagnosed because of their dreamlike behaviour. They are mostly described as quiet and obedient children. The dreamers’ thoughts are not always on the work or task at hand, but in an imaginary state. They fall behind in certain subjects because of their daydreaming during class time. They are usually very creative, but find it difficult to concentrate during maths or science.

Bester (2000:37-38) explains that the “fidgeters” will have six or more symptoms in the inattentiveness category of the criteria in the DSM-IV and at least one symptom under the hyperactivity category. They do seem less impulsive, however. They are usually not diagnosed with AD/HD, but rather with ADD, although they are more active than the “normal” child of that age. The behaviour

of these children may seem like that of someone with a slight form of Tourette's syndrome, or they may show behaviour that has an obsessive compulsive nature, for example bouncing the eraser three times or having to tap each finger a certain amount of times on the desk. They usually have a fantasy friend, for example a "Power Ranger" or "Teletubby", that has to be present, especially in situations where they feel threatened or acquire a lot of attention.

The last subtype is the tornados. They are children with AD/HD and the focus is on their hyperactivity, which differentiates them from the other subgroups (Bester, 2000:41). Gottlieb *et al.* (2006:3) explain that many characteristics of both types manifest in the combined type of AD/HD, therefore inattention, hyperactivity and impulsivity can be observed in more than one area of their lives. The researcher will focus on this group of children throughout the research study.

## **2.3 CAUSES OF AD/HD**

As mentioned earlier in this chapter, research showed that a chemical imbalance is the cause of AD/HD. There is no clarity as to what causes this imbalance. The biochemical imbalance results in deficient stimulation of the brain in the areas that control the person's ability to concentrate and his reaction to impulses (Bester, 2006:32). The prefrontal cortex, in the front of the brain, regulates attention and inhibits the processing of irrelevant stimuli, which helps to sustain attention. The cerebellum and basal ganglia are located toward the rear and base of the brain, and they help with the coordination of movement.

Deficits in the basal ganglia and cerebellum would not only make it hard for a child to sit still, but would also affect the child's coordination (Gottlieb *et al.*, 2006:6) According to Green and Chee (1997:3) an AD/HD sufferer's brain underproduces certain neurotransmitters. The neurotransmitters that are possibly deficient in AD/HD sufferers are dopamine, noradrenalin and serotonin. They play an important role in the brain's process of transmitting information from one brain cell to another (Bester, 2006:32). These neurotransmitters, which are chemical elements, are secreted in the space between two brain cells and are partially absorbed by the adjacent cell. Enzymes destroy the surplus

neurotransmitting molecules, so that the neurons don't keep on sending messages. Ritalin and other substances influence this process (Bester, 2006:32). The use of medication such as Ritalin will not be explained in detail in this study, although a brief summary will be given.

As geneticists have availed themselves of advances in molecular biology in order to study the heredity of AD/HD, it has become clear that AD/HD is highly heritable. These scientists have recently identified specific locations on certain genes that play important roles in AD/HD (Ingersoll, 1998:66). Green and Chee (1997:4) support this statement by stating clearly that AD/HD is a strongly hereditary condition. Most children have a close relative who is affected by the same problem to some degree.

## **2.4 THE USE OF MEDICATION**

The researcher provides a brief discussion on the different types of medication that are used specifically to relieve the symptoms of AD/HD. Having the basic knowledge of medication for AD/HD is imperative, because a large number of children with AD/HD are using medication. If a child is diagnosed, the question of using medication or not is one of the main concerns for parents and an informed decision has to be made. Given that the medication does have an influence on the brain, and especially on the behaviour of these children, it is important for therapists to know how the medication works, what its influence is on the brain and why it alters behaviour.

Stimulants such as Ritalin improve one's ability to block out irrelevant thoughts and impulses. There are basically two theories about the function of Ritalin. One theory holds that Ritalin acts chemically like dopamine and therefore acts as a synthetic addition to dopamine in the brain. The second theory is that the stimulant (Ritalin) helps release neurotransmitters such as dopamine and noradrenalin that have already been formed, and that it cannot influence the generation of neurotransmitters (Taylor in Bester, 2006:126).

Garber, Garber and Spizman (1996:89) state that Ritalin increases the availability of neurotransmitters. The stimulant causes the release of

neurotransmitters from nerve cells and also blocks their re-uptake. These effects lead to an increase in dopamine and norepinephrine concentration at the receptors on the receiving nerve cells, which in its turn enhances the function of the prefrontal cortex (Gottlieb *et al.*, 2006:7). According to Bester (2006:126) Ritalin has an active constituent named methylphenidate hydrochloride and increases the alertness or arousal of the central nervous system (Garber *et al.*, 1996:89). Thus it is a central nervous system stimulant. Ritalin comes in different forms, namely:

- Ritalin. The “normal” white tablet containing 10 mg of methylphenidate hydrochloride. The efficiency period is about four hours.
- Ritalin SR 20 (slow release). This is a white film-covered tablet containing 20 mg of methylphenidate hydrochloride. The efficiency period is about eight hours.
- Ritalin LA 20, Ritalin LA 30 and Ritalin LA 40 (long-acting). Ritalin LA 20 is a white opaque capsule, Ritalin LA 30 is a yellow opaque capsule, and Ritalin LA 40 is a light brown opaque capsule, each containing white granules. Half of the methylphenidate hydrochloride is absorbed immediately. The other half in the modified release capsules is only absorbed about four hours later.

Concerta was released in 2005. Its active constituent is methylphenidate. It functions more or less in the same way as Ritalin. It is available as an 18 mg yellow tablet, a 26 mg white tablet and a 54 mg reddish brown tablet. The concentration peak is usually reached six to eight hours after administration (Bester, 2006:128). This medication lasts between six and twelve hours, depending on the child’s absorption rate (Gottlieb *et al.*, 2006:11).

According to Du Plessis (2006), a psychiatrist specialising in treating children and adolescents with AD/HD, Strattera is the newest medication on the market for people with AD/HD. It was researched about ten years ago and works on noradrenalin and not on dopamine. This is the only tablet that does not have abuse potential. This medication takes a few days to start having an effect. According to Gottlieb *et al.* (2006:10) it is important to note that non-

administration of non-stimulants such as Strattera over weekends or holidays should be avoided, as they need to be taken daily to be most effective.

Medication can only be obtained with a prescription from a doctor or medical practitioner. It is better, however, to ask the opinion of a paediatric psychiatrist or paediatric neurologist, because they specialise in abnormal behaviour of children. The types of medication mentioned above are not indicated for children younger than six years of age. There are a lot of supplements recommended for these children, but for the purpose of this study the researcher will not elaborate on supplement intake and eating habits. However, it is important to have knowledge of medication for children suffering from AD/HD.

According to Hallowell and Ratey (1995:237) it is important to note that medication will be effective about 80% of the time, but finding the right medication and the right dosage can take several months of “trial and error”. Gottlieb *et al.* (2006:7) states that stimulants help improve AD/HD symptoms in 70% to 90% of children. They support the statement that it is a process of “trial and error”, because children react differently to different medication. There are a lot of children with AD/HD who are on medication, and others who have symptoms of AD/HD but are not diagnosed and are therefore not on medication. The research study includes both these groups of children suffering from the symptoms of AD/HD.

## **2.5 COMORBID DISORDERS AND AD/HD**

There are a few disorders that can be associated with AD/HD and are seen as comorbid disorders. It is important that a clear distinction is made between AD/HD and other disorders with behavioural patterns resembling the behaviour of children with AD/HD. Some children with AD/HD are diagnosed with a comorbid disorder which is treated separately from AD/HD. For the purpose of the research study the researcher will only give examples of these disorders. As explained by Ingersoll (1998:26-43) and Green and Chee (1997:45) the following can be comorbid disorders:

- Oppositional defiant disorder

- Conduct disorder
- Mood disorders, for example depression, dysthymic disorder, bipolar disorder
- Anxiety disorders, for example separation anxiety disorder, phobic disorder, obsessive compulsive disorder
- Tic disorder (Tourette's syndrome)
- Learning disabilities
- Developmental speech and language disorders
- Medical problems, for example ear infection or hearing loss, low blood protein levels, allergies and many more
- Sensory defensiveness, for example oversensitivity to light or unexpected touch, sudden movement, sound, et cetera

Having knowledge of these comorbid disorders could help not to misdiagnose or mistake some of the symptoms of AD/HD for another disorder. Such knowledge could also help to understand the child's behaviour better and to acknowledge when there is a comorbid disorder with AD/HD. This will provide guidance regarding the treating plan for the child.

In the next sections the focus will be firstly on sensory integration, after which sensory integration will be discussed and integrated with theories on AD/HD.

## **2.6 SENSORY INTEGRATION**

Sensory integration is the neurological process of organising the information we receive from our bodies and from the world around us for use in everyday life. This process occurs in the central nervous system, which consists of countless neurons, the spinal cord and the brain. The main task of our central nervous system is to integrate the senses. When our brain processes sensory information efficiently, we respond appropriately and automatically. We do this because our brain is equipped to modulate sensory messages (Kranowitz, 1998:42).

Thus, the received information from the world around us is sent to the brain, where it is registered, processed and finally connected with the other incoming information. This is an ongoing process that enables the central nervous system

to develop and mature. Besides the five senses of sight, hearing, taste, touch and smell there are two others of which few people are aware. These are the sense of movement (vestibular sense) and of body or joint position (proprioceptive sense), which help us to move our arms and legs without having to watch them and to maintain our balance. Information from the sensory organs is constantly interpreted and this affects the way people react to the world (Picton, 2002:126).

“Attention” comprises several components: perceiving visual and auditory information, selecting which incoming information is more important and should be focused on, inhibiting other information, switching to focus on another source of information when necessary, and holding onto the information in one’s mind so that it can be analysed or stored as needed. Children with AD/HD usually have difficulties in these areas of attention (Gottlieb *et al.*, 2006:4).

The researcher will focus on the difficulties that children experience when they have sensory integration problems in certain areas. The researcher will then relate these sensory integration difficulties to children who have AD/HD.

### **2.6.1 Sensory integration difficulties**

Inappropriate sensory integration takes place when the body reacts inappropriately by either overreacting or underreacting to a stimulus (Picton, 2002:126). Sensory integration difficulties can be described as the result of inefficient neurological processing (Kranowitz, 1998:8). Poor integration of sensory input might result in inappropriate avoidance or sensory seeking behaviour. The child might for example refuse to wear shoes, even in cold weather, or may refuse to remove his jacket when it is hot. Silver (1998:77) states that if a child has an auditory perception problem he will appear to have auditory distractibility, which can lead to hyperactive or other behaviour.

Emotions play a pivotal role in sensory integration and symptoms become far more severe when a child is stressed. Inappropriate sensory integration can result in inappropriate emotional responses, such as aggression, tantrums and withdrawal. To help overcome the effects of integration problems, children

subconsciously develop coping strategies ranging from thumb sucking to chewing clothing. Allowing the child to continue with this activity may indeed help him in his attempts to organise himself and tackle the task at hand. Deep, firm pressure like a back rub, massage or a firm hug could also reduce defensiveness (Picton, 2002:127).

### **2.6.2 Sensory integration defensiveness**

Another aspect of inappropriate sensory integration is sensory defensiveness. This involves the overreaction of the senses, resulting in harmless situations being interpreted as painful, threatening or uncomfortable. Sensory defensiveness can dominate a child's behaviour and affect the way he interacts with the world around him. A child displaying annoying or intolerable behaviour might only be trying to survive in a world he experiences to be unpleasant, hostile or dangerous (Picton, 2002:127). When these children are tactile sensitive, they will squirm or fidget during class (Silver, 1998:78).

The ability to attend to a task depends on the ability to screen out, or inhibit, nonessential sensory information, background noises or visual information. The child with sensory integration difficulties may frequently respond to or register sensory information without this screening ability and is considered distractible, hyperactive or uninhibited (Picton, 2002:127). Distractibility makes it difficult for the child to filter out unimportant stimuli in the environment and to filter his own thoughts so that he can focus on only one thing. As a result he has difficulty sustaining attention, i.e. he has a short attention span. The brain has a series of filter systems that screen out unimportant stimuli or thoughts', allowing the person to focus on what is important. With AD/HD the filter systems does not work effectively, which can lead to impulsiveness, hyperactivity and distractibility, all being symptoms of AD/HD (Silver, 1998:251). Depending on which system is ineffective, the individual will experience auditory, visual or internal distractibility.

Children with sensory integration difficulties can therefore have a variety of symptoms. Because their central nervous system is inefficient in processing sensory information, children with this hidden difficulty have a hard time functioning in everyday life. They may appear to be fine and have superior

intelligence, but may be clumsy, fearful and withdrawn, or hostile and aggressive. Sensory integration difficulties can affect how children learn, move and, importantly, how they behave, play and make friends. Most parents, educators and doctors have difficulty in recognising when a child has sensory integration problems. They may mistake a child's behaviour, low self-esteem or reluctance to participate in ordinary childhood experiences for hyperactivity, learning disabilities or emotional problems (Kranowitz, 1998: xxi).

### **2.6.3 Behavioural problems associated with sensory integration difficulties**

A child struggling with sensory integration difficulties might exhibit the following behavioural problems:

- An unusually high activity level. They may be always on the go, move with abrupt and nervous gestures, play or work aimlessly, and may be quick-tempered and easily excited.
- Impulsivity. The child may lack self-control and may be unable to stop after starting an activity. They may, for example, squeeze the glue bottle until it is empty or talk out of turn.
- Distractibility. The child may have a short attention span, even for activities that he enjoys. He may pay attention to everything except the task at hand. He may be disorganised and forgetful.
- Social problems. The child may find it difficult to get along with friends, as well as making friends, playing with other children and communicating. He may need to control his surrounding territory and may have trouble sharing toys.
- Emotional problems. The child may be overly sensitive to change and stress and may be disorganised and irrational. He may be demanding and needy, seeking attention in any way. He may be unhappy, believing and saying that he is crazy, no good, a dummy, a loser and a failure (Kranowitz, 1998:14-16).

The behavioural problems as stated above, commonly exhibited by children with sensory integration problems, resemble some of the symptoms of AD/HD.

Although children with AD/HD do not always have problems with sensory integration, and vice versa, this is an interesting aspect to keep in mind.

Inattention, impulsivity and fidgety movement are definitely symptoms of sensory integration difficulties. ADD can be defined as “a neurological syndrome characterised by serious and persistent inattention and impulsivity. When constant, fidgety movement (hyperactivity) is an additional characteristic, the syndrome is called attention deficit disorder with hyperactivity (AD/HD). Inattention, impulsivity and fidgety movement are therefore symptoms of ADD and AD/HD as well. Sensory integration problems may seem like AD/HD, and some symptoms may overlap. However, optimum treatment for the two problems differs. Before jumping to conclusions and leaping to drug therapy, parents and professionals need to look at the child while keeping every aspect in mind. Only then can we determine what will help most (Kranowitz, 2000a). The common area of the problem with sensory modulation and AD/HD concerns the reticular formation and the limbic system in the brain, which is why these disorders are linked so closely (Cook, 2004).

## **2.7 THE SENSES AND SENSORY INTEGRATION DIFFICULTIES**

The researcher will briefly explain and integrate the different senses and individual problems that can arise if there is difficulty with sensory integration.

### **2.7.1 Tactile defensiveness**

There are nerve endings in our skin that relay information about touch. Some are near the surface and respond to light touch, while others are deeper and respond to deep touch or pressure. Some children misperceive messages from these nerve endings and have tactile difficulties (Silver, 1998:43). A gentle touch is a pleasant experience for most people. It is a sign of affection and is usually happily accepted. But for the tactile defensive child, exactly the opposite is true – he may reject the caress and be highly irritated by it (Picton, 2002:128). The tighter the child is cuddled, the more he will cry and struggle to get away from the touch (Silver, 1998:43). For parents this is very difficult, because they experience this reaction as a rejection of them and their affection. Once they understand the

situation, however, they can give their child the affection that he craves and accepts.

Any physical contact with a tactile defensive person should be definite and firm. Avoid tickling his feet, stroking his cheek or playing with his hair, because his reaction might be interpreted as aggressive. A tactile defensive child often complains about his clothes – the fabric scratches, irritates or annoys him. The unpleasantness of changing clothes will stop him from taking off the piece of clothing that bothers him. These children are usually restless and fidgety (Picton, 2002:128).

According to Silver (1998:43) the scalp is very rich in nerve endings. The child might cry and be upset when you wash, brush, cut or comb his hair. These children prefer deep touch. Squeezing hard and rubbing deeply will irritate them less than light touch.

Tactile defensiveness can affect eating habits. These children avoid certain foods because they dislike the texture. They may avoid mouthing toys as babies and lose out on a valuable learning experience. At school unpleasant situations of a different kind can arise. They interpret casual touch as threatening – in situations such as standing in line they are likely to retaliate quite forcefully if anyone pushes against them. In the classroom they feel uneasy if someone leans forward and touches them (Picton, 2002:128). This is because they avoid getting too close to other people. They will not sit with the class during circle time and will rather stand at the back of a row (Silver, 1998:44). It is difficult enough for them to concentrate without the added anticipation of touch from behind (Picton, 2002:128).

### **2.7.2 Visual problems**

The tactile system plays an important part in the development of visual perception, i.e. the way the brain interprets what the eyes see. By touching objects children store memories of their characteristics and their relationship to one another. Looking at a puddle, for instance, the child perceives that it is wet,

cool and fun to splash in, even without touching it, because he has touched puddles before (Kranowitz, 1998:81).

Vision is a complex process that enables us to identify sights, to anticipate what is “coming for us” and to prepare for a response (Kranowitz, 1998:115). Vision should not be confused with eyesight. Eyesight is the ability to see the television set on the table, but this is only one part of vision. Good eyesight is a prerequisite for vision. Eyesight contributes to our basic visual skills, called ocular motor (eye movement) skills. The vestibular system has a profound effect on these motor skills, for example fixation (aiming our eyes or shifting our gaze), tracking (following moving objects with accuracy), focusing (switching our gaze quickly and smoothly between near and distant objects), and binocular vision (forming a single mental picture from the images that the two eyes record separately, such as looking into the sky with both eyes to see only one moon).

Children with visual problems may be overwhelmed by objects and people moving around them (Kranowitz, 1998:116-117). Silver (1998:40) supports this theory of visual perception. He specifies visual motor skills in terms of the effect of the child’s vision, the brain’s interpretation of the incoming information and the body’s reaction to the message from the brain. According to Silver (1998:40) vision plays a vital role in sensory integration when a child experiences difficulties in class, on the playground and in everyday life.

### **2.7.3 Auditory defensiveness**

Auditory processing is the transfer of information from the ear to the brain and involves the brain’s analysis and interpretation of the information. Because this process involves the ability to pay attention, children with AD/HD often have poor auditory processing abilities (Picton, 2002:134).

People with auditory defensiveness cannot stand loud noises unless they are in control and making these noises themselves. Sometimes they make a tremendous amount of noise just to drown out a particular sound that is irritating to them. The most unexpected sounds could upset them – it could even be the

rustling of a supermarket bag (Picton, 2002:128). Behavioural problems thus may just be symptoms of frustration (Picton, 2002:135).

According to Silver (1998:41) some children may have difficulty distinguishing subtle differences in sound. There are forty-four units of sound in the English language, called phonemes. Each letter has a different sound. Children with auditory difficulties may have problems distinguishing subtle differences in these phonemes. They might confuse words like “blue” and “blow”. Some children may have difficulty with auditory figure-ground. An example of this is when a child is watching television in a room where others are playing or talking and you call out to him a few times from another room – he might only distinguish your voice by the third call. It may seem that he never listens or pays attention.

When a teacher asks the class to sit down and open their books at problem number five, the child with auditory figure-ground will only start registering the information when the teacher says “number five”. This could come across as not paying attention, but the fact of the matter is that some children cannot process sound inputs as fast as other people can. It is as if these children have to concentrate on what they are hearing for a fraction of a second longer before they understand it. Only then can they focus on what is being said. They miss parts of what is being said and are consequently confused. These children do not realise that they are missing parts of a conversation, but others may perceive them as not paying attention (Silver, 1998:42).

#### **2.7.4 Speech and language problems**

Speech is the ability of a person to produce the sounds of his spoken language. By the time a child is seven years of age he should have mastered all the speech sounds of his language and should be able to pronounce them correctly. Language has three components from: sounds, words and grammatical rules; content or meaning; and use – the different purposes for which language is used. Language deficits interfere with the ability to learn and are common among children with ADD and AD/HD (Picton, 2002:135).

### **2.7.5 Vestibular sense**

The vestibular system tells us where our heads and bodies are in relation to the surface of the earth. This system takes in sensory information about balance and movement from the neck, eyes and body, sends these messages to the central nervous system for processing and then helps generate muscle tone, which allows us to move. The vestibular system tells us whether objects are moving or whether we are moving and in what direction we are moving. The receptors for vestibular sensations are in the inner ear – a “vestibule” through which sensory messages move. The vestibular system registers every movement we make and every change in position – even the most subtle one. Movement and gravity stimulate these receptors (Kranowitz, 1998:98). Silver (1998:45) supports the above-mentioned statements by explaining that the nerve endings in the inner ear (semicircular canals) inform the brain of the head’s position, thus the body position in space. This is essential for handling the impact of gravity in space. This allows you to stand on one leg and maintain your balance, or to ride a bicycle while maintaining your balance.

According to Silver (1998:45) children with vestibular perception difficulties will have problems with climbing on a jungle gym, for example. They may become anxious or uncomfortable with sudden changes in body position. These children will have weak upper back muscles and will prefer to rest their head on the desk or to lie down from time to time.

The following is stated in this regard (Ayres in Kranowitz, 1998:99-100):

The vestibular system is the unifying system. It forms the basic relationship of a person to gravity and the physical world. All other types of sensation are processed in reference to this basic vestibular information. The activity in the vestibular system provides a framework for the other aspects of our experience. Vestibular input seems to “prime” the entire nervous system to function effectively. When the vestibular system does not function in a consistent and accurate way, the interpretation of other sensations will be inconsistent and inaccurate, and the nervous system will have trouble “getting started”.

This is a clear indication of the huge influence the vestibular system has on the human body and the integration of sensory information. Vestibular problems involve the inefficient processing in the brain of sensations perceived through the inner ear. The child with vestibular problems is thus inefficient at integrating information about movement, gravity, balance and space. They may be oversensitive or both over- and undersensitive. The child will have problems with sitting up straight, for example. Children with hyposensitivity to vestibular movement simply do not get enough of movements that are sufficiently satisfying for others. The child may seek intense movement sensations such as jumping or running fast when a sedate pace would do. Some enjoy rocking their bodies forward and back for periods of time or shaking their heads vigorously from side to side. According to Silver (1998:45) children who feel deprived of vestibular stimulation might try to create stimulation by spinning in a chair or swinging in a swing. These actions may be perceived as the child being inattentive and hyperactive, because they never sit still. Their attention span may be short, even for activities they enjoy, and their attention will wander from one activity to the next (Kranowitz, 1998:106).

A lot of other factors also play a role in children with sensory integration difficulties. Such a child might be bothered by the label in his T-shirt, for example, or the approach of a classmate, the lumps in his mashed potatoes, or the stickiness of the play-dough. They are sometimes fidgeting and squirming in the classroom and pay a lot of attention to avoiding these ordinary sensations. Meanwhile, he is unable to pay much attention at all to the teacher's words or to playground rules (Kranowitz, 2000a).

A child who has difficulty processing movement and balance sensations needs to move around much more than his peers in order to get enough stimulation to concentrate or sit still for a while. Such a child craves intense, vigorous movement. He often rocks, sways, twirls, jumps, climbs, leaps, gyrates and gets into upside-down positions. He pays a lot of attention to satisfying his need for movement, and not much attention to his parent's instructions or to where he left his shoes, for example (Kranowitz, 2000a).

## **2.8 CAUSES OF SENSORY INTEGRATION DIFFICULTIES**

According to Kranowitz (1998:23) the causes of sensory integration problems have not been determined, but current research suggests the following:

1. A genetic or hereditary predisposition.
2. Prenatal circumstances, including chemicals, medication or toxins such as lead that the fetus absorbs, the mother's drug or alcohol abuse, and pregnancy complications.
3. Prematurity.
4. Birth trauma due to an emergency caesarean, a lack of oxygen or surgery after birth.

However, the exact cause has not been identified. Sensory integration problems sometimes just happen with no identifiable cause. But according to Kranowitz (1998:24) the treatment for sensory integration difficulties always stays the same.

## **2.9 AD/HD AND SENSORY INTEGRATION: A STUDY BY WINNIE DUNN**

Winnie Dunn, an occupational therapist and specialist in sensory integration, did a research study with children without disabilities, children with AD/HD, children with autism, and children with other disabilities (Dunn, 1999:41). During this research, Dunn used score sheets to determine if the children had high or low thresholds so that she could ascertain whether they had any sensory integration difficulties. For the purpose of this research study, the researcher will only refer to the outcomes of the above-mentioned study that are related to children with AD/HD. A brief summary regarding high and low thresholds is given, relating to the research study by Dunn.

Behaviour consistent with sensitivity to stimuli represents low neurological thresholds and a tendency to act in accordance with those thresholds. Children who have sensitivity to stimuli tend to be distractible and may display hyperactivity (Dunn, 1999:35). These children respond to stimuli frequently and need little sensory input. They are thus sensation avoiding. On the score sheets

these children primarily received low scores during the research (Dunn, 1999:33).

Children who are sensory seeking add sensory input to every experience in their daily lives. They make noises while working, fidget and chew things (Dunn, 1999:36). They have a high threshold to stimuli and poor registration of stimuli. A child with high thresholds scores high marks on the score sheets used during the research.

The AD/HD child is commonly sensory seeking, emotionally reactive and given to inattention or distractibility. Behaviour that indicates this includes distractibility, poor frustration tolerance, a lack of ability to learn from mistakes, and impulsivity during everyday life. Behaviour common to AD/HD primarily involves visual and tactile processing. The child has difficulty with organising sensory input in order to design and carry out appropriate responses at home and school (Dunn, 1999:44).

## **2.10 AN ECOLOGICAL MODEL OF SENSORY MODULATION RELATING TO AD/HD**

The term “modulation” refers to both physiological and behavioural responses. Behaviourally, the term refers to the ability of an individual to regulate and organise responses to sensations in a graded and adaptive manner, congruent with situational demands. Physiologically the term refers to cellular mechanisms of habituation and sensitisation that alter the structure and/or function of nerve cells, affecting synaptic transmission (Roley, Blanche & Schaaf, 2001:57). Sensory modulation is based on the basic principles of sensory integration and thus relates directly to them. Dysfunction in sensory modulation is defined as a problem in regulating and organising the degree, intensity and nature of responses to sensory input in a graded manner.

This model includes those individuals with sensory modulation difficulties demonstrating hyperresponsivity, hyporesponsivity or lability in response to sensory stimuli and exhibiting unusual patterns of sensation seeking or avoiding (Roley *et al.*, 2001:58). Accompanying emotional states include anxiety,

depression, anger, hostility and lability. Attentional concomitants include distractibility, disorganisation, impulsivity and hyperactivity. Children with sensory modulation dysfunction frequently have problems with functional performance in such activities as dressing, play, mealtime, bath time and social interactions. Parents of children with sensory modulation dysfunction report concerns related to poor participation, insufficient self-regulation and inadequate perceived competence and self-esteem. Some symptoms correspond with behaviour observed in AD/HD and anxiety disorders (Roley *et al.*, 2001:58).

The Ecological Model of Sensory Modulation (EMSM) elaborates on both contextual factors and individual symptoms. The four contextual external dimensions (culture, environment, relationships and tasks) influence the three personal internal dimensions (sensation, emotion and attention). This model embodies the belief that the responses of individuals with sensory modulation dysfunction can be understood only within the context of their external life. Accordingly it is the interaction between the internal and external factors that produces sensory modulation dysfunction (Roley *et al.*, 2001:59). The interaction between the internal and external dimensions either supports or challenges responses in a specific situation. Equilibrium between internal and external dimensions occurs when there is a good fit between (a) the supports or demands of the task, relationships, environment and culture, and (b) the individual's capacity for processing sensation, emotion and attention (Roley *et al.*, 2001:60).

Internal dimensions are affected by input from the four external dimensions. For example, one's perception of the sound of one's footsteps differs according to whether one is walking in an unfamiliar, deserted street on a dark night, or in a familiar place on a sunny day. When there is an imbalance between the supports and demands of the external dimensions and the adaptive capacities of the internal dimensions, the result is maladaptive behaviour (Roley *et al.*, 2001:61). The hypothesis associated with sensory modulation dysfunction is that children with this disorder have a core deficit in sensory reception, integration and regulation, or some combination of these. A further hypothesis is that these sensory abnormalities can cause emotional and attentional problems. This model has a different central focus from other models that attempt to explain childhood disorders by saying for example that children with attention deficits might have a

core deficit in the attention dimension. Despite sometimes overlapping symptoms, individual syndromes can have different underlying core deficits in the three internal dimensions (Roley *et al.*, 2001:62).

The study protocol for the Ecological Model of Sensory Modulation included five cohorts, namely: (1) 46 children who are typically developing (2) 26 children with Fragile X syndrome (3) 8 children with autistic disorder (4) 40 children with AD/HD and (5) 32 children with symptoms of sensory modulation dysfunction with no other disorder (Roley *et al.*, 2001:62, 63).

The research study on the Ecological Model of Sensory Modulation does show that there are certain links between sensory integration and AD/HD, with reference to the findings of the research study that children with AD/HD had severe deficits in auditory filtering and tactile overresponsivity. Applying sensory integration strategies to children with AD/HD might help, especially if they do show deficits in these areas. The careful evaluation of these children will determine the intervention method and the use of sensory integration strategies.

## **2.11 GESTALT THERAPY AND SENSORY INTEGRATION**

The word “perception” in Gestalt therapy is seen as an active process where the child shows a natural tendency to complete unfinished business. Actual needs, experiences and individual personality influence the child’s perception. For Gestalt therapy to be effective, the child needs to be able to break the Gestalt into meaningful units in order to explore them separately. Without perceiving separate units as integrated parts of a whole, it is impossible to interpret the situation. The sensory-perceptual experience of the child is therefore imperative in Gestalt therapy (Schoeman, 2004:137). Gestalt therapy is a humanistic, process-oriented form of therapy that is concerned with the integrated functioning of all aspects of a person: the senses, body, emotions and intellect (O’Connor & Braverman, 1997:184).

According to Clarkson (2004:96) it is important to differentiate between the body, emotions and thoughts. A lot of people have lost large areas of sensory awareness and proprioceptive sensitivity in their bodies. Such a loss of one’s

own awareness often represents solutions to what was an intolerable conflict or a painful traumatic deprivation at the time of suppression. During counselling some of these archaic difficulties can be brought into awareness in the context of a healing relationship. This way the missing parts of the person as a body-mind whole can begin to be reclaimed.

The development of sensory awareness in terms of smelling, tasting, listening, seeing and touching is not only therapeutic according to the Gestalt approach, but is also essentially celebratory. A common outcome of the re-establishment of sensory and proprioceptive sensitivity is people's awareness of pain, whereas similar stimuli would have left them unaffected earlier. The same phenomenon is experienced with emotional sensitivity, particularly by people who learned to deny themselves a full range of emotional expression as children, for example under threat of bodily harm from abusing parents (Clarkson, 2004:96). The foundation for a sense of self is in the use of the contact functions – our sensory motor organs. If a child constricts these functions, they become progressively desensitized, dulled and disjointed in their organisation of experience (O'Connor & Braverman, 1997:193).

Awareness requires the full use of the sensorimotor system, which includes hearing, seeing, tasting, kinaesthetic smelling, proprioception and touch. The awareness of stimuli from within the organism or from outside it results in excitement or arousal of the motoric system. The experience is then used by the child for growth (O'Connor & Braverman, 1997:185).

Consistent to Gestalt therapy's attention to all aspects of the child, attention is also paid to the child's use of his body. Troubled children restrict and disconnect themselves from their bodies (O'Connor & Schaefer, 1994:213). It is the therapist's goal to help these children to re-connect with their bodies. Giving the child experiences that stimulate and intensify the use of the senses is an important step toward empowering the self. Most children who are troubled desensitize themselves as a way of armoring and protecting themselves. Experiences with sensory modalities, which are actually the functions of contact, bring about new awareness of the child's senses. The design of the activities used in Gestalt therapy depends on the age of the child (Schaefer, 2003:147).

According to Oaklander (1988:109) it is through these modalities that the self is experienced and contact is made with the world. Somewhere along the line some people lose full awareness of their senses – they become hazy and blurred and seem to operate automatically and apart from the self. We operate almost as if our senses, bodies, and emotions do not exist. However, we need to respect those other parts of ourselves that have so much power and wisdom.

Oaklander (1988:110) states that the ability to discriminate through tactile sensations is an important cognitive function in this regard. Clay, finger paint, sand and water provide good tactile experience. According to Oaklander she uses different objects, for example wood, paper, shells, fur and ribbons, which the child can touch. The child then describes the touch and determines what emotions the touch reminds him of.

The ability to see the environment and the people around us is necessary for making good contact outside the self (Oaklander, 1988:111). Young children are not afraid to look: They see, observe, notice, inspect everything and often seem to stare. This is one of the important ways they have of learning about the world. We tend to see ourselves and the world through the eyes of others later, and start thinking what others may think of you. Part of re-owning one's eyes involve the awareness and strengthening of the self, and the ability to find comfort and familiarity with the self and to trust one's self. Seeing and imagining sometimes become intertwined. We can only see what is observable. We cannot see the inside of other's minds and hearts. We can only imagine what a person is feeling and thinking. Many things get in the way of seeing besides imagining what people think and feel. One of these things is jumping into the future rather than staying in the present. We spoil pleasurable sights and experiences by our worry about what might come (Oaklander, 1988:112).

Allowing sounds to enter our awareness is the first step toward contacting the world and is the beginning of communication. Sometimes people hear only what they want to hear and shut out what they do not want to hear. Children sometimes show openly that they do not want to hear by putting their hands on their ears, shutting out sound. Helping children appreciate sound increases their sense of being in the world. Sound and feelings go together. Talking about happy

and scary sounds, and sounds evoking feelings is a good exercise to do during therapy (Oaklander, 1988:113).

The tongue is an important part of the body. Talking and discussing favourite and not-so-favourite tastes help raising awareness of taste. Smell provides an experience and creates happy or sad memories that are connected to the smell. Bringing awareness to smell can thus evoke memories connected to a certain smell. Moving or kinaesthetic perception is a kind of internalised touch sensation. It is what we feel when our muscles, tendons and joints work (Oaklander, 1988:119).

The information above indicates that sensory modalities and integration are very important in Gestalt therapy. Raising awareness of sensory modalities may help the child to connect with his inner self and with the world. This contributes to the completion of unfinished business. The Gestalt therapist uses different tools and methods for assisting in the process of awareness of sensory stimuli. Thus the Gestalt therapist sees sensory modalities and integration as imperative during the therapeutic process of assisting in the healing process of children.

## **2.12 CONCLUSION**

According to some of the literature and research studies discussed, it does seem as if AD/HD and sensory integration have certain similarities regarding behavioural manifestations. According to the literature review, the child with AD/HD could benefit from a specific focus on sensory integration during therapy. Furthermore, specific and intensive focus on sensory integration during Gestalt therapy could be tremendously beneficial for children with AD/HD, especially if they have difficulty with one or more of the areas of sensory integration. A focal point in Gestalt theory is approaching the child as an integrated whole in his environment, taking into account all the aspects of his being. This includes focusing on sensory integration, particularly if the child with AD/HD has difficulties in this area. It can thus be concluded that Gestalt therapy can play a definite and specific role in a child with AD/HD and sensory integration problems.

Chapter 3 elaborates on the empirical study that was done by means of semi-structured interviews with professionals working with sensory integration and AD/HD. The data collected from the interviews were analyzed and the results of the study are discussed in chapter 3.

### **3. CHAPTER THREE: EMPIRICAL STUDY**

#### **3.1. INTRODUCTION**

The basic concepts of the study, namely Attention Deficit/Hyperactivity Disorder (AD/HD), sensory integration, the child and play therapy, were discussed in chapter 2 of the research. The focus of the study is to explore the use of sensory integration strategies by professionals during intervention with children with AD/HD.

Empirical data were collected by means of semi-structured interviews with professionals (occupational therapists) working with AD/HD children and using sensory integration as part of their intervention.

#### **3.2 RESEARCH PROCESS**

This section describes an overview of the research process that was followed.

##### **3.2.1 Research and work procedure**

The selection and identification of a researchable topic were completed before commencing the empirical study. A research question was formulated as part of the first step. The research question was as follows:

What sensory integration strategies can therapists use when working with children with AD/HD?

The most suitable type of research for this study is the qualitative approach. This study can be described as applied and descriptive in nature. The researcher looked at the research problem holistically, and focused on solving the research problem and goal in order to present specific details of the research.

An instrumental case study strategy was used during the research. The researcher aimed at gaining a better understanding of the use of sensory integration strategies when working with a child with AD/HD.

### **3.2.2 Description of universe, sample and sampling techniques**

For the purpose of this study the universe consists of professionals working with AD/HD children and using sensory integration treatment principles. The population comprises professional persons working with AD/HD and using sensory integration in the northern suburbs of Cape Town. The sample consists of those professionals in the population who work in the Durbanville area in the northern suburbs of Cape Town. Only professionals who provided written consent were included in the study and were interviewed. (See Appendix A for the letter of consent.) In order to choose the sample for the study, the researcher formulated specific criteria for the sample. These criteria were discussed in chapter 1.

### **3.2.3 Data collection and analysis**

A basis for chapter 3 was done in chapter 2 by means of a literature study that focused on the child with AD/HD, sensory integration as well as play therapy. In order to avoid manipulating the qualitative process, the literature study was kept brief.

Semi-structured interviews were conducted with three professionals who complied with the criteria set out. The three respondents specialise in working with AD/HD children and use sensory integration during therapy. They were also familiar with the theories and use of play therapy during intervention. Semi-structured interviews were more applicable than other methods of data collection, as questions focused on the use of sensory integration strategies and the child with AD/HD. These semi-structured questions give the respondent the opportunity to elaborate on questions as well as give them a chance to explain the questions in depth. The time spent on each interview varied between 40 and 55 minutes per respondent.

The interviews were video-taped in order to capture all the information and to help with the transcription process. After completion of all the interviews, they were transcribed. The researcher analysed the data after each interview to

ensure that none of the data got lost. Coding was used to split the data into smaller units in order to study and compare the data.

The preliminary data analysis commenced by reading through all the transcriptions repeatedly. Notes were made to identify preliminary themes. A second and third round were undertaken to read through the data. The researcher identified different themes in the data in order to provide an explanation for the use of sensory integration strategies when working with children with AD/HD. The researcher then used various colours to mark data related to the various main themes. The different themes were then coded further by marking all the data on the same theme in order to narrow the themes down into a number of sub-themes.

### **3.3 BIOGRAPHICAL DATA**

The researcher considers the following biographical data important for the purpose of the research study: All the respondents were qualified occupational therapists. The reason why they were used, is that occupational therapy is the only therapy field where extensive training in sensory integration therapy takes place. All the respondents had extensive training in sensory integration and have been practising in the field of sensory integration for more than 7 years. Two of the respondents received training in play therapy and one is familiar with play therapy theories. All the respondents are actively working with AD/HD children.

### **3.4 EMPIRICAL DATA**

The research report was structured by first listing all seven main themes identified during the analysis. Compiling the main and sub themes the researcher focused on the strategies therapists can use as well as the way they can use the strategies during therapy. The themes were then discussed one by one. The researcher made use of direct quotes as the respondents were all Afrikaans speaking and translation could result in loss of meaning of data. The sub-themes arised from the discussion of the main themes. The data relevant to the various main and sub-themes were described and the findings were then compared to existing literature. The seven main themes that were identified are as follows:

- Theme 1: Professionals using sensory integration strategies
- Theme 2: Identification of sensory integration strategies
- Theme 3: Sensory integration and the child with AD/HD
- Theme 4: The use of sensory integration strategies and self-regulation
- Theme 5: Focus on the emotions of an AD/HD child when sensory integration strategies are used
- Theme 6: Boundaries and dangers for therapists using sensory integration strategies
- Theme 7: The use of sensory integration and play therapy

Each theme will be discussed in the next section. The themes are not discussed in order of priority or importance. The verbal responses will be provided first, after which the sub-themes will be described and compared with existing literature.

### **3.4.1 Theme 1: Professionals using sensory integration strategies**

#### 3.4.1.1 Verbal responses of respondents

##### **Respondent 1**

- Ek dink eerlikwaar enigiemand, veral terapeute of selfs ouers, kan van die beginsels gebruik.
- Julle wil beginsels gebruik en dis eintlik presies dieselfde beginsels wat ons vir ons ouers ook leer. In daai opsig kan dit definitief werk. Baie van die goed is basiese hanteringsbeginsels wat jy in elk geval vir 'n kind gebruik wat AD/HD is. In hierdie opsig kan jy strategië gebruik.
- Persoonlik sal ek sê enigiemand kan sensoriese-integrasiestrategieë gebruik vir stimulasie.

##### **Respondent 2**

- Ek sê ja; omdat daar soveel oorvleueling is, kan jy miskien so 'n bietjie meer van die strategieë gebruik as wat julle in julle basiese spelterapiekursus leer.

- Jy kan, want ons leer van hierdie strategieë vir ouers, onderwysers en care givers.
- As jy byvoorbeeld probleme het met 'n kind om in takt te kom met sy voorgrond en hierdie is 'n AD/HD-kind, dan gaan jy miskien van hierdie strategieë gebruik om hierdie kind meer gefokus te kry en dan kan jy voortgaan om te kyk na dít wat jy werklik kan gebruik.

### **Respondent 3**

- Ek sou juis sê dis waar die twee skei. As jy kyk na sensoriese strategieë – dis iets wat die juffrou kan gebruik; dis iets wat 'n nanny kan gebruik, 'n au pair.
- So, ja, ek dink dis definitief iets wat spelterapeute kan gebruik, en baie doeltreffend ook.
- So jy kan definitief sensoriese tipe strategieë gebruik.
- Daar is definitief kinders met wat ons noem “mild sensory integration problems” wat julle definitief in terapie kan hou en sensoriese stimulasie voor doen.
- Met speltherapie is jou fokus op die emosionele deel van die kind, maar ek voel tog as jy 'n sensoriese komponent bysit, dan begin werk jy aan nog 'n deel van 'n kind se funksionering.

#### 3.4.1.2 Sub-themes

- **Play therapy and the use of sensory integration strategies**

All the respondents said that anyone could make use of sensory integration strategies and two of the respondents said specifically that play therapists could make use of sensory integration strategies.

Giving the child experiences to stimulate and intensify the use of the senses is an important step toward empowering the self. Most children who are troubled desensitize themselves as a way of armouring and protecting themselves. Experiences with seeing, hearing, touching, tasting and smelling – modalities that are actually the functions of contact – focus new awareness on the child's

senses (Schaefer, 2003:147). Schaefer and Oaklander both say that a holistic approach must be followed and that senses are a part of this holistic approach.

A child's senses can be re-vitalised through appropriate play experiences and programmes. Sensory work with emotionally damaged children is based on the belief that a child's senses are dulled by the many traumas he has suffered. However, children can re-learn to become aware of their bodies and their contact with the world around them. Sensory work gets in touch with and validates a child's feelings. It allows a child to regress to earlier stages of development, either to compensate for missed experiences or to repair emotional damage. The child has space to talk and express his feelings and to ask questions (McMahon, 2002:10, 44-46). The statement given above supports the quotes of the respondents and articulates the importance of the sensory experience of a child.

Sensing is what determines the nature of awareness, and sensory awareness is the practice of becoming more in touch with oneself. Through sensory awareness we are able to live more fully – we can discover the connection between our minds and bodies. Gestalt therapists need to explore the sensory strengths of their clients, as no two people have the same minds or bodies. There are various techniques used in Gestalt therapy to get the child focused in the here and now. One of these techniques is using the sensory modalities of the child, which are the child's contact with the outer world. In Gestalt therapy perception is seen as an active process. The child creates figures and background spontaneously and naturally. He shows a natural tendency to complete wholes and to close "open Gestalts" or unfinished business. Actual needs, experiences and individual personality influence the child's perception.

For Gestalt therapy to be effective, the child has to be able to break the Gestalt into meaningful units in order to analyse them separately. Without perceiving separate units as integrated parts of a whole, it is impossible to interpret the situation. The sensory perceptual experience of the child is therefore very important in Gestalt therapy (Schoeman, 2004:137).

There is a definite and important place for sensory modalities in Gestalt play therapy. If the child is not integrated or aware of his sensory modalities it is

difficult to engage in therapy, because he is not in the here and now. The therapist has to help the child getting in tact with his senses.

- **Play therapy techniques and the use of sensory integration strategies**

The ability to discriminate through tactile sensations (for example putting a pencil, a toy car, a walnut, a paper clip and a button in a bag and asking the child to find a specific one without looking) is an important cognitive function. Sight is one of the important ways children have of learning about the world. As we grow older, we often “give our eyes away”. We begin to see ourselves and our worlds through other people’s eyes. Adults encourage children to “give their eyes away”. We say, “Don’t stare!” We worry about how our children dress and appear to others. Seeing and imagining sometimes become intertwined. Many things get in the way of seeing besides imagining what people think and feel. Allowing sounds to enter our awareness is our first step toward contacting the world, the beginning of communication. We all know that many of us hear only what we want to hear, shutting out what we don’t want to hear. Children do this openly and directly by holding their hands over their ears when they don’t want to listen; adults often change the meaning of what they hear. Helping children appreciate sound increases their sense of being in the world.

The tongue is an important part of our body, yet we usually take it for granted. It is very sensitive; it tells us when things are sweet, sour, bitter or salty. Tongues also help us express emotions. The tongue can not only discriminate between things that are sweet and sour – it can also tell you if something is lumpy, hard, soft, hot or cold. Many sensory experiences actually involve a combination of senses. In fact, it is probably difficult to provide a single sensory experience that does not involve more than one of the senses (Oaklander, 1988:110-120).

Schoeman (2004:136) says that our senses influence the way we experience the world. Seeing, hearing, smelling, tasting and touching are ways in which individuals contact their environment and become aware of themselves and their emotions by doing so. Perception is not just about the use of our senses, but also about the process that gives meaning to the information experienced by the senses. We map the world into ourselves and we experience that map as

feelings, emotions and intuitions (Hall in Schoeman, 2004:136). One of the main aims of Gestalt therapy is to help an individual become more aware of his feelings, and thus attain optimal mental health. Gestalt therapy aims to increase awareness so that needs can be identified and satisfied. Awareness refers to the capacity that one has to realise what is happening outside oneself at the present moment. It involves the possibility to perceive the inner and outer medium through perceptive and emotional skills. Contact needs to take place so that awareness can increase. Contact occurs through contact functions: the senses of seeing, hearing, smelling, sensing, language and movement. These contact functions then organise our perceptions and give meaning to our feelings (Schoeman, 2004:136).

### **3.4.2 Theme 2: Identification of sensory integration strategies**

#### 3.4.2.1 Verbal responses of respondents

##### **Respondent 1**

- Jy kan vir hulle 'n wigkussinkie gee om op te sit, wat vir hulle 'n bietjie beweging gee.
- Jy kan vir hulle 'n rek by hulle voete sit wat hulle kan beweeg, veral dié wat hulle voete heeltyd so heen en weer skop.
- Party kinders, nie noodwendig net afleibare kinders nie, is geneig om goed te kou of aan hulle hemde te kou, so dan kan jy dit vervang met iets meer age appropriate wat hulle kan gebruik, want hulle gebruik hulle mond om hulle te reguleer.
- Die Alertprogram; enigiemand kan die Alertprogram gebruik. Dis wat ons vir ma's ook leer.
- As die kind 'n bietjie ouer is, kan hulle hulle eie "engine levels" beheer, soos daar in die Alertprogram daarna verwys word.
- Om die omgewing te struktureer, met ander woorde daar's nie 'n klomp goed wat sy aandag aftrek nie.
- Party kinders het nodig om te suig om te self-calm, dan kan jy byvoorbeeld vir hulle tubing agterop 'n potlood sit waaraan hulle kan kou.
- Party kinders werk goed as jy beweging inbring juis om hulle te excite.
- Jy kan kyk na die omgewing en kalmerende musiek.

- Gee vir hom 'n stukkie Prestick, so hy kan druk aan die Prestick terwyl hy moet lees, of dit help hom om te fokus.
- Dis waar die Alertprogram lekker werk, want jy kan 'n klomp van daai tools gebruik.
- Leer vir hom diep druk deur byvoorbeeld sy handpalms teen mekaar te druk.

### **Respondent 2**

- Jy kan vir die kind goed gee om aan te vat en te trek en te vryf.
- Party kinders hou daarvan om op goed te kners.
- As hulle aan die gang is, laat hulle iets doen wat hulle gaan kalmeer.
- Jy het goed waaraan jy kan vat, byvoorbeeld 'n wolbal.
- Strooitjies om te kou.
- Rekkies waarmee jy kan sit en speel vir proprioepsie.
- 'n Rek; die kinders is mal hieroor – om dit te trek.
- Tasgoed, soos balletjies van verskillende materiale.
- Wat ek baie met kinders gebruik, is wondergom om hom te kalmeer.
- Daar is redelik baie werk gedoen in terme van Alert om arousal levels reg te kry.
- Daar is 'n spesifieke Alertprogram wat uitgewerk is wat ons vir die kinders aanleer om te kyk hoe loop hulle “engines”.
- Daar is literatuur oor die Alertprogram en dis nie net vir arbeidsterapeute bedoel nie.
- Die Alertprogram is bewys as veilig vir gebruik deur ander dissiplines en leke.

### **Respondent 3**

- Goed soos diep druk. Jy kan die kind op 'n sit fit- of op 'n sit and move-kussing laat sit.
- Dis al daai Alert-tipe konsepte wat definitief goed werk met jou kind wat sukkel om aandag te behou.
- Jy kan die kind laat beweeg voordat jy met die kind werk.
- Jy kan sekere goed om sy stoel bind dat hy kan skop daarteen.

- Jy kan vir hom fiddle toys gee wat hy kan voel en vashou en beweeg om van die energie te kanaliseer.
- Jy wil obviously nie deur die hele sensoriese-integrasieproses gaan nie, maar jy kan definitief kyk na die Alertprogram.
- Jy kan vir hom kougom gee om te kou.
- Wat 'n vreeslike belangrike sensoriese strategie is, is byvoorbeeld womb spaces: dat jy basies 'n plekkie afsonder in jou terapie-area waar jy 'n pop-up tentjie gebruik, of 'n donker hoekie waar daar nie baie aangaan nie. Die tipe goed wat jy inbring in 'n womb space, is enige “suck, swallow, breathe”-tipe speelgoed.
- Kyk na 'n dummy. Die suigaksie is die primitiefste vorm van selfregulering.
- Werk met 'n Alertboksie – dis tog goed wat ons promote dat onderwysers dit in klaskamers gebruik.
- Ek glo verskriklik in die Alertprogram. Dit kyk absoluut na sensoriese strategieë om kinders se arousal optimaal te gebruik. Dis die key, veral vir 'n AD/HD-kind.

#### 3.4.2.2 Sub-themes

- **The use of the Alert programme as a sensory integration strategy**

According to the respondents the Alert programme can be used effectively by other professionals as a sensory integration strategy. Respondent three said that it can be used specifically with AD/HD children. The Alert programme can help children regulate themselves and can thus help them improve their self-image because they can control their behaviour better.

The primary focus is to help children learn to monitor, maintain and change their level of alertness so that it is appropriate to a situation or task. The programme consists of a series of lessons and activities that incorporate sensory integration techniques with cognitive approaches. Therapists, teachers or parents can implement it. This programme is intended to be utilised in conjunction with other therapies as deemed appropriate (Williams & Shellenberger, [sa]:1-1). To attend to, concentrate on and perform tasks in a manner suitable to the situation, one must be in an optimal state of arousal for the particular task. When difficulties in

self-regulation occur, individuals have trouble changing their levels of alertness, which in turn compromises their ability to function (Bundy, Lane & Murray, 2002:342).

Arousal can be considered a state of the nervous system, describing how alert one feels. Arousal levels are regulated through the reticular formation in the brain. If a child's arousal levels are in high alert, he struggles to concentrate, falls asleep, is hyperactive, and has a poor attention span. A child whose "engine" usually runs in the low range has difficulty to wake up in the morning and finds it difficult to complete assignments at school – he becomes restless and fidgety after long periods of seat work. In the Alert programme children learn to identify their own arousal states (Williams & Shellenberger, [sa]:1-7). Bundy *et al.* (2002:342) state that self-regulation affects learning in all children. The child must be in an optimal state of arousal to best learn a task.

According to Williams and Shellenberger ([sa]:2-1) the Alert programme uses the analogy of an automobile engine to introduce its concepts of self-regulation: "If your body is like a car engine, sometimes it runs on high, sometimes it runs on low, and sometimes it runs just right." The Alert programme can be implemented in three stages: identifying engine speeds, experimenting with methods to change engine speeds, and regulating engine speeds. Different things can be used to experiment with methods to change the engine levels, for example blowing, sucking, tasting sour, sweet and bitter things, whistling, blowing bubbles, jumping, sitting on a special cushion, rocking, spinning, fidgeting with and holding objects, light touch, deep touch, visual stimulation, listening to different noises and sounds and being quiet (William & Shellenberger, [sa]:2–9). Bundy *et al.* (2002:343) say that the Alert programme is a step-by-step method by which adults determine which sensory strategies support a child's optimal performance and by which they identify sensory hypersensitivities that hinder his performance. Adults guide children to recognise the ways in which hypersensitivity affects alertness, and help them learn strategies to change their levels of alertness or arousal. The programme helps individuals to enhance their abilities to learn, interact with others, and work or play. They also experience concomitant improvements in their self-esteem and self-confidence.

Children with self-regulation difficulties often have a limited number of strategies on which they can draw to change their level of alertness. These children often have difficulty transitioning between activities, coping with changes in routines, and generally adapting to the challenges of real life. During the programme children and adults together determine strategies that support optimal functioning (Bundy *et al.*, 2002:343). The Alert programme assists children who have learning disabilities and attention deficits to apply basic principles of sensory integration theory. The programme also involves teaching the basics of self-regulation and sensory integration theory to the parents, teachers and other team members. The programme's success with children who are developing typically or atypically and with adults suggests that all can benefit from a greater awareness of self-regulation. Even children who are diagnosed with attention deficit disorder and are taking medication benefit from this programme (Bundy *et al.*, 2002:344).

### **3.4.3 Theme 3: Sensory integration and the child with AD/HD**

#### 3.4.3.1 Verbal responses of respondents

##### **Respondent 1**

- Jy moet mooi gaan kyk wat is die kind se probleem. Só gaan jy besluit hoe jy sekere goed gaan hanteer. Byvoorbeeld, baie van hulle het 'n behoefte aan beweging; dan bring jy beweging in wat die kind se behoefte gaan bevredig, maar wat ook die kind op 'n punt bring waar hy gemaklik kan konsentreer.
- Nie alle kinders met AD/HD het sensoriese-integrasieprobleme nie, so dit hang af hoe die kind presenteer.
- Ons sal byvoorbeeld vir vyf minute vir hom werk gee om te doen, dan kan jy vir hom kans gee om op die trampolien te spring om daai behoefte te bevredig, en dan kan hy terugkom, eerder as om van hom te verwag om by 'n tafel te sit en konsentreer, want hy kan nie. Dis hoekom hy gediagnoseer is.
- Die aandagafleibare outjies is moeilik, want watter een is nou eintlik die probleem – of is dit 'n kombinasie van die twee?

- As jy bewus is van sy probleemarea, dan gaan jy weet om daai goed te vermy en met iets werk wat binne sy vermoë is.
- Jy maak die aktiwiteit kort sodat hy 'n rukkie kan fokus en dan iets anders gaan doen of rus. Dit help ook dat hulle meer sukses ervaar met wat hulle doen, want dan kry hulle iets reg.
- Jy stel 'n verwagting van wat hy kan doen; dan werk jy daarop.
- Jy leer die kind aktiwiteite om homself te reguleer om homself te fokus; byvoorbeeld as hy nie kan werk met honderde goed wat rondom hom lê nie, pak dit eers weg.

## **Respondent 2**

- Hierdie kinders ervaar ongelooflik baie frustrasies; hulle ervaar ongelooflik baie botsings met gesagsfigure, met tydgenote, met sibbe. Naderhand hoop hierdie frustrasies op en hulle het normaalweg lae frustrasie-uthou vermoëns. Gestaltspelterapeute se fokus gaan wees om die sekondêre probleme te hanteer. Arbeidsterapeute se fokus sal op die primêre probleme wees.
- Hulle wil meer en meer en meer inligting kry om op die “calm alert” stage te kom. Dan kry jy hierdie sensory seeker. Dit is waar die AD/HD-kind maklik oorvleuel.
- Dan kry jy ook jou sensory defensive kind, waar daar redelik baie aggressie ontlok word as gevolg van hierdie onaangename sensoriese inligting wat inkom.
- Met die kinders met modulasieprobleme vind ons dat hierdie calm alert-band baie klein is. Hulle soek, soek, soek inligting en dan kan hulle vir 'n kort rukkie hier bly en dan skielik gaan hulle in overload. Daar sien ons baie beslis waar jou AD/HD-kind in hierdie kategorie val.
- Omdat die inligting baie sterk deur die limbiese sisteem geïntegreer word, het hierdie ook 'n invloed op emosionele stabiliteit.

## **Respondent 3**

- Die hele ding met jou AD/HD-kind is dat hulle sukkel om te fokus, so jy kan definitief sensoriese tipe strategieë gebruik. Punt nommer een om die kind se aandag en konsentrasie te behou.

- Ek dink as jy 'n kind het wat heeltemal hiperaktief is, kan jy dit gebruik om hulle te kalmeer.
- Daar is definitief 'n groep kinders wat suiwer AD/HD is en dan het jy 'n groep kinders wat 'n verskriklike mengsel het van die beeld, waar jy 'n modulasieprobleem en integrasieprobleem saam met die AD/HD het.
- Kinders – en veral tradisioneel die AD/HD-tipe kind met sensoriese-integrasieprobleme wat jy sien – het gewoonlik vreeslik ongeorganiseerde nervous systems.
- Hulle inner drive dryf hulle na die tipe informasie toe wat hulle nodig het, maar hulle kan dit nie regtig integreer nie. Jy het byvoorbeeld 'n kind wat AD/HD het, en dan wil hulle vreeslik baie beweeg en dan sal hulle potensieel bewegings doen, maar hulle sal dit nie doelgerig doen nie. Hulle sal dit nie integreer nie. Die kind het dalk beweging nodig, maar hy is besig om dit verkeerd toe te pas.
- Ons sê: Nommer een goal voordat jy met 'n kind kan begin werk, is arousal. Nou, as jy 'n hiperaktiewe kind het, is die kans groot hy is in hyper arousal. En as jy 'n kind inkry en hy is in hyper arousal, hoeveel gaan jy deurkom tot daai kind op 'n terapeutiese vlak? Jy gaan nie.
- Somtyds vat dit langer vir sekere kinders om te reguleer as ander. Met sekere kinders gaan jy helfte van die sessie vat om hom gereguleerd te kry, maar dan is die ander helfte van jou sessie waardevol en terapeuties. Waar jy die hele sessie deur ploeter, maar die kind is nie regtig gefokus nie, bereik jy eintlik niks.
- Sensory avoiding en sensory seeking is die aktiewe deel van die sensoriese model. Jou AD/HD kan 'n sensation avoider wees, want hy is heeldyd aktief besig; byvoorbeeld 'n kind raak aan hom en hy skop hom, want dis 'n self-protective response.
- Of hy is 'n sensory seeker. Hy kan nie genoeg kry nie; hy is all over the place. Dis jou hiperaktiwiteit, want dis aktief.
- Ek dink die grootste deel van die AD/HD-populasie het 'n oorvleuelende sensoriese-integrasieprobleem.

### 3.4.3.2 Sub-themes

- **Effects of sensory integration strategies on an AD/HD child**

According to the respondents not all children with AD/HD has sensory integration difficulties, but sensory integration strategies can be used during therapy even though they do not have a problem in that area. These strategies are basic strategies that can be utilised by anyone in order to self-regulate and to normalise arousal levels. Sensory integration strategies are used to help the child with AD/HD and a child with difficulties in a sensory modality to organise himself. It also helps the child to be aware of himself and his body's way of reacting in certain circumstances.

Allen (2003) states that occupational therapists have become experts in the field of sensory-based therapy for children with special needs. Sensory processing delays are often the basis for the treatment of many children with attention deficit/hyperactivity disorder (AD/HD), especially when addressing attention in the classroom. Differential seating, specifically therapy balls or inflatable discs, is often implemented as a means to increase attention in the classroom. Allen (2003) stated that when children were seated on balls in a research study, there was an increase in seated behaviour, word legibility, comfort, and the ability to listen, attend and finish class work, and to calm and focus the body.

We found significant improvement in sensory avoiding behaviours, tactile sensitivity and visual auditory sensitivity in the group that received treatment. These children were more at ease. They could attend to a lesson in a noisy classroom better, or participate in family activities more comfortably. Behaviour associated with AD/HD was significantly reduced following the intervention (Sensory integration and AD/HD, 2005).

Over the past 30 years a number of research studies have been conducted to investigate whether sensory integration is effective with children and adults (Daems, 1994). The majority of studies have focused on the use of "classical" sensory integration with children with learning disabilities and have aimed at improving motor skills, academic performance, behavioural performance and/or

sensory and perceptual skills. The results of studies published in the 1970s and early 1980s were very promising. Recent studies using single-subject research designs have shown some positive effects that resulted from efforts to decrease the child's hyperresponsiveness to sensory input by means of classical sensory integration and deep pressure techniques. The use of weighted vests (a technique to provide deep pressure sensation) has been evaluated, using single-subject designs, in a few children with AD/HD and pervasive developmental disorders: Results showed some increase in on-task behaviour and a decrease in self-stimulatory behaviour (Fertel-Daly, Bedell & Hinojsa, 2001; Smith, Press, Koenig & Kinnealey, 2005; VandenBerg, 2001).

### **3.4.4 Theme 4: The use of sensory integration strategies and self-regulation**

#### 3.4.4.1 Verbal responses of respondents

##### **Respondent 1**

- Ek dink die twee moet hand aan hand gaan.
- Op die einde wil jy hê die kind moet kan selfreguleer waar julle dalk meer kyk na emosionele redes waarom hy dit nie kan doen nie.
- Ons kyk meer na die fisiese of emosionele rede.
- Dit bly selfregulasie; dis dalk net 'n ander manier om daarna te kyk.
- Ons leer die kind aktiwiteite om homself te reguleer.

##### **Respondent 2**

- Hierdie is 'n meer kognitiewe benadering, waar jou Gestaltspelterapie'n baie meer indirekte ding is.
- Hier moet die kind 'n regte effort maak om te sê: My engine is nou te laag, so ek moet iets kry wat my meer alert maak.
- Jy weet as hy elke keer iets kies om te kou, soos 'n strooitjie of 'n pypie, dan is dit die tipe ding wat jy vir hom gaan gee as sy ammunisie om te gebruik in situasies waar hy dit gaan nodig kry.
- Elkeen van ons het 'n manier om homself te sus of om onself op die "calm alert" stadium te kry sodat ons op ons heel beste kan funksioneer. Party mense draai hulle vingers in hulle hare; party mense wieg.

- Dit is goed wat jy op 'n kognitiewe vlak vir die kinders kan aanleer om hulleself te kan reguleer in 'n situasie waar hulle dit nodig het. Baie keer is jou arousal level laag en dan moet jy ietsie doen om dit hoër te kry, byvoorbeeld jy was jou gesig in die oggend met koue water.

### **Respondent 3**

- Die suck, swallow and breathe is een van die primitiefste maniere van selfregulering.
- As jy praat van selfregulering, praat jy van top down en bottom up. Top down is kognitiewe strategieë om te kan selfreguleer.
- Op sensoriese-integrasievlak praat ons van bottom up selfregulation. Met ander woorde, jy gebruik van die sensoriese sisteme om van die primitiewe deel af op te werk en dan daardeur te selfreguleer.
- As jy kyk na emosionele selfregulering in die limbiese sisteem: Daar is obviously jou emosies en jou pathways daar, en jou kanale in jou memory circuits en jou konneksies met die frontale lob. Daar is nog meer veral kortikale prosesse betrokke. Ons praat dan van bottom up.
- Ek dink enigiemand wat met kinders werk, moet in 'n mate weet hoe om die kind te reguleer.
- Dis die kruks van dit. As jy nie 'n kind kan selfreguleer en strategieë kan gebruik nie, gaan jy nie terapieë met hom kan werk nie.

#### 3.4.4.2 Sub-themes

- **The use of sensory integration strategies and emotional self-regulation**

The participants explained self-regulation from an occupational therapist's point of view. All the respondents mentioned that there is a difference between physical and emotional self-regulation. A play therapist will focus on emotional self-regulation and thus it is important to understand the link between physical and emotional self-regulation in the play therapy process.

When the expected symbiotic relationship between the child and the caregiver does not develop, either because of the child's inability to respond to the world

due to prematurity, neurological problems or sensory deficits, or because of maternal pathology such as severe depression, substance abuse or personality disorder, the infant's emerging object relations show distortions in trust, interpersonal connections and the ability to accept nurturing, and poor self-regulation.

Play therapy has several goals for a child showing unattached behaviour, beginning with the goal of increasing receptivity to nurturance and connectedness while decreasing defensiveness. Another goal is to facilitate the development of a coherent sense of self where needs are acceptable. To achieve these goals, the therapist needs to foster regression, encouraging the development of a symbiotic transference with the therapist and then helping the child separate or individuate out of that symbiotic bond to create a context where therapy can increase his ability to tolerate and eventually express feelings, and increase his self-regulation skills (Schaefer, 2003:285).

Children develop an awareness and understanding of their feelings in the preschool years. As a result of their greater understanding of the causes of emotions in themselves and others, they are able to initiate behaviour that permits them to cope by means of self-regulation. Children pick up strategies for coping with emotions from their parents. Those whose parents have difficulty controlling anger and hostility have similar problems. Children who have difficulties in controlling negative emotions also tend to get along poorly with peers (Frost, Wortham & Reifel, 2001:180).

Schoeman (2004:76) says that self-regulation implies that the organism will try its best to regulate itself or to find balance. Self-regulation does not determine balance or health, but entails that the organism will do anything possible with what is available to find balance. The goal of Gestalt therapy, reached by means of a therapeutic relationship, is awareness and the ability to be self-regulating. The client's focus on this awareness is not the presenting problem, but rather his awareness of himself and his environment. This results in integration and wholeness.

Although the child is still a child, he has the potential to grow towards self-regulation and therefore self-maintenance. The way the child handles his own problems and experiences control constitutes two of the ways in which he exercises self-maintenance. The person who exercises self-maintenance still needs other people in his environment, but he has a good understanding of the relationship between himself and the environment. In consequence, such a person is able to detect the contact boundary between himself and the community. One of the purposes of therapy is to assist the child in growing towards self-regulation and self-maintenance (Schoeman, 2004:156).

### **3.4.5 Theme 5: Focus on the emotions of an AD/HD child when sensory integration strategies are used**

#### 3.4.5.1 Verbal responses of respondents

##### **Respondent 1**

- Sê nou maar die emosionele – waarom die terapeut hom in speltherapie wil sien – is die grootste probleem op die oomblik en daar is sensoriese-integrasieprobleme, dan kan 'n mens lekker saamwerk.
- Daar is 'n link tussen kinders met sensoriese-integrasieprobleme en die emosionele, so baie keer het jy hierdie emosionele uitbarstings omdat hulle nie kan cope in hulle omgewing nie, en jy kan werk aan daardie emosie.
- Dit blyk asof die kind nie baie funksioneer in die klas nie en die kind kom vreeslik aandagafleibaar voor, maar dit is omdat hy angstig is en as jy die angs uitsorteer, dan gaan al die ander probleme weg.
- Dit is nog steeds belangrik vir hom om sy sensoriese sisteme te ervaar, maar dit help nie jy stel hom bloot aan iets wat vir hom 'n gevaar of bedreiging is nie, want dan gaan jy juis dít kry wat jy nie wil hê nie.
- 'n Speltherapeut of ander terapeut kan 'n belangrike rol speel om daai kind te identifiseer en vir die ma te verduidelik daar is 'n rede hoekom hy die ander kinders heeltyd slaan.
- Dit help ook dat hulle meer sukses ervaar met wat hulle doen, want dan kry hulle iets reg.

- Op die einde wil jy hê die kind moet kan selfreguleer, waar julle dalk meer kyk na emosionele redes waarom hy dit nie kan doen nie.

### **Respondent 2**

- Ek dink hierdie kinders het baie probleme met hulle emosionele en sosiale interaksies.
- Ons weet omdat die inligting baie sterk deur die limbiese sisteem geïnterpreteer word, het hierdie ook 'n invloed op emosionele stabiliteit.
- As jy net sien waar die kind se sensoriese behoeftes is en dan ewe skielik sien jy hier is jou behoeftes meer op 'n emosionele vlak, en dan moet jy daar 'n skuif maak.
- Ek dink nou aan 'n paar gevalle met wie ek dan nou wel speltherapie gedoen het, en dan is dit 'n AD/HD-kind, waar ek net gevoel het hierdie kind se emosionele goed moet nou hier gehanteer word.

### **Respondent 3**

- Jou emosionele sentrum in jou brein is die limbiese sisteem en vreeslik baie van die sensoriese-integrasieprosesse gaan van die breinstam af na die limbiese sisteem.
- As jy speltherapie doen, is jou fokus op die emosionele deel van die kind.
- Onthou, met sensoriese stimulasie, of om net deur die sintuie te werk, doen jy net blootstelling, so jy gaan dalk net sekere emosies fasiliteer, wat obviously goed is.
- Ek dink daar is twee bane waarmee jy dit basies gaan benader. Die een is bloot sensoriese stimulasie om emosie te ontlok en die tweede een is sensoriese strategieë om emosie te beheer.
- Onthou, julle kan optimal arousal kry en dan werk julle emosioneel. Daar skei die twee vlakke.
- Baie kinders wat baie ernstige sensoriese modulasieprobleme het, gaan geweldig baie emosionele probleme hê as gevolg van die sensoriese defensiwiteit.
- Mens moet gaan kyk wat is in hierdie kind se veld en wat veroorsaak die probleem, of wat veroorsaak sy emosionele onstabiliteit.
- Kinders wat AD/HD het, het geweldige sekondêre emosionele probleme, want hulle is 'n class clown, hulle word uitgesingel, hulle kry verskriklik

baie negatiewe terugvoer, verwerping, mislukking. So hy het geweldig baie emosionele issues.

#### 3.4.5.2 Sub-themes

- **Emotional experience of an AD/HD child when sensory integration strategies are used**

The images children with AD/HD have of themselves are immediately apparent in their facial expressions, carriage and motivation to participate in activities. Many of these children look miserable and often choose not to participate in extramural activities. This is often in keeping with feelings of inferiority and fear of failure. They will also say that they are stupid and that no one likes them. These children will probably develop a poor self-image and might never have the confidence to complete tasks successfully. These learners are trying to deflect their feelings of incompetency through their dysfunctional behaviour patterns, for example giving up very easily. By giving up they protect themselves from failure.

Children with AD/HD may sometimes become angry or negative when praised, because they feel inferior and unworthy and may interpret praise incorrectly as implied criticism. Some of these children handle failure by being devious. This might become apparent at school and at home. When they feel they cannot win a game or pass a test, they change the rules or copy someone else's work. Therefore these children must receive recognition for every effort that they themselves have made.

Children with AD/HD have emotional outbursts and eruptions of anger, and demonstrate unpredictable and aggressive behaviour. They overreact to insignificant incidents. Aggression is just another way of disguising a poor self-image. Because they feel like failures, they will project their anger onto others in order to feel better about themselves. They may bully and fight with other children, get involved in arguments and make critical remarks. Because they see themselves as hopeless and have little self-control, they try to control and dominate others. A child with a poor self-image often becomes the clown of the

class; in this way he becomes the focus of attention with resultant “feel good” feelings.

For the child with AD/HD the consequences are that they seldom have true friends, as no one knows when they are serious and when they are playing the fool. All the respondents commented on these children’s low self-esteem and self-image problems. They also commented on the emotional problems these children struggle with and the need to take a break from their sensory integration therapy to assist the child emotionally first. Gestalt therapy focuses on the emotional wellbeing of the child and is a humanistic, process-orientated mode of therapy that is concerned with the healthy, integrated functioning of the total organism – the senses, body, emotions and intellect (Schaefer, 2003:143).

Play therapy is based upon the fact that play is the child’s natural medium of self-expression. It is an opportunity which is given to the child to “play out” his feelings and problems just as an adult “talks out” his difficulties in certain types of adult therapy. The child is given the opportunity to play out his accumulated feelings of tension, frustration, insecurity, aggression, fear, bewilderment and confusion. By playing out these feelings he brings them to the surface, gets them in the open, faces them, learns to control them, or abandons them. There is security in the play therapy room, where the child is the most important person, where he is in command of the situation and of himself, where no one tells him what to do, no one criticises what he does, and no one nags and suggests (Axline, 1989:8, 15).

A core goal of psychotherapy with children is helping them uncover and express blocked emotions. Helping children define the self and feel more self-support assists in this. Aggressive energy can involve smashing clay or pounding drums. The emphasis is on the experience rather than the content. Children need opportunities to find the power within themselves so that they can be freed from the constraints that inhibit their ability to accept and express their varied emotions and to live freely and joyfully. Helping children unlock buried emotions and learn healthy ways to express their emotions in everyday life is not a simple matter. A variety of creative, expressive, projective techniques assist in this work.

These techniques and modalities lend themselves to powerful projections that can evoke strong feelings (Schaefer, 2003:150).

Gestalt therapy focuses on the “what” and “how” of behaviour rather than the “why”. It is generally not a problem-solving therapy, although problems may be used as examples of the client’s process. Self-awareness of process can lead to change (Schaefer, 2003:146). As Schaefer states, play therapy’s focus is different from that of other therapies, including occupational therapy. Occupational therapy concentrates more on the “why”; they are thus able to deal with specific components of AD/HD and sensory integration therapy. Play therapists concentrate more on their emotions and how they deal with everyday difficulties. As part of the play therapy process they concentrate on sensory modalities, and sensory strategies can form part of these modalities.

Gestalt therapists never push children beyond their capacity or willingness; therapists create an environment of safety. Though they accept children as they present themselves, they are ever cognisant of the clients’ potential for health. This relationship in itself can be therapeutic – it may be the only time that the child has had an experience of this kind. Children often break contact – suddenly the child’s energy appears to fade and he is no longer involved in the session. This may indicate that the child has reached a point of discomfort and suddenly closes down. This kind of resistance must be respected and honoured, because it is the only way the child knows to protect the self (Schaefer, 2003:144). In the case of a child with AD/HD the above-mentioned should be considered, but the therapist should explore whether the child cannot concentrate any longer or whether they do not have the ego strength or self-support to continue. The therapist should always allow time-out for the child with AD/HD so that he can regain his normal arousal levels, which will enable him to concentrate better. By implementing this, he will not feel inadequate to do the tasks, which would lower his self-esteem even more.

### **3.4.6 Theme 6: Boundaries and dangers for therapists using sensory integration strategies**

#### 3.4.6.1 Verbal responses of respondents

##### **Respondent 1**

- Ek moet eers baie mooi gaan kyk na daai kind se profiel om seker te maak wat is sy probleem. Ek dink dit is wat dit baie keer vir my moeilik maak om te sien hoe 'n ou wat nie noodwendig daarin opgelei is nie, noodwendig gaan weet waar is die kind se probleem, byvoorbeeld of hy hoë of lae thresholds het.
- Ek werk al meer as sewe jaar met hierdie spesifieke goed en dit voel soms nou nog ek is nie seker nie. Dit is sensoriese-integrasieterapie.
- Persoonlik sal ek sê enigiemand kan sensoriese-integrasiestrategieë gebruik vir stimulasie, maar die integrasieterapie is die moeilike ding en ek dink dís waar mens dalk teenkanting kan kry van arbeidsterapeute, omdat dit 'n vreeslike nagraadse kursus is.
- Persoonlik dink ek die enigste manier hoe ek kan sien hoe dit kan werk is: Sê nou maar die kind het AD/HD en jy vermoed daar is sensoriese-integrasieprobleme, moet daardie kind eers geëvalueer word om baie spesifiek te bepaal of dit dít is, en dat 'n arbeidsterapeut sê: Goed, hierdie is sy profiel. Hier het hy hoë thresholds of lae thresholds; dís waarvoor jy moet versigtig wees, ensovoorts.
- Dis iets waar jy kan skade doen ook. Die rede hoekom dit werk, is omdat dit 'n effek het, maar as dit die verkeerde effek het, kan dit eintlik die kind skade aandoen.
- As ek net dink uit 'n etiese oogpunt, sal ek baie versigtig wees om te sê ek gebruik daai tipe terapie, ter wille van die kind.

##### **Respondent 2**

- Daar is baie voorsorgmaatreëls; daar is baie dinge wat jy absoluut fyn moet observeer en jy het nog nie die agtergrond om te weet wanneer jy jou kind in 'n sensory overload insit nie, of wanneer gaan jy hom dalk in 'n sensoriese shutdown sit as jy net voortgaan om sensoriese stimulasie toe

te pas. Ek dink dit is nodig om te gaan kyk na die literatuur; te gaan kyk na wat is die strategieë wat gebruik word spesifiek vir AD/HD.

- As jy begin dink aan om 'n sessie van tasstimulasie of vestibulêre stimulasie te doen deur die kind op 'n swaai sit, of wat ook al, om hom te probeer kry sodat hy in die calm alert state is, dan dink ek nie; daar trek ons die lyn.

### **Respondent 3**

- Ek dink as jy met sensoriese strategieë werk, is daar minder gevaar, maar daar is, want sodra jy met sensoriese sisteme werk, dan bereik jy tog die kind se retikulêre aktiveringsstelsel en jy kan baie keer outonome breinresponse fasiliteer. Dit het potensieel gevaar vir 'n kind. 'n Kind kan letterlik flou raak as jy hom op die verkeerde manier stimuleer.
- As jy strategiegebaseer werk, is daar minder kans dat dit kan gebeur, maar dis nie onmoontlik nie.
- Ek dink as jy verstaan wat die waarde daarvan is en hoekom dit werk, dan dink ek gaan jy dit obviously meer effektief toepas, anders is dit 'n trial and error approach.
- As kinders hoë arousal het, dan is hulle potensieel angstig, wild, aan die gang – hiperaktief. Ek dink mens moet versigtig wees want baie keer kan spel 'n kind verder oorgestimuleer maak.
- Jy moet kan lees wanneer 'n kind genoeg gehad het en dan moet jy nie vir hom meer informasie gee nie. Dan moet jy juis die informasie wegneem.
- Ek dink oorstimulasie bly altyd 'n gevaar.
- Jy het delayed responses. Jy het dalk 'n kind wat nou deur 'n proses gaan en nie nou reageer nie, maar vanaand of môre reageer.
- Oorstimulasie is net eenvoudig van die sensoriese informasie in die brein wat baie sterk en baie kragtig is en jy kan outonome nervous system responses daarmee fasiliteer. Jy moet altyd kyk: Raak die kind rooi in sy gesig, verander die pupilgrootte, begin die kind sweet of gaap – al daardie tipe goed.
- Sodra 'n kind begin avoid as jy in 'n terapeutiese proses is, glo ek jy moet onmiddellik kan beseftig wat is besig om te gebeur. Wat het ek gedoen om die gedrag te fasiliteer?

- Jy moet holisities wees en jy moet kan kyk na die kind in alle terme. Jy moet weet waar lê jou boundaries.
- Jou grense is jou grense, maar daar gaan altyd oorvleueling wees en ek dink in daai oorvleueling is dit soms waar die magic lê.

#### 3.4.6.2 Sub-themes

- **Play therapy and boundaries during intervention**

There are a few boundaries that a play therapist should keep in mind when working with children. As the respondents said clearly, the therapist should be aware not to overstimulate or overarouse the child. The respondents mentioned that the child will lose concentration, fidget and display negative behaviour in such a case. When that does happen, the therapist should stop and give him time to get to the calm alert state. Sensory mediums should thus be used with caution and the child's behaviour should be monitored continuously during the session.

The respondents expressed their concern regarding other therapists doing sensory integration therapy. The play therapist should always use these strategies with caution and if or when the child displays behaviour or signs of sensory integration disorder, the therapist has to refer him as soon as possible. Sensory integration therapy is specialised and only people who underwent the extended training can do sensory integration therapy.

Within any profession there are certain boundaries that should be respected. The respondents felt strongly about this. In Gestalt therapy there are also a few boundaries that should be honoured. Play therapists should honour and respect these boundaries.

Organismic self-regulation is a personal objective of the child in therapy. Although of great importance, there are many problems associated with it, especially for the therapist. Children have specific needs that must be met if they are to develop healthily. For example, children need sensory stimulation, movement, nutrition, affection and sleep. It is therefore the task of the therapist to

explore what the needs of the child are and to make it possible for him to meet his needs. When the needs are not met, the child experiences a disturbance and the therapeutic relationship can therefore not flourish. The therapist must thus keep in mind that the child always comes first. The situation often arises that the parents want to be the most important people in the situation, wanting to prescribe the nature of the intervention: how, when and under what conditions the therapist ought to take action (Schoeman, 1996:35).

“Now” is a functional concept referring to what the organism is doing at the present time. What the organism did five minutes ago is not part of “now”. Remembering is not “now” either. This concept is also associated with the Gestalt: While building the relationship with the child, it is important to remember that Gestalt therapy starts from the obvious, the things that the child can see for himself. The obvious is often so frequently overlooked by the adult. To be in contact with the here and now also means that the therapist must be aware of her own emotions, feelings, preferences and dislikes and must share these willingly. To be in the here and now with the child means that the therapist should have the ability to be her natural self and communicate her own feelings (Schoeman, 1996:34). The therapist should be aware not to cross professional and ethical boundaries while working in the here and now. She should also be aware of her own awareness and arousal levels, because this can have a negative effect on the quality of the intervention.

Another problematic area is that of confluence, often initiated by the therapist’s use of clichés. Clichéd expressions often form part of the communication between children and adults. Sometimes when a clichéd expression is put to a child, he may dismantle the boundary of his self and project his own existence onto the person who has used the cliché. The privacy of his own isolated self is gone; instead, he allows another not only to share his experience, but also to make their experience part of his own self. At this stage, one may say that the child is in confluence with what has been put to him. Confluence is the appreciation of sameness, and the openness of the child’s boundaries allows him to appreciate the similarity between himself and the therapist. In other words, confluence makes the child and the therapist the same. It is thus clear that the

therapist must be in confluence with the child, and not the other way around (Schoeman, 1996:31).

The therapist must make sure that the child is in sensory contact with all his modalities before continuing with therapy. If the child is not making sensory contact, the therapist needs to refer him to other specialists or stimulate the affected senses (Schoeman, 2004:143).

The law of readiness operates in the therapy session. When a child is ready to express his feelings in the presence of the therapist, he will do so. He cannot be hurried into it. An attempt to force him to do so causes him to retreat. Quite often children pass through a period of seemingly uneventful play during the therapy hour. Such a period calls for patience and understanding on the part of the therapist. If the therapist feels that the child has a problem and she wants to address the problem as soon as possible, she must remember that what she feels is not important. If the child has a problem, he will bring it to the fore when he is ready. If the therapist thinks the child is not making any progress during the weeks of therapy, she should examine and re-examine her notes to see if she can spot something that has caused resistance to the therapy (Axline, 1989:119). During the search for the reason why no progress has been made, the therapist might find that there is something bigger or more complex that she cannot deal with herself; then she needs to refer the child. She might pick up that the child is sensory defensive or seeking to such an extent that sensory integration therapy is needed, or that he needs to be examined for ADD or AD/HD.

### **3.4.7 Theme 7: The use of sensory integration and play therapy**

#### **3.4.7.1 Verbal responses of respondents**

##### **Respondent 1**

- Mens moet nogal onderskeid tref: Wanneer is dit terapie en wanneer gebruik jy byvoorbeeld kalmerende tegnieke om die kind gefokus te kry.
- Ek dink dis nogal iets wat mens saam kan gebruik, veral as daar iemand is wat so 'n bietjie verdere opleiding het, soos spelterapeute.

- Die belangrikste bydrae wat mens eintlik kan lewer, is om te identifiseer wat is die probleem en dan te kyk hoe kan 'n mens dit oplos – miskien meer in 'n spanverband.
- As 'n spelterapeut sou dit belangriker vir jou gewees het om te weet hy is sensitief daarvoor en vir dit voorsiening te maak, eerder as wat jy probeer om die sensitiwiteit te verminder.
- Sê nou die kind is tasdefensief en deel van jou aktiwiteit is byvoorbeeld om met skeerroom teen die spieël te werk – dit gaan vir hom 'n bedreiging wees.
- As jy bewus is van die probleemarea, dan gaan jy weet om daai goed te vermy en met iets te werk wat binne sy vermoë is.

### **Respondent 2**

- Watter strategieë gaan jy spesifiek wil gebruik en hoe gaan jy dit gebruik of inkorporeer in jou spel terapie.
- Ek sien definitief die plek van 'n spelterapeut en spesifiek Gestaltspel terapie in die hantering van hierdie populasiegroep, maar ek dink jou fokus gaan wees om die sekondêre probleme te hanteer. Jy gaan nie primêr die AD/HD hanteer nie. Daarvoor gaan hy nog ander insette nodig hê.
- Ek dink nou aan 'n hele paar gevalle wat ek dan nou wel spel terapie mee gedoen het en dan is dit 'n AD/HD-kind, waar ek net gevoel het hierdie kind se emosionele goed moet nou hier gehanteer word. Dan het ek 'n paar sessies spel terapie gedoen en dan gaan ek weer aan met my sensoriese-integrasieterapie.
- Twee persone het vir ons 'n aangepaste spel terapiëkursus gedoen. Ons gebruik baie hierdie tegnieke, dat jy net kan sien waar die kind se sensoriese behoeftes is en dan ewe skielik sien jy hier is jou behoeftes meer op 'n emosionele vlak, en dan kan jy net daar 'n skuif maak.

### **Respondent 3**

- As jy spel terapie doen, is jou fokus op die emosionele deel van die kind, maar ek voel tog as jy 'n sensoriese komponent bysit, dan begin werk jy aan nog 'n deel van 'n kind se funksionering.

- Ek dink jy kan dit basies bylas. Dis basiese speltherapie deur die sintuie, maar dan nie net blootstelling nie.
- Ons praat baie met onderwysers om 'n safe space in hulle klaskamers te fasiliteer. Ons praat met ouers om dit in die huis te doen – hoekom kan julle dit nie doen in julle speltherapie-areas nie?
- Julle werk een tot een en ek dink julle omgewing is potensieel baie goed, maar daar kan nog steeds vir die kind dele wees wat moeilik is, so dit is 'n goeie strategie om te gebruik.
- Ek voel mens moet nogal baie pertinent kyk na die tassisteem, as ek nou 'n sisteem moet uitsonder vir julle. Ek kan nie anders nie as om te dink oor die tassisteem; hoe belangrik dit is vir bonding, vir relationships.
- Daar is spesifiek 'n paar fokuspunte wat julle kan gebruik. Ek sou definitief die tassisteem gebruik, want jy gaan baie vinnig agterkom as 'n kind nie daarvan hou nie.
- Hy is nie gefokus nie, so hy kan nie absorbeer, integreer nie. Jy kan nie terapieuties met 'n kind optree as hulle nie normal arousal het nie.
- Sodra jy 'n kind inkry en jy kan hom nie eers gefokus kry nie, gaan jy obviously nie jou doel bereik nie.
- Onthou julle kan optimal arousal kry en dan werk julle emosioneel. Daar skei die twee vlakke, want elke ou het sy rol wat hy moet speel waar sy terapeutiese spesialiteit lê. Albei moet werk om sy aandag en fokus te kry.
- Julle sal nooit sensoriese-integrasieterapeute kan wees nie, maar ons gebruik spel as 'n terapiemedium. Daar gaan altyd 'n oorvleueling van velde wees.
- Ek weet met arbeidsterapeute, as ons nie spel inbring met ons kinders nie, gaan ons nêrens kom nie, want spel is die human occupation of children. Julle gebruik spel spesifiek van 'n emosionele komponent af.

#### 3.4.7.2 Sub-themes

- **The place of sensory integration strategies in the play therapy process**

The sensory experience of children in therapy is an important part of the play therapy process. Schoeman (2004:135) explains the importance and use of

sensory modalities in Gestalt play therapy. Our senses influence the way we experience the world. Seeing, hearing, smelling, tasting and touching constitute ways in which individuals contact their environment and become aware of themselves and their emotions by doing so. Senses are very important to all living organisms, as they serve as a survival mechanism. Perception is not just about the use of our senses, but also about the process that gives meaning to the information experienced by the senses. One of the main aims of Gestalt therapy is to help an individual become more aware of these feelings, and thus attain optimal mental health. Gestalt therapy thus aims to increase awareness so that needs can be identified and satisfied.

Sensing is what determines the nature of awareness, and sensory awareness is the practice of becoming more in touch with oneself. Through sensory awareness we are able to live more fully in the world; we can discover the connection between our minds and bodies. Gestalt therapists need to explore the sensory strengths of their client, as no two people have the same minds or bodies. Some people orientate themselves visually to colours, images or shapes. Other people attend to auditory signals, while others are perceptive to spatial modes of communication and need interaction involving movement, space and direction. When a client is not reacting favourably to one's interventions, one might be addressing him in a sensory mode to which he is slow to react or which he cannot deal with properly (Burley in Schoeman, 2004:137).

For Gestalt therapy to be effective, the child has to be able to break the Gestalt into meaningful units in order to analyse them separately. Without perceiving separate units as integrated parts of a whole, it is important to interpret the situation. The sensory-perceptual experience of the child is therefore very important in Gestalt therapy (Schoeman, 2004:137).

Some Gestalt play therapists make use of the Schoeman model during their play therapy sessions. In the Schoeman model there is a specific place for sensory modalities. Schoeman (2004:137) explains that various techniques are used in Gestalt therapy to get the child focused in the here and now. One of these techniques is using the sensory modalities of the child, which are the child's contact with the outer world. These sensory techniques, including sensory

integration strategies, can be implemented in the second stage of the Schoeman model of sensory modalities.

Schoeman explains different techniques that can be used during this stage of the play therapy process. A brief overview will be given on these techniques, enabling us to see how sensory strategies can be implemented at this stage. Imagery refers to any perception that comes through any of the senses, for instance recalling the smell and feel of the air at the start of summer. Such a sensory image is the true language of the body. Naparstek in Schoeman (2004:147) states that these images could be almost as real as the actual events. Our bodies do not discriminate between sensory images in the mind and in what we call reality. Therefore, as long as memories are grounded in sensory memory, one can revisit any specific moment over and over, each time experiencing the richness and nourishment it has provided before.

There are many “games” that can be played with children to provide them with good tactile experiences. Working with clay or finger paint, and playing with sand and water bring the child into contact with his feeling of awareness. The therapist can ask the child to focus his attention on the way these things feel on his skin. She can have an assortment of textured things for the child to feel. The child could be asked to verbalise how each item felt and what each tactile experience reminds him of (Schoeman, 2004:138). During the interviews all the respondents said that the therapist will see fairly quickly during therapy if the child has a sensory problem with touch. It is very important not to stimulate the child with tactile sensations if the child has a tactile problem or is overaroused.

The tongue is an important and very sensitive part of the body. The therapist will again use various non-threatening games to bring awareness to the sensation of taste. They may discuss how different things taste and which tastes the child likes and dislikes. The therapist can give the child different foods to taste, letting him experience the taste of sour, sweet, salty and bitter food, amongst others. The therapist can also hold out a bowl with a variety of sweets and ask the child to choose one (Schoeman, 2004:140). During the interviews it was clear that the respondents felt that the child should choose what he prefers to taste or eat. The therapist can explore the reasons why a specific sweet was chosen.

The therapist's task is once again to help the child to re-establish contact with his world and himself through sight. Play therapy offers the opportunity to do this through various exercises. The therapist and the child could spend time looking at various objects through differently coloured cellophane or from different angles together. Discussing how each object looked and the feeling it evoked (Schoeman, 2004:141). The respondents commented on the therapy room for children who are visually sensitive or overaroused. The therapist can make use of a womb space, which respondent three referred to, for children who are visually sensitive or overaroused.

Children learn to use hearing to pay attention to things that they want to hear but also to shut out that which they do not want to hear. Exercises using sound allow children to get in touch with their present feelings and evaluate what they hear and think. Music is a valuable means of bringing children back into contact with hearing. Children can be asked to sit quietly with their eyes shut and describe the emotions that each sound evokes. Background music played whilst the child is busy with a painting or drawing exercise can also bring him into contact with his emotions, which may then be reflected in his work. Once the child is back in contact with hearing, all kinds of sounds will trigger feelings within him and this will add to the therapeutic process.

Participation in music offers unique sensory experiences ranging from just perceptible responses on the neuromuscular level to the highest level of human behaviour, all of which are essential to the aesthetic experience (Schoeman, 2004:142). Sound can also be a very distracting medium for a child who is sensitive or overaroused, especially a child with AD/HD, who has trouble with concentrating. The therapist should therefore be alert to any negative reactions or behaviour of the child when using music during therapy.

The child discriminates between different odours since birth. The therapist can give the child different objects to smell, for instance sweets, flowers, fruit or perfume. The child has to smell them and discuss his likes and dislikes in this regard (Schoeman, 2004:143).

One of the most predominant senses for children is the kinaesthetic or body sense (Murdock in Schoeman, 2004:146). In Gestalt therapy one must become aware of the sensation involved in movement. The child should therefore describe what he feels when he is moving and can also say what the movement reminds him of. All the respondents stated that other therapists should be careful of using movement as a medium. Children whose vestibular sense is overaroused or sensitive might display negative behaviour towards movement exercises. Damage can also be done by using movement if the therapist is not confident in what she is doing.

### **3.5 CONCLUSION**

According to the data collected from the respondents, professionals working with children with AD/HD can make use of sensory integration strategies as part of their intervention. The respondents explained that sensory integration strategies do have a positive effect on children with AD/HD. It seems as if these strategies can be applied not only with children diagnosed with sensory integration disorder, but all children with sensory integration difficulties. Sensory integration strategies can be well integrated and used in the Gestalt play therapy process. However, professionals using sensory integration strategies should be alert not to do sensory integration therapy.

## **4. CHAPTER FOUR: CONCLUSIONS AND RECOMMENDATIONS**

### **4.1 INTRODUCTION**

The results of the empirical study, captured in chapter 3, indicate that professionals can use sensory integration strategies. However, they should be cautious not to try and do sensory integration therapy, because specialised training is compulsory for applying this type of therapy.

The aim of this chapter is to determine whether the research question has been answered and to draw conclusions and make recommendations. As a starting point the research question will be repeated, followed by the aim and the objectives of the study. Each chapter of this research study will then be summarised in the research report, after which the conclusions and recommendations will follow.

### **4.2 RESEARCH PROBLEM**

The nature of the research required a qualitative study, as semi-structured interviews were used to gather information. This required that the research question had to be formulated prior to commencing the empirical research phase in order to guide the nature and scope of the research, with the aim of meeting the objectives of the study. The research question is:

What sensory integration strategies can therapists use when working with children with AD/HD?

The appropriate type of research for this study was applied research, as this concerns the scientific planning of induced change in a troublesome situation, which was applicable in this study. This approach aims at investigating some form of social interaction with the intention of providing information to facilitate decision making and to answer a practical question related to intervention.

From the empirical data collected it was obvious that the research question was answered. This statement is based on the fact that the results of the empirical

data indicated that professionals can make use of sensory integration strategies during therapy, although a lot of emphasis is on the strategies and not therapy. Some of the respondents stressed that basic knowledge of sensory integration is needed in order to make use of sensory integration strategies during therapy. These suggestions will be discussed as part of the recommendations.

### **4.3 EVALUATION OF ACHIEVING THE AIM AND OBJECTIVES**

The aim of the study was described in chapter 1. To ensure that the study achieved its aim, it is necessary to re-examine the aim and objectives of the study.

#### **4.3.1 Aim**

The aim of this study was to explore the use of sensory integration strategies when working with AD/HD children. The aim was achieved, as existing literature was utilised to conceptualise a framework for the study. An empirical study was done by means of semi-structured interviews with three professional people working in the helping professions and working with sensory integration and AD/HD. The aim of the interviews was to explore in which way sensory integration strategies can be used during intervention with a child with AD/HD. On completion of the interviews the data were transcribed and analysed, and the researcher made use of a literature control.

#### **4.3.2 Objectives**

In order to achieve the aim of this study, certain objectives had to be reached. These objectives will be discussed below.

##### **4.3.2.1 Objective 1**

The first objective was to do a literature study on AD/HD and sensory integration strategies with the aim of conceptualising a framework for the study. The literature study focused on how sensory integration strategies can be used during intervention with a child diagnosed with AD/HD. Literature is available on

sensory integration as part of occupational therapists' training manuals, but the researcher aimed the literature study at how sensory integration can be used with the child diagnosed with ADHD from the point of view of another type of therapist.

The literature study was captured in chapter 2, and succeeded in meeting this objective. The literature study provided a description of the child diagnosed with AD/HD, with specific emphasis on the symptoms, diagnosis, comorbid disorders and the subtypes of AD/HD. The chapter further described sensory integration, sensory integration difficulties, behavioural problems associated with sensory integration, the different senses and causes of sensory integration difficulties. The chapter also described Gestalt play therapy and the role of sensory modalities in the therapeutic process in order to gain a better understanding of how sensory integration strategies can fit into the play therapy process. The information above, obtained from existing literature, guided the attainment of the second objective, namely to conduct an empirical study.

#### **4.3.2.2 Objective 2**

The second objective was to do an empirical study by means of semi-structured interviews with professionals in order to explore in which way sensory integration strategies can be used during intervention with a child diagnosed with AD/HD. The researcher analysed the data and made use of a literature control during this phase.

The empirical study described in chapter 3 was successfully concluded, whereby the above-mentioned objective was reached. Seven main themes and seven sub-themes were identified from the data collected. The themes are as follows:

- Theme 1: Professionals using sensory integration strategies
  - Sub-theme: Play therapy and the use of sensory integration strategies
  - Sub-theme: Play therapy techniques and the use of sensory integration strategies
- Theme 2: Identification of sensory integration strategies

Sub-theme: The use of the Alert programme as a sensory integration strategy

- Theme 3: Sensory integration and the child with AD/HD

Sub-theme: Effects of sensory integration strategies on an AD/HD child

- Theme 4: The use of sensory integration strategies and self-regulation

Sub-theme: The use of sensory integration strategies and emotional self-regulation

- Theme 5: Focus on the emotions of an AD/HD child when sensory integration strategies are used

Sub-theme: Emotional experience of an AD/HD child when sensory integration strategies are used

- Theme 6: Boundaries and dangers for therapists using sensory integration strategies

Sub-theme: Play therapy and boundaries during intervention

- Theme 7: The use of sensory integration and play therapy

Sub-theme: The place of sensory integration strategies in the play therapy process

The objective was reached as the data collected during the empirical study provided evidence that professionals can use sensory integration strategies when working with children with AD/HD.

#### **4.3.2.3 Objective 3**

The third objective was to enlighten professionals regarding the use of sensory integration strategies during intervention with a child diagnosed with AD/HD.

The last objective will be reached in this chapter when the conclusions and recommendations are made. It can therefore be validated that the aim and objectives of this study were reached.

#### **4.4 SUMMARY OF THE CHAPTERS IN THIS RESEARCH STUDY**

In the next section a summary of the chapters in the research study will be provided as a background to the recommendations made in this chapter.

#### **4.4.1 Chapter 1: The research process**

The choice of the research topic, based on the rationale of the research, is motivated in chapter 1. This resulted in the formulation of the research problem and the research question. The aim and objectives of the research were then determined. The nature of the research determined that the qualitative approach would be followed, as a social problem, namely professionals' use of sensory integration strategies with an AD/HD child, was the focus of the study.

Applied research was used, as an exploration was to be done regarding the use of sensory integration strategies with an AD/HD child by professionals other than occupational therapists.

Purposive sampling was done and specific criteria for inclusion in the study were determined. In accordance with these criteria the sample consisted of professionals working in the northern suburbs of Cape Town district who have experience in working with children diagnosed with AD/HD and who implement sensory integration during intervention with these children.

The researcher made use of those respondents whose attributes made the best contribution towards the study.

#### **4.4.2 Chapter 2: The conceptual framework**

Chapter 2 provides an overview of the child diagnosed with AD/HD, with specific emphasis on the symptoms, diagnosis, comorbid disorders and the subtypes of AD/HD. Sensory integration, sensory integration difficulties, and behavioural problems associated with sensory integration, the different senses and causes of sensory integration difficulties are also discussed.

The chapter also describes Gestalt play therapy and the role of sensory modalities in the therapeutic process in order to gain a better understanding of how sensory integration strategies can be implemented in the play therapy process.

### **4.4.3 Chapter 3: Empirical study and research findings**

Respondents who were interviewed for the empirical study gave their consent to take part in the study. They signed a permission form before the interviewing started.

The researcher facilitated the interviews and open discussions and explanations followed. The respondents had freedom to express themselves in a way with which they felt comfortable.

Seven main themes were identified during the analysis of the data. For each main theme, one or two sub-themes were identified. The research findings were compared to existing literature and discussed.

## **4.5 VIABILITY OF THE STUDY**

The truth value, applicability, consistency and neutrality of the study should be determined (Lincoln & Cuba in De Vos, 2005:346). Although these terms can be matched to the conventional positivist paradigm – internal validity, external validity, reliability and objectivity – these authors demonstrate how inappropriate these constructs are to naturalistic or qualitative inquiry. The following four constructs reflect the assumptions of the qualitative paradigm more accurately.

### **4.5.1 Credibility**

The goal of credibility is to demonstrate that the enquiry was conducted in a manner that ensured that the subject was accurately identified and described. The researcher should determine the parameters with reference to the population, theoretical framework and environment before the study is conducted. Boundaries are determined for the study (De Vos, 2005(b):346).

The researcher determined beforehand that there is a need for the study from personal experience and enquiries with other professionals. The researcher accepted a conceptual framework based on her own theoretical framework and

practical experience, and which incorporated the help of the tutor. This research study thus meets the requirements for credibility.

#### **4.5.2 Transferability**

The transferability of a qualitative study can be problematic in certain circumstances. The external validity of the qualitative findings rests more with the investigator who makes the transfer, demonstrating the applicability of one set of findings in another context. The researcher can refer back to the original framework in order to show how the data collection and analysis are influenced by certain concepts and models (De Vos, 2005(b):346).

The researcher made use of different resources throughout the study, for example three respondents, new and historic literature, as well as people who specialise in specific areas related to the research. Ethical issues played an imperative role throughout the research study.

#### **4.5.3 Dependability**

Dependability is the alternative to reliability, according to which the researcher attempts to account for changing conditions in the phenomenon chosen for the study, and changing the design created by increasingly refining understanding of the setting. The research can logically be replicated. This assumption of an unchanging social world forms a direct contrast to the qualitative assumption that the social world is always being constructed and the concept of replication itself problematic (De Vos, 2005(b):346).

The researcher stated clearly that individual cases differ and that the severity of a child's AD/HD or sensory integration difficulties will be determined individually. A child's emotional state, surroundings and parents can influence his behaviour and the success of therapy. However, this does not influence the dependability of the study.

#### **4.5.4 Conformability**

This involves the traditional concepts of objectivity. The question is whether the findings of the study can be confirmed by another. By doing this, evaluation is removed from some inherent characteristic of the researcher and placed on the data instead (De Vos, 2005(b):347).

The researcher attempted to stay as close as possible to the feelings and opinions of the respondents. The reason for the transcription after the interviews was partly to enable the researcher to stay objective at all times.

#### **4.6 CONCLUSIONS**

The researcher concludes that the aim and objectives of the research study have been met. The exploration of the use of sensory integration strategies with an AD/HD child has been completed successfully. Semi-structured interviews were conducted with three respondents and the data were collected. The researcher believes that the research question has been answered through the data collected in the empirical study. The conclusions were made from the data collected and can not be generalised to other therapists. The following conclusions were drawn from the empirical data collected during the interviews with the respondents:

- Other professional people can use the basic principles and strategies of sensory integration during therapy, but cannot apply sensory integration therapy, as it is a specialised profession.
- The occupational therapists who were interviewed teach sensory integration strategies to teachers, parents and caregivers of children with AD/HD. A lot of the basic principles form part of these strategies.
- Not all children with AD/HD have sensory integration difficulties, but using sensory integration strategies during therapy will be helpful to assist in improving the child's concentration and focus.
- Sensory integration strategies mainly help the child with stimulation.
- Sensory integration strategies help to get the child focused for intervention.

- Gestalt therapy concentrates on helping the child focus in the here and now. If a child is not integrated in the here and now, it is difficult to engage in therapeutic intervention.
- There are a lot of basic things that can be used in sensory integration strategies, for example Prestick, rubber tubing, edibles and dividing therapy time in smaller units for children who struggle to concentrate for long.
- The Alert programme is an easy tool with strategies that can be used by professionals and other people. Any person can undergo training in this programme. This will also help to gain more knowledge about sensory integration strategies.
- The therapist has to determine whether the child's priority need is physical or emotional, and what it is that is causing outbursts, for example. The child's surroundings and the important people in his life can have a big impact on him and his behaviour.
- Not all children with AD/HD have sensory integration problems, but these strategies can nevertheless be used during therapy, as they help to normalise arousal levels.
- Self-regulation in sensory integration is a physical reaction, whereas self-regulation in play therapy is an emotional reaction. Although the focus on self-regulation differs, it is an important part of therapy and the healing of the person in both professions.
- A child with AD/HD has a lot of emotional difficulties and sometimes needs therapeutic intervention. They experience a lot of rejection by peers and parents and are singled out regularly. They sometimes have a very low self-esteem and self-image because of rejection and other important factors.
- Boundaries are very important when using sensory integration strategies as a professional. The therapist must know when to refer a child and to whom she should refer him. Knowing where to draw the line is imperative.
- Training in or gaining better knowledge of sensory integration will help professionals who want to use sensory integration strategies during therapy. This will create better understanding of why these strategies work and how they work. It will also help professionals to see when a child needs to be referred for sensory integration therapy.

- Gestalt therapy has a specific role regarding sensory modalities in the therapeutic process. Using sensory integration strategies will combine well with sensory modalities in Gestalt play therapy.

## **4.7 RECOMMENDATIONS**

The researcher will discuss a few general recommendations in this section, as well as recommendations for professionals who want to utilise sensory integration strategies in therapy.

### **4.7.1 General recommendations**

General recommendations were made as a result of the empirical study and are as follows:

- If a professional wants to make use of sensory integration strategies, she should first gain more knowledge by attending workshops, reading about sensory integration and networking with occupational therapists.
- The Alert programme should be used as part of an existing therapeutic process and should not be seen as a separate part of the intervention.
- Particularly play therapists expand their existing sensory modality process with sensory integration strategies. The therapist and the child can achieve a lot more when they work holistically.
- Professionals working with AD/HD children integrate sensory integration strategies in their intervention process. Some of the children could have been misdiagnosed or have a dual diagnosis, and implementing these strategies can thus contribute to more effective therapy.
- When planning a therapeutic session, it should be kept in mind that the main purpose of the session does not concentrate on sensory integration strategies – the purpose of the therapy will remain the same; an extra tool is merely added.
- The therapist knows where her professional boundaries are and will refer a child as soon as possible when she suspects that he has a sensory integration dysfunction.

- The therapist will not let others believe that she is doing sensory integration therapy instead of just using the strategies in therapy.
- The therapeutic session will focus on the child's pace and nothing will be rushed if the child cannot follow the pace.
- The therapist gets good collateral information from the parents and teachers in order to have a better understanding of the child's situation.
- The child is included in the entire decision making process and will have a choice regarding what he wants to work with or not. Especially when a child is tactile sensitive, nothing should be forced on him.
- The researcher will be attentive to a child's preference to certain material and senses and if the child displays a negative reaction towards a sense, the therapist will explore its reason and effect.
- The therapist should be aware of the AD/HD child's medication and background, especially with regard to when he started using medication and when he takes it. Behavioural strategies can be taught to the child to help him cope during the time when his medication wears off. Sensory integration strategies can form part of this process.
- Networking should be done with people from other professions in order to gain more knowledge on their intervention processes and to learn new strategies from them. A play therapist and occupational therapist can work hand in hand and can learn a lot of strategies from each other. If the play therapist is unsure about a child displaying behaviour similar to that of a child with sensory integration dysfunction, she needs to ask for guidance.

#### **4.7.2 Recommendations for the research process**

The following recommendations were made of the research process:

- The researcher is of the opinion that semi-structured interviews using structured questions would have been more effective for the purpose of this study. This would allow the researcher to give more direction and to be more specific regarding the topics covered in the research.
- In further studies the experience of the child with AD/HD should be explored through interviews or therapy when using sensory integration

strategies. A research study can also focus on compiling guidelines for professionals who want to use sensory integration strategies.

- Finding professionals who are willing to participate and finding a suitable time for the interviews were very difficult. The criteria for choosing respondents can be adjusted or changed and the time limit should be set well in advance.
- Literature about sensory integration strategies was limited and most of it was found in occupational therapy books. This made the literature study difficult, because all the literature is written from an occupational therapist's point of view. The researcher is of the opinion that a researcher should make use of the internet more, and should find literature in advance.
- A research study can be done on the effects of sensory integration strategies on an AD/HD child. Very little reliable literature is currently available on these effects.
- If a professional other than an occupational therapist wants to conduct a further study on sensory integration strategies, an occupational therapy lecturer should be available as a second tutor for the duration of the study.

#### **4.8 FINAL CONCLUSION**

A few children with AD/HD have a dual diagnosis of AD/HD and sensory integration dysfunction; others show symptoms, but only have difficulties with sensory integration and do not have the dysfunction. All AD/HD children struggle to concentrate, and some of the sensory integration strategies can help them with concentration and focus.

According to the interviews with professionals who work with children with AD/HD and use sensory integration, there is a consensus that other professionals can use sensory integration strategies as part of their intervention. These strategies can be applied to any therapeutic situation with any child. However, the professional should have a good understanding of the theories of sensory integration. This will help with using the strategies.

Therapy is about helping a child in the best possible way. Gestalt therapy is a holistic approach which includes the child's field and the important people in his life. Adding sensory integration strategies to the intervention process will assist in helping the child even more holistically on an emotional and more physical level. Adjusting sensory modalities with sensory integration strategies during the play therapy process can be beneficial for the child and his general development. As said before, a child with AD/HD struggles with concentration, and using sensory integration strategies might assist him in improving his arousal levels, thus improving his concentration. This will help to develop a well-balanced child in an uncertain world.

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## APPENDIX A

### LETTER OF CONSENT

22 Amanda Street  
Amanda Glen  
Durbanville  
7536

**Researcher:** Jana Raath  
**E-mail address:** [janaraath@gmail.com](mailto:janaraath@gmail.com)  
**Telephone number:** 084 2333 916

#### INFORMED CONSENT: PARTICIPATION IN RESEARCH

I \_\_\_\_\_, hereby give my consent to participate in the research study. The title of the research is: Sensory integration strategies for the child diagnosed with AD/HD.

I am a Social worker and am currently busy with my MDiac in Gestalt Play therapy at Huguenot College in Wellington. The reason for the study is to explore in what way sensory integration strategies can be used by professionals when working with children diagnosed with AD/HD.

I would like to commence interviews with at least four professionals using sensory integration and is working with children diagnosed with AD/HD. These interviews will be semi-structured and the respondent will have the freedom to give any necessary information as desired. The focus will be on working with children diagnosed with AD/HD and the use of sensory integration strategies. The duration of the interview will be one hour. I will make notes during the interview which will be used during data analysis.

The risk is there that some of the information given might be confidential. If there is any information given that the participant do not want to be used, the researcher will destroy the evidence and declare not to make use of the information.

I want to assure you that any participant may withdraw from the research study at any given time without any negative consequences.

All the information will handle as confidential. Anonymity of the participants is assured. If any participant withdraws from the research all the information that he / she has given will be destroyed.

The participant's names will not be named in the mini-thesis.

I would like to urge you to sign the document and to send it back to the researcher as soon as possible. If any further information is needed, you are welcome to phone or e-mail me at any time.

Researcher: Jana Raath

Signed:

\_\_\_\_\_ at: \_\_\_\_\_ date: \_\_\_\_\_

Participant:

\_\_\_\_\_ at: \_\_\_\_\_ date: \_\_\_\_\_