RESILIENCE IN FAMILIES LIVING WITH A CHILD DIAGNOSED WITH ATTENTION DEFICIT/HYPERACTIVITY DISORDER

TANIA THERON

Submitted in partial fulfillment of the requirements for the degree of

MAGISTER ARTIUM IN CLINICAL PSYCHOLOGY

in the

Department of Psychology
In the
Faculty of Health Sciences
at the Nelson Mandela Metropolitan University

Supervisor: Professor Greg Howcroft
Co-Supervisor: Ms. Ottilia Brown-Baatjies

January 2008
ACKNOWLEDGEMENTS

The completion of this study was a culmination of the support, encouragement, effort and enthusiasm of many individuals. I would like to express my sincere appreciation and thanks to each of the following:

- My supervisors, Professor Greg Howcroft and Ms. Ottilia Brown-Baatjies, for their invaluable advice, support and expertise throughout this study.
- The ADHASA Support Group. I would like to express my sincere thanks and gratitude to the President of the ADHASA support group Mrs. Heather Picton, as well as Mrs. Sandy Cox for going the extra mile in helping me identify families to participate in this research study. Your dedication, energy and enthusiasm in wanting to create a positive impact on the lives of AD/HD children and their families is admirable.
- The Port Elizabeth AD/HD Support Group: Thank you to Mrs. Estelle Smith who advertised my research and who always gave me a warm welcome at the support group meetings.
- The schools, principals and teachers that offered their support, time and energy in helping me identify participants for this research study.
- Professor Awie Greeff, at the University of Stellenbosch for his allocation of SANPAD funding which made a significant contribution to the completion of this study.
- Dr. Martin Kidd, at the University of Stellenbosch, for assisting me with the statistical analysis of the results of this study.
- The research participants. Thank you for your participation in this study.
- The children with AD/HD, because without them this study would not have been possible.
- My father and mother: Peter and Helena Theron: Thank you for your unconditional love and support. I could never have completed this research without your encouragement as well as your emotional and instrumental support. Thank you for believing in me! And most importantly, thank you for taking such special care of Hannah.
- My sister, Chantel. Your support, encouragement and optimism kept me motivated. And a special thank you for being such a wonderful aunt.
- My husband, Alex. Your support, nurturing and patience throughout this process has deepened my love and appreciation for the person that you are.
- My beautiful daughter, Hannah. Your smile, your laugh and your hugs and kisses brought a smile to my face in those moments that I needed it the most!
- My friends, thank you for your love, support and encouragement.
- Most importantly, I want to thank The Lord for being my source of strength and providing me with the wisdom, determination and perseverance to complete this research.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgments</td>
<td>ii</td>
</tr>
<tr>
<td>List of Figures</td>
<td>x</td>
</tr>
<tr>
<td>List of Tables</td>
<td>xi</td>
</tr>
<tr>
<td>Abstract</td>
<td>xii</td>
</tr>
<tr>
<td><strong>Chapter One: Introduction and Problem Statement</strong></td>
<td></td>
</tr>
<tr>
<td>1.1 Introduction</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Context of the Research</td>
<td>1</td>
</tr>
<tr>
<td>1.2.1 Attention Deficit/Hyperactivity Disorder</td>
<td>1</td>
</tr>
<tr>
<td>1.2.2 Positive Psychology and Resilience</td>
<td>4</td>
</tr>
<tr>
<td>1.2.3 Family Resilience Framework</td>
<td>6</td>
</tr>
<tr>
<td>1.3 Primary Aim of the Research</td>
<td>8</td>
</tr>
<tr>
<td>1.4 Delineation of Chapters</td>
<td>8</td>
</tr>
<tr>
<td>1.5 Conclusion</td>
<td>8</td>
</tr>
<tr>
<td><strong>Chapter Two: Attention Deficit/Hyperactivity Disorder</strong></td>
<td></td>
</tr>
<tr>
<td>2.1 Introduction</td>
<td>9</td>
</tr>
<tr>
<td>2.2 The History of AD/HD</td>
<td>10</td>
</tr>
<tr>
<td>2.3 The Prevalence of AD/HD</td>
<td>11</td>
</tr>
<tr>
<td>2.4 Clinical Picture of AD/HD</td>
<td>12</td>
</tr>
<tr>
<td>2.4.1 Diagnostic Criteria for Attention Deficit/Hyperactivity Disorder</td>
<td>13</td>
</tr>
<tr>
<td>2.4.2 Inattention</td>
<td>14</td>
</tr>
<tr>
<td>2.4.3 Impulsivity</td>
<td>16</td>
</tr>
</tbody>
</table>
2.4.4 Hyperactivity

2.5 Comorbidities of AD/HD

2.5.1 Learning Disorders

2.5.1.1 Poor Concentration

2.5.1.2 Impulsivity

2.5.1.3 Poor Working Memory

2.5.1.4 Defiance

2.5.1.5 Poor Self-Esteem

2.5.1.6 Auditory Processing Impairment

2.5.1.7 Spelling Difficulties

2.5.1.8 Handwriting Difficulties

2.5.1.9 Organizational Difficulties

2.5.1.10 Dyslexia and AD/HD

2.5.1.11 The Gifted Child and AD/HD

2.5.2 Behavioural and Emotional Comorbid Disorders

2.6 Etiology of AD/HD

2.6.1 Genetic Factors

2.6.2 Pregnancy, Birth and Developmental Factors

2.6.3 Neurochemical Factors

2.6.4 Neurophysiological Factors

2.6.5 Psychosocial Factors

2.6.6 Diet

2.6.7 Environmental Toxins

2.7 Treatment of AD/HD

2.7.1 Stimulant Medication

2.7.2 Family-Based Interventions

2.7.3 School Interventions
Chapter Three: Resilience

3.1 Introduction

3.2 Resilience as a Construct
   3.2.1 Descriptions of Resilience
   3.2.2 Individual Resilience
   3.2.3 Family Resilience
      3.2.3.1 General Resilience Factors

3.3 Resilience Research in the South African Context

3.4 Advantages of a Family Resilience Framework

3.5 Conceptual Framework
   3.5.1 The Development of the Resiliency Model of Family Stress, Adjustment and Adaptation
   3.5.2 The Process of Adjustment
   3.5.3 The Process of Adaptation
3.5.3.1 Pile-Up of Demands (AA) 63
3.5.3.2 Family’s Level of Vulnerability (V) 64
3.5.3.3 Newly Instituted Patterns of Functioning (TT) 64
3.5.3.4 Family Resources (BB) 65
3.5.3.5 Appraisal Processes 66
3.5.3.6 Problem Solving and Coping (PSC) 67
3.5.4 The Applicability of the Resiliency Model of Family Stress, Adjustment and Adaptation to the Present Study 68
3.6 Conclusion 69

Chapter Four: Research Design and Methodology

4.1 Introduction 71
4.2 Aim of Study 71
4.3 Research Design 71
  4.3.1 Exploratory Research 72
  4.3.2 Descriptive Research 73
    4.3.2.1 Survey Research 73
4.4 Participants and Sampling 75
  4.4.1 Sampling 75
  4.4.2 Research Participants 77
4.5 Research Measures 78
  4.5.1 Biographical Questionnaire 79
  4.5.2 Social Support Index (SSI) 80
  4.5.3 Relative and Friend Support Index (RFS) 80
  4.5.4 Family Problem-Solving Communication (FPSC) 81
  4.5.5 Family Hardiness Index (FHI) 81
Chapter Five: Results and Discussion

5.1 Introduction

5.2 Results of the Measures

5.2.1 Quantitative Analysis

5.2.1.1 Correlation Analysis

5.2.1.1.1 Relative and Friend Support Index (RFS)
5.2.1.1.2 Social Support Index (SSI)
5.2.1.1.3 Family Crisis-Oriented Personal Evaluation Scales
5.2.1.1.4 Family Hardiness Index (FHI)
5.2.1.1.5 Family Time and Routine Index (FTRI)
5.2.1.1.6 Family Problem Solving Communication (FPSC)
| 5.2.1.2 | Summary of the Correlation Results | 104 |
| 5.2.1.3 | Regression Analysis | 105 |

### 5.2.2 Qualitative Analysis

#### 5.2.2.1 Thematic Content Analysis

| 5.2.2.1.1 | Social Support | 107 |
| 5.2.2.1.2 | Adherence to a Treatment Regime | 108 |
| 5.2.2.1.3 | Information and Knowledge | 108 |
| 5.2.2.1.4 | Supportive Family Unit | 109 |
| 5.2.2.1.5 | Family Time and Routines | 110 |
| 5.2.2.1.6 | The Caregiver's Acceptance of the Disorder | 111 |
| 5.2.2.1.7 | Communication | 111 |
| 5.2.2.1.8 | Behavioural Interventions | 112 |
| 5.2.2.1.9 | Parental Mutuality | 113 |
| 5.2.2.1.10 | Spirituality and Religion | 113 |
| 5.2.2.1.11 | Financial Resources | 114 |
| 5.2.2.1.12 | Couple Activities | 114 |
| 5.2.2.1.13 | Hope | 114 |

#### 5.2.2.2 Summary of the Qualitative Results | 115 |

### 5.3 Integrating Qualitative and Quantitative Results | 115

### 5.4 Conclusion | 116

## Chapter Six: Conclusions, Limitations and Recommendations

| 6.1 | Introduction | 117 |
| 6.2 | Conclusions of the Study | 117 |
| 6.3 | Value of the Research | 119 |
| 6.4 | Limitations of the Study | 121 |
6.5 Recommendations 123
6.6 Conclusion 124

References 125

Appendices
Appendix A: Covering Letter to Research Participants
Appendix B: Consent Form
Appendix C: Biographical Questionnaire
LIST OF FIGURES

Figure 1: The Adjustment Phase of the Resiliency Model of Family Stress, Adjustment and Adaptation 58

Figure 2: The Adaptation Phase of the Resiliency Model of Family Stress, Adjustment and Adaptation 62
LIST OF TABLES

Table 1: Pearson Product-Moment Correlations between Adaptation (FACI8) and Potential Resilience Variables (N=44) 97
Table 2: Regression Analysis for Family Adaptation (FACI8) as Dependent Variable Versus Potential Resiliency Variables (N= 44) 105
Table 3: Themes that Emerged from the Content Analysis (N = 38) 106
ABSTRACT

Attention Deficit/Hyperactivity Disorder (AD/HD) is not a new phenomenon. Researchers have studied children with restless, inattentive and impulsive types of behaviours for over one hundred years. Although the primary distress of AD/HD falls mainly on the child’s shoulders, all family members experience the disorder’s negative effects. While the challenges that families have to face are many, families seem to have the ability to “bounce back” (i.e., they have resilience).

There has been limited research to date focusing on the resiliency of families living with children diagnosed with AD/HD. Research on the construct of resilience, and more specifically, family resilience has surged in recent times. However, South African research on family resilience is limited. This study aimed to explore and describe the factors that facilitate adjustment and adaptation in families after a child has been clinically diagnosed with AD/HD. The Resiliency Model of Family Stress, Adjustment and Adaptation, developed by McCubbin and McCubbin (2001) served as a framework to conceptualize the families' adjustment and adaptation processes.

Non-probability purposive sampling was used in order to gain participants for the study. Twenty-two families participated in this study, providing a total of 44 participants. Participants consisted of the caregivers of a family living with a child diagnosed with AD/HD, between the ages of seven and 12. The study was triangular in nature, with an exploratory, descriptive approach. A biographical questionnaire with an open-ended question was used in conjunction with seven other questionnaires to gather data. Descriptive statistics were used to describe the biographical information. Quantitative data were analyzed by means of correlation and regression analysis, and content analysis was used to analyze the qualitative data obtained from the biographical questionnaire.

The results of the quantitative analysis indicated six significant positive correlations with the FACI8. These variables were relative and friend support, social support, problem solving and behavioural strategies, family hardiness, family problem-solving communication and family time and routines. The results of the qualitative analysis revealed that social support, adherence to a treatment regime, information and knowledge about AD/HD, a supportive family unit, the caregiver’s acceptance of the disorder as well as communication were the most important strength factors identified.

The findings of the research could assist parents in managing their children diagnosed with AD/HD more effectively and has helped create further insight into what resiliency areas they could improve upon. Furthermore, this study could be used as a stepping stone for future research on resilience in families living with a pervasive psychological disorder and will contribute to the broader context of family resilience research in the South African context.

Key concepts: AD/HD, family resilience, Resiliency Model of Family Stress, Adjustment and Adaptation
CHAPTER ONE

INTRODUCTION AND PROBLEM STATEMENT

1.1 Introduction

Chapter One provides an overview of the present research on Attention Deficit/Hyperactivity Disorder (AD/HD) and resilience in the family context. The context of the research is clearly defined by providing literature that is focused on families living with a child diagnosed with AD/HD and literature focusing specifically on family resilience. The overall paradigm of the study is outlined and the motivation for the study is clearly stated. The proposed aim of the study is also presented and is followed by a delineation of the chapters to follow. The following section focuses on the context of the research and highlights literature on families living with a child diagnosed with Attention Deficit/Hyperactivity Disorder (AD/HD) and literature on resilience.

1.2 Context of the Research

The following section focuses on the context of the research and briefly provides an outline of the prevalence of AD/HD both internationally and locally. The deficit model in longitudinal studies that highlight the stressors and concerns of parents with a child diagnosed with AD/HD is well established in the literature and this section briefly highlights the disorder’s negative effects both on the child diagnosed with AD/HD and on family life. The present study however focused on identifying strengths which contributed to the growth and promotion of the family system rather than to dysfunction and consequently the researcher provided a motivation for using a strengths based perspective as this study aimed to contribute to the field of research on resilience in families and served to recognize the potential for health and resilience in families.

1.2.1. Attention Deficit/Hyperactivity Disorder

General population studies have shown that 3 – 5% of the general population may very well have a diagnosis of AD/HD (Selikowitz, 2004). The American Psychiatric Association’s Diagnostic and Statistical Manual-IV, Text Revision (DSM-IV-TR) estimated that 3-7% of children suffer from AD/HD (2005). International statistics reflect that AD/HD is more common in boys than in girls and has an estimated prevalence of 4-12% among school aged children making it one of the most prevalent mental disorders in children (Biederman, Wigal, Spencer, McGough & May, 2006). According to the Attention Deficit and Hyperactivity Support Group of Southern Africa (ADHASA), between 8 and 10% of the South African population have AD/HD. This group stated that it is a condition that will persist through the person’s lifetime. Bester (2006) reported that 33% of children diagnosed with AD/HD in
South Africa do not complete their schooling career, 80% underachieve and 40% of teenage pregnancies are AD/HD sufferers. Up to 50% of children diagnosed with AD/HD will present with co-morbid learning disorders (ADHASA, 2007).

The hallmark triad of symptoms of AD/HD are: (1) inattention or inconsistent attention, (2) hyperactivity, and (3) impulsiveness (Goldstein & Teether Ellison, 2002). These symptoms usually manifest themselves in early childhood with 95% of the children with this disorder being identified by age seven (DuPaul & Stoner, 2003). An emerging body of research literature focusing upon symptoms and problems experienced by children with AD/HD yields alarming trends (Brooks & Goldstein, 2007). Though a significant group of children with AD/HD progress reasonably well into their adult lives, at least half, if not more, experience personality, psychiatric, educational, vocational and personal problems at a rate much higher than the general population (Brookes & Goldstein, 2007). Children with AD/HD face greater adversity and problems in their later adult lives than individuals without AD/HD (Barkley, 2006). AD/HD is often accompanied by learning problems, as well as behavioural and emotional problems (Strydom, Du Plessis, & Strydom, 2002). Recently released data from the National Health Interview Survey (1998) suggested that 50% of those children diagnosed with AD/HD may also have a Learning Disorder (LD). The combination of attention problems caused by AD/HD and LD’s can make it particularly difficult for a child to succeed in school. Up to 80% of children with AD/HD have problems with reading, spelling and writing and 60-70% will become aggressive and develop behavioural problems (Strydom et al., 2002). Furthermore, coordination problems are often encountered and up to 60% have some dysfunction of early speech development (DuPaul & Stoner, 2003).

AD/HD often occurs with other disorders, referred to as comorbidities of AD/HD. The combination of these disorders presents extra challenges to affected individuals, parents, educators and health care providers. About 50% of children with AD/HD present with a behavioural disorder as well (Barkley, 1998). Children with AD/HD suffer to a significant degree from low self esteem. As a result, AD/HD children employ various techniques to gain acceptance by their peer group and for this reason, they are much more easily influenced and led by other children and are frequently exploited (Green & Chee, 1995). Up to 20-30% of children with AD/HD experience anxiety disorder and up to 75% experience depression (Barkley, 2006). Research has shown that if any one hundred children with AD/HD are followed from birth to adulthood, by ages five to seven, half of them will be hostile and defiant, a condition psychologists and psychiatrists diagnose as Oppositional Defiant Disorder (Neuwirth, 2002). Symptoms associated with this disorder include losing their temper, often arguing with adults, actively defying or refusing to comply with requests or rules, often blaming others for their mistakes and usually experiencing anger and resentment. By ages 10-12, this group will start running the risk of developing Conduct Disorder which includes symptoms such as consistent lying, stealing, running away from home and regular truancy from school (Neuwirth, 2002). Eventually 20-40% of
children with AD/HD will develop Conduct Disorder (CD). It has been found that AD/HD males are 14 times, and AD/HD females 40 times more likely to develop CD than normal children (Barkley, 2006).

The assumption that the child will eventually outgrow AD/HD is usually incorrect. On the contrary, the problem frequently gets worse, especially at puberty when the complications of excessive oppositionality, conduct disorder and associated anti-social activity may occur (Brown, 2000). Many children continue with the problem into adulthood. As many as 50-65% would still be symptomatic for AD/HD. Approximately 50% of those with CD will develop into anti-social adults (Strydom et al., 2002). Of the group of CD children who do not develop into anti-social adults, a high percentage will have other psychiatric problems, including drug and alcohol abuse (Brown, 2000). They are likely to have more psychiatric hospitalizations, be unemployed and have impaired marital and family relationships with more frequent divorces and remarriages. One in ten children with AD/HD develop into severely dysfunctional adults and may require hospitalization or eventual imprisonment (Barkley, 1990). Neuwirth (2002) suggested that the correlation between AD/HD and antisocial behaviour is so high that AD/HD can be considered as a predisposing risk factor. According to this author, as many as 90% of those imprisoned currently have hyperactivity, and over 60% could have the diagnosis of AD/HD – a significant percentage considering that 3 - 5% of the population is generally said to have AD/HD. Barkley (1998) stated that AD/HD crosses all social barriers, and is present in all ethnic groups and social classes.

Once the child has been diagnosed and assigned a treatment regime, with or without medication, the day-to-day management of all facets of the child’s life reverts largely to the parents and teachers, in particular the parents. They must find strategies for coping with the daily medical, behavioural, and to some extent, the educational needs of the child. It is widely recognized in research that children with special needs generate heightened concern, stress and tension within their families (Coleman, 2002). Parents of children with AD/HD encounter a variety of severe hardships in caring for their children’s needs and coping with the challenge. Many parents feel that they have either lost the child they once knew, as the symptoms have progressed, or have never had any positive experiences or relationship with them (Coleman, 2002). The parents comment that the child with a bright bubbly personality and good relationships was gradually lost once school started and much of the seeming ability was replaced by under-achievement and a loss of self-confidence (Kewley, 2001). They are no longer able to communicate with their child in the same way as before the child attended school, and feel frustrated and uncertain as to why these difficulties are occurring.

Parents’ concerns about the future quality of life of their children diagnosed with AD/HD are heightened when they observe their child struggling behaviourally at home, academically at school and socially on the playground (Barkley, 2006). Parents bring their concerns to helping professionals – physicians, psychologists, social workers and educators. Increasingly, parents expect helping professionals to provide estimates of the child’s future functioning which is often referred to as
prognosis (Brookes & Goldstein, 2007). If this prognosis is adverse, parents request and hope that helping professionals can, through the prescription of medical, psychological, behavioural and educational interventions, improve their child’s future (Honos-Webb, 2005). In general, helping professionals have been trained to undertake this role through the use of a deficit or weakness-based model. That is, we are trained to measure symptoms, evaluate problems, determine diagnoses, and to set about to improve the child’s prognosis (Honos-Webb, 2005). Traditionally, encompassed within the deficit model is the notion that improving outcome has been equated with treating the symptoms of the disorder (O’Regan, 2007). To date, the vast majority of research on AD/HD has been on its epidemiology, treatment and management of the disorder as well as the stress responses and coping strategies identified in these families. Consequently, the deficit model in longitudinal studies that highlight the stressors and concerns of parents with a child diagnosed with AD/HD is well established (Brookes & Goldstein, 2007).

In recent times however, the human sciences have experienced a noticeable paradigm shift from pathogenesis to salutogenesis; a shift to a perspective of strength emphasizing health, rather than illness (Antonovsky, 1987). The salutogenic paradigm emphasizes positive characteristics and strengths, which contribute to the growth and promotion of a system rather than to dysfunction (pathogenesis) (Antonovsky, 1987). When this approach is applied to a family system, it encourages the perception of a family as challenged rather than damaged, and as successful as opposed to deficient (Hawley & De Haan, 1996; Walsh, 1996). Typical questions asked are: How can the family adapt successfully? What are the strengths and abilities of individuals and of the family? (Aspeling & Greeff, 2004). The responses to these questions could shift the focus from intervention to prevention (Walsh, 1996). A family resilience framework fundamentally alters traditional deficit-based perspectives. Instead of focusing on how families have failed, we redirect our attention to how they can succeed. Rather than giving up on troubled families and salvaging individual survivors, we can draw out the best in families, building on key processes to encourage both individual and family growth. The following section introduces the construct of family resilience and provides a motivation for using a strengths-based perspective in the present study.

1.2.2 Positive Psychology and Resilience

The family system has perhaps the greatest impact on individual development across all stages, influencing not only individual and family life, but also that of the community in which it is found (Der Kinderen & Greeff, 2003). Despite being confronted by more extreme and disruptive stressors and demands than ever before, the family system is still expected to be adaptive, competent and resilient, and to provide a protective, growth enhancing environment for its members (Frude, 1991). It is evident that problems and challenges that families face, such as coping with a chronic and pervasive mental disorder, does not necessary evoke pathological responses. The emphasis for research
focusing on strengths rather than weaknesses can be acknowledged at a governmental level and can also be seen in community work and family therapy where an increasing number of professionals are applying narrative, assets-based or competency-based approaches (Cole, Clark & Gable, 1999). Likewise, an increasing number of family researchers are opting for a strengths approach in their family and community research (Silberberg, 2001). A construct that focuses on strengths during adversity is resilience (Yates & Masten, 2004).

Recent research conducted by Heiman (in Bester, 2006) of the Department of Education and Psychology in South Africa, focused specifically on the hardships encountered by parents of children with special needs and their coping mechanisms in dealing with their children’s everyday functioning. This researcher concluded that, despite their initial perception of a personal tragedy, parents expressed a strong belief in the child and his or her future, and an optimistic outlook and a realistic view and acceptance of the disability. Furthermore, Heiman’s study (in Bester, 2006) highlighted the importance of social resources, support services used by parents, the need for effective intervention programs and the support of the family and friends, all of which contributed to their resilience, their ability to “bounce back” and cope effectively despite their considerable adversities. Researchers are therefore moving away from a somewhat disempowering approach and are embracing a strengths perspective in their work (Silberberg, 2001). A family that is depicted as resourceful and skilled is more likely to become actively engaged in the process of addressing their issues and solving their problems.

The concept of family resilience research is gaining attention in South Africa, with a number of researchers having investigated resilience from a family perspective. The definition of family resilience highlights the reparative potential of the family in that they may not bounce back unscathed from adversity, but are able to work through and learn from adversity by integrating their crises as a part of the life history of the family (Walsh, 2002). Resilience is the ability of an individual or family to remain intact in spite of trauma or crisis, and to return to the same pre-morbid level, if not attaining a higher level of functioning than before the crisis. According to Strümpfer (1995), resilience is a comprehensive, positive concept that implies strength, forcefulness and defensibility. It involves the characteristics, dimensions and qualities that help a family to resist separation and disintegration in spite of crises (McCubbin & Patterson, 1983). Consequently, the concept of resilience in family life indicates the ability to cope effectively with challenges and hardships, to function in crisis situations, and to demonstrate resourcefulness. It also refers to the ability to adjust and adapt to new and changing situations and to resume constructive functioning (DeFrain, 1999). Any measure of success will bring improved prospects for their child’s adjustment and a more fulfilled life for the whole family (Cole, Clark, & Gable, 1999). There have been numerous studies in South Africa focusing on the treatment and management of children with AD/HD, and the stress and coping strategies of the parents in these families, but there has been limited research to date on the resilience of families living
with a child diagnosed with Attention Deficit/Hyperactivity Disorder. Consequently, it is both important and necessary to explore and gain understanding of how these families are able to adjust and adapt when faced with a crisis. The following section introduces the family resilience framework.

1.2.3 Family Resilience Framework

The concept of resilience has a recent but rich history embedded in longitudinal research on resilience in children. Child focused studies have pointed to the importance of the family system in fostering resilience. Of importance to future investigations and theory building, Cohler (1987) called attention to the complex interaction among protective factors within the child, the family environment and the larger social context. Werner and Smith (1992) concluded that there is a shifting balance between the stressful life events that heighten children’s vulnerability and the protective factors that enhance their resilience.

Studies of children of schizophrenic mothers played a crucial role in the emergence of childhood resilience as a major theoretical and empirical topic (Garmezy, 1974). Evidence that many of these children thrived despite their high-risk status led to increasing empirical efforts to understand individual variations in response to adversity (Garmezy, 1974; Rutter, 1979). Research on resilience expanded to include multiple adverse conditions such as socioeconomic disadvantage and associated risks, parental mental illness, maltreatment, urban poverty, community violence, chronic illness and catastrophic life events (Luthar, Cicchetti & Becker, 2000). The thrust of this research was a systematic search for protective forces, that is, those which differentiated children with healthy adaptation profiles from those who were comparatively less well adjusted (Luthar et al., 2000). In spite of the proliferation of research on resilience in children and youth and the mounting evidence pointing to the family milieu as a generic but central protective factor for predicting child resilience and child developmental outcomes, research on what makes the family system resilient in the face of normative transitions as well as catastrophic life events have emerged at a slower pace (McCubbin, McCubbin, Thompson, Han & Allen, 1997). Most research has been conducted under the umbrella of the family stress and coping paradigm with protective and recovery factors examined as resistance resources and regenerative factors (Cohler, 1987).

However, current research focusing predominantly on resilience in families has shed light on family protective factors and family recovery factors that appear to play a critical role in promoting the family’s ability to maintain its established patterns of functioning after being challenged by risk factors, and in fostering the family’s ability to recover or bounce back quickly from misfortune and family crises (McCubbin et al., 1997). Interest in family resilience has flourished in the last three decades. McCubbin and McCubbin (1988) defined family resilience as “characteristics, dimensions and properties of families which help families to be resistant to disruption in the face of change and adaptive in the face of crisis situations” (p. 247). A more recent definition by McCubbin et al (1997)
defined family resilience as “the property of the family system that enables it to maintain its established patterns of functioning after being challenged and confronted by risk factors, i.e., elasticity” (p. 2). These authors also introduced the concept of buoyancy, referring to the “family’s ability to recover quickly from a misfortune, trauma, or transitional event causing or calling for changes in the family’s pattern of functioning” (p. 2). These definitions affirm the reparative potential of the family. It involves dynamic processes fostering positive adaptation, where strengths and resources allow individuals and families to respond successfully to crises and persistent challenges, and to recover and grow from those experiences. The family may therefore discover untapped resources and strengths that they have not recognized in the past. Resilience is influenced by risk factors and protective factors. Protective factors are resources that increase the potential of resilience by serving as a buffer against misfortune (Fergusson & Lynskey, 1996). Risk factors refer to poverty, weak parent-child relationships or psychological and physical deficiencies (Rutter, 1987). Walsh (1998) described three resources that could serve as buffers, namely economic resources (income and assets), parental resources (consistent discipline and parental involvement), and community resources such as family, friends and formal organizations (supplying information and support).

In summary, resilience has become an important concept in child development and mental health theory and research (Der Kinderen & Greeff, 2003). A family resilience approach aims to identify and fortify key interactional processes that enable families to withstand and rebound from disruptive life challenges. A resilience lens shifts perspective from viewing distressed families as damaged to seeing them as challenged, affirming their potential for repair and growth (Der Kinderen & Greeff, 2003). This approach is based on the conviction that both individual and relational strength can be forged through collaborative efforts to deal with sudden crises or prolonged adversity. The value of a proactive, health-focussed orientation should not be underestimated in a developing country such as South Africa, where resources are limited (Aspeling & Greeff, 2004). At a time when there is some concern for the demise of the family unit, it is becoming more important than ever to recognize existing strengths and to understand those processes which enable families to weather change and to rebound as a strengthened unit from life’s challenges.

In light of the aforementioned literature, the motivation for the study was twofold, namely, the growing concern about the demise of the family in the face of unique circumstances such as the impact of AD/HD on family processes and functioning, and the lack of research of family resilience in the South African context. Using McCubbin and Thompson’s (1991) Resiliency Model of Family Stress, Adjustment and Adaptation as a theoretical framework, this research aimed at documenting critical variables which protect the family system from deterioration and breakdown, and at exploring the recovery process which facilitates adaptation and promotes resilience. In South Africa, only limited research has been documented which specifically contributes to the understanding of the resiliency process in families, or which identifies those resiliency factors that play an essential
recovery role in families faced with stress. The present study, therefore, aimed to contribute to the field of research on resilience in families, and served to recognize the potential for health and resilience in families. The primary aim of the research is presented in the following sub-section.

1.3 Primary Aim of the Research

The primary aim of the present study was to explore and describe the resilience factors that facilitated adjustment and adaptation in a family living with a child diagnosed with Attention-Deficit/Hyperactivity Disorder.

1.4 Delineation of Chapters

Chapter One provided an introduction to the present study. In this chapter, the context of the research, the motivation for the study and the aim of the study are delineated.

Chapter Two presents an examination of the dynamics related to AD/HD, namely what the condition is, the challenges that confront the diagnosed child and his/her family, as well as how they cope with these challenges in an attempt to adjust and adapt.

Chapter Three highlights the development of the construct, resilience. In this chapter, the development of both individual and family resilience is presented as well as the conceptual model that was utilized in this study to gain a better understanding of family resilience.

Chapter Four describes the research design and methodology that were employed in this study. The research design, sampling procedure, the measures that were used and the data analyses employed are discussed. The ethical considerations of this study are also highlighted.

Chapter Five provides a discussion of the results obtained from the data analysis. In addition to this, both the quantitative and qualitative results are interpreted in terms of the literature presented in Chapters Two and Three.

Chapter Six presents the conclusions of the study which are based on the research results. The limitations of the study are discussed and recommendations for future research in this area are made.

1.5 Conclusion

In this chapter, a brief outline of the current study was provided. The impact of AD/HD on both the child and family was discussed as well as the need for resilience in the family in an attempt to adjust and adapt to the crisis. Resilience is a construct that is related to the field of positive psychology and had received increased scholarly attention. The motivation for the study was briefly outlined and the aim of the study was presented. Chapter One concluded with a delineation of the format of the present research study. Chapter Two provides an examination of the dynamics related to AD/HD, the challenges that confront the diagnosed child and his/her family, as well as how they cope with these challenges in an attempt to adjust and adapt.
CHAPTER TWO

ATTENTION DEFICIT/HYPERACTIVITY DISORDER

As adults, we often love and admire the one who’s different, individualistic or possessed of unusual talents. But in the school years, when ‘fitting in’ is so desirable, it’s hard for a child to delight in his/her uniqueness.


2.1 Introduction

Attention Deficit/Hyperactivity Disorder (AD/HD) is the most common neurobehavioural disorder of childhood and is also amongst the most prevalent chronic health conditions affecting school aged children (American Academy of Pediatrics, 2000). Children with AD/HD display chronic and pervasive difficulties with inattention, hyperactivity and impulsivity that result in profound impairments in academic and social functioning across multiple settings (Chronis, Jones & Raggi, 2006). These children may experience significant functional problems, such as school difficulties, academic underachievement, troublesome interpersonal relationships with family members and peers, and low self esteem (American Academy of Pediatrics, 2000).

It is widely recognized in research that children with AD/HD generate heightened concern, stress and tension within their families (Coleman, 2002). Parents of children with AD/HD encounter a variety of severe hardships in caring for their children’s needs and coping with the challenge. Further studies in this field reflect that even though there is considerable stress, pain and difficulty encountered by parents raising children with AD/HD, it would be incorrect to view these families as pathological (Silberberg, 2001). It is more correct and beneficial to focus on the strong and positive relationships which parents and families develop and that bolster them. Consequently, the main focus of this treatise is to examine family resilience and those factors which help parents to adjust and adapt in these daunting circumstances.

In order to appreciate and comprehend the nature of this crisis, when the child is diagnosed with AD/HD, and the adjustment and adaptation of these families, it is important to review and understand the nature of this disorder and the impact on family functioning and relationships. The current chapter provides a brief overview of the historical development of this disorder over time and discusses the prevalence of AD/HD, both internationally and locally. Subsequent to this discussion, this chapter provides a detailed clinical picture of AD/HD, highlighting the symptoms associated with this disorder. AD/HD often occurs with other disorders, referred to as comorbidities of AD/HD, which further complicate the child’s AD/HD symptoms and present extra challenges to the parent and/or caregiver. This chapter provides an overview of these comorbidities and subsequently addresses those factors
that contribute towards a diagnosis of AD/HD. Furthermore, this chapter focuses specifically on the most effective treatment approaches of AD/HD and provides a brief overview of the predictors of treatment response. The chapter concludes by considering the impact this disorder has on family functioning and relationships.

2.2 The History of AD/HD

AD/HD is not a new condition. The first description of children with this disorder was by an English physician, Dr. George Still, in 1902. He described 20 children in his practice with impaired concentration and overactivity as displaying symptoms of poor volitional inhibition (a severe lack of reserve) and defective moral control (Barkley, 1990).

Interest in the condition was rekindled after an encephalitis epidemic in the USA in 1917-1918. Many children acquired a form of encephalitis that left them with attention difficulties, overactivity, impulsivity, poor motor control and irritability. The label ‘brain injured child syndrome’ was ascribed to these children and others who had suffered trauma at birth, exposure to toxins or brain injury and displayed similar behavioural problems (Mash & Wolfe, 1999). In such children, the encephalitis virus had damaged parts of the brain that are impaired in children with AD/HD, and hence their problems were similar. Since that time, AD/HD has become the most studied developmental disorder in childhood (Selikowitz, 2004).

A number of name changes attest to the rapid evolution in the understanding of this condition. In the 1930’s, the terms ‘organic driveness’ and ‘restlessness syndrome’ were used to describe the children who displayed the triad of symptoms: (1) impaired attention, (2) impaired activity regulation, and (3) poor impulse control (Barkley, 1990). These children were assumed to have suffered some form of brain damage like pre/perinatal trauma or encephalitis. In the 1950’s, attention was focused on children with hyperactivity and the term ‘hyperkinetic – impulse disorder’ was used. In the 1960’s the term ‘minimal brain dysfunction’ was widely used for children with AD/HD as their psychological disturbances were seen as evidence of brain injury (Lakoff, 2000). In the sixties, attitudes to AD/HD in the UK and the USA began to diverge. In the UK and other parts of Europe, the International Classification of Diseases of the World Health Organization, was followed. At that time, this classification recognized only children with ‘hyperkinetic disorder’, a term applied to children with severe overactivity (Selikowitz, 2004).

In North America a different classification of disorders, the Diagnostic and Statistical Manual of the American Psychiatric Association, was followed. In the US, largely due to the work of the Canadian psychologist, Virginia Douglas, and her conceptualization of the disorder as an impairment in concentration (i.e., attention) rather than overactivity, attention/concentration was seen as the fundamental deficit in this disorder (Mash & Wolfe, 1999). The term ‘attention deficit disorder’ (ADD) was then introduced in the US for the condition and was published in the DSM-III (American
Psychiatric Association, 1980). Both children with and without hyperactivity were recognized as having ADD. Those with hyperactivity were considered to have ADD+H while those without were considered to have ADD-H (Selikowitz, 2004).

In the late eighties the term ‘AD/HD’ was introduced in the US to describe those children with hyperactivity and/or impulsivity, while the term ‘ADD’ was reserved for those children with poor concentration alone (Barkley, 1990). Since 1994, the current clinical view of AD/HD is that of the DSM-IV-TR (American Psychiatric Association, 2000) and the term ‘attention-deficit/hyperactivity disorder’ (abbreviated to AD/HD) has been used to encompass the spectrum of children with all forms of the condition. The three subtypes ‘inattention’, ‘hyperactive-impulsive’, and ‘combined’ were introduced at this time (Selikowitz, 2004). Over the past decade, attitudes to diagnosis and treatment in the UK and the rest of Europe have increasingly followed those in the USA (Chronis et al., 2006). The 1990 update of the International Classification of Diseases (ICD-10) and the 1994 update of the Diagnostic and Statistical Manual of the American Psychiatric Association (DSM-IV) were very similar in their criteria for diagnosis of the condition (Selikowitz, 2004).

Further landmarks in this convergence of views included the recommendations published by the National Institute of Clinical Excellence (NICE) in the UK in November 2000 and the International Consensus Statement on AD/HD published in January 2002. The role of NICE is to provide patients, health professionals, and the public with authoritative, robust, and reliable guidance on current best practice in health issues (NICE, 2007). Their approach was consistent with US practice. The International Consensus Statement was issued by over 90 of the world’s leading scientists, researchers, and clinicians treating AD/HD from 12 countries including the USA and the UK. It reflected the unanimity of views across the Atlantic (Selikowitz, 2004).

All English speaking countries now use the same terminology, criteria for diagnosis, and treatment protocols. No matter where they live, children with AD/HD and their families benefit from the huge amount of research undertaken in centers all over the world, as well as from the wide range of literature, videos, and equipment directed at helping parents and teachers assist children with AD/HD (ADHASA, 2007). With the realization that a proportion of children with AD/HD continue to have difficulties throughout adulthood, an increasing amount of research and support is now also being directed to residual AD/HD in adults (ADHASA, 2007). An increased risk of AD/HD has been attributed to various factors, and it is these factors that will influence the expression of AD/HD over time (Mash & Wolfe, 1999). The following section addresses the prevalence of AD/HD internationally and locally.

### 2.3 The Prevalence of AD/HD

General population studies have shown that 3-5% of the general population may have a diagnosis of AD/HD (Selikowitz, 2004). The American Psychiatric Association’s Diagnostic and Statistical Manual-IV, Text Revision (DSM-IV-TR) estimates that 3-7% of children suffer from AD/HD (2000). International
statistics reflect that about 3-12% of school children are diagnosed with this disorder making it one of the most prevalent mental disorders in children (Selikowitz, 2004). According to the Attention Deficit and Hyperactivity Support Group of Southern Africa (ADHASA), between 8 and 10% of the South African population has AD/HD. This group stated that it is a condition that will persist through the person’s lifetime (ADHASA, 2007). Bester (2006) reported that 33% of children diagnosed with AD/HD in South Africa do not complete their schooling career, 80% underachieve and 40% of teenage pregnancies are AD/HD sufferers. Up to 50% of children diagnosed with AD/HD will present with co-morbid learning disorders (ADHASA, 2007).

The triad of symptoms associated with AD/HD usually reveal themselves in early childhood with 95% of the children with this disorder being identified by age seven (DuPaul & Stoner, 2003). This disorder is more commonly diagnosed in boys than girls, in ratios of up to 9:1 (Kewley, 2001). It appears that the predominance of boys in the overall number is due to their overrepresentation in the hyperactive-impulsive group. In the inattentive group, there are as many affected girls as boys. Despite the overall dominance of boys, the hyperactive impulsive type can be just as severe in an affected girl as in a boy (Kewley, 2001). The following section describes the clinical picture of AD/HD and provides a summary of the three distinctive types which include the criteria for a diagnosis of AD/HD.

2.4 Clinical Picture of AD/HD

Dr. Russell Barkley is widely considered to be the leading research psychiatrist working with Attention Deficit/Hyperactivity Disorder (AD/HD), and is the Director of Psychology and Professor of Psychiatry and Neurology at the University of Massachusetts Medical Center. Barkley (1990) defined AD/HD as:

A developmental disorder characterized by developmentally inappropriate degrees of inattention, overactivity and impulsivity. These often arise in early childhood; are relatively chronic in nature; and are not readily accounted for on the basis of gross neurological, sensory, language, or motor impairment, mental retardation, or severe emotional disturbance. These difficulties are typically associated with deficits in rule governed behaviour and in maintaining a consistent pattern of work performance over time (p. 47).

The developmental psychopathology framework has, as one of its initial considerations, the developmental appropriateness of behaviour (Chronis, Jones & Raggi, 2006). Developmental appropriateness is critical in arriving at a diagnosis of AD/HD, setting appropriate goals for treatment, and appreciating environmental demands that are at play during any given developmental period. For example, many of the behaviours that characterize AD/HD (i.e., difficulty sustaining attention and high activity level) are normative at certain stages of development, and may or may not be viewed as impairing depending on the environmental expectations at a particular developmental stage (Lahey et
Thus, prior to the diagnosis, the child’s behaviour must be compared to developmental norms, impairment in functioning must be assessed across multiple domains, and appropriate treatment goals must be based on normative functioning for the child’s age (Chronis et al., 2006). The criteria used to diagnose AD/HD are now provided.

### 2.4.1 Diagnostic Criteria for Attention-Deficit/Hyperactivity Disorder

AD/HD is diagnosed according to a list of diagnostic criteria or symptoms that are specified in the American Psychiatric Association’s Diagnostic and Statistical Manual-IV, Text Revision (DSM-IV-TR) (2000). The criteria are as follows:

A. Either (1) or (2):

1. six (or more) of the following symptoms of **inattention** have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

   **Inattention**
   - often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
   - often has difficulty sustaining attention in tasks or play activities
   - often does not seem to listen when spoken to directly
   - often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behaviour or failure to understand instructions)
   - often has difficulty organizing tasks and activities
   - often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
   - often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)
   - is often easily distracted by extraneous stimuli
   - is often forgetful in daily activities

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

   **Hyperactivity**
   - often fidgets with hands or feet or squirms in seat
   - often leaves seat in classroom or in other situations in which remaining seated is expected
   - often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
   - often has difficulty playing or engaging in leisure activities quietly
   - is often “on the go” or often acts as if “driven by a motor”
(f) often talks excessively

**Impulsivity**

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

(h) often has difficulty awaiting turn

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

B. Some hyperactive-impulsive or inattentive symptoms that caused impairment were present before age 7 years.

C. Some impairment from the symptoms is present in two or more settings (e.g., at school (or work) and at home).

D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.

E. The symptoms do not occur exclusively during the course of Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).

Code based on type:

314.01 **Attention-Deficit/Hyperactivity Disorder, Combined Type:** if both Criteria A1 and A2 are met for the past 6 months.

314.0 **Attention-Deficit/Hyperactivity Disorder, Predominantly Inattentive Type:** if Criterion A1 is met but Criterion A2 is not met for the past 6 months.

314.01 **Attention-Deficit/Hyperactivity Disorder, Predominantly Hyperactive-Impulsive Type:** if Criterion A2 is met but Criterion A1 is not met for the past 6 months.

**Coding note:** For individuals (especially adolescents and adults) who currently have symptoms that no longer meet full criteria, “In Partial Remission” should be specified (American Psychiatric Association, 2000).

The hallmark triad of symptoms which include: (1) inattention or inconsistent attention, (2) hyperactivity, and (3) impulsiveness which are described above, are now further defined.

2.4.2 **Inattention**

Inattention is a multi-dimensional construct and can include problems with arousal, distractibility, span of attention, sustained attention, alertness and selectivity (Barkley, 1990). Teether and Semrud-Clikeman (1997) described it as interference in sensitivity, which involves difficulty in filtering out extra stimuli, a mechanism necessary in sustained and divided attention. Inattentive people struggle to keep their mind on a particular thing and quickly get bored with tasks (Neuwirth, 2002).
Children might struggle to maintain mental effort while working or playing. For example, during a game of soccer, a child with AD/HD might get distracted by a mud puddle while the rest of the team are pursuing the ball downfield (Mash & Wolfe, 1999). AD/HD children effortlessly pay attention to enjoyable activities, but completing a task or learning something new requires deliberate, focused attention and they find this difficult (Neuwirth, 2002).

According to Barkley (1990), the problem is not so much one of heightened distractibility as it is of behavioural disinhibition. In other words, when more rewarding activities compete with the activity the child has been instructed to complete, they fail to resist the temptation of doing the more rewarding activity and therefore fail to complete the task at hand (Mash & Wolfe, 1999). Also, AD/HD children may be more easily distracted by irrelevant material that is embedded in the given task. For example, playing with the computer keyboard’s keys may be more interesting than concentrating on the screen (Mash & Wolfe, 1999).

According to Mash and Wolfe (1999), the deficit may occur in one or more of the following types of attention:

1. **Focused or selective attention**: the capacity to highlight the one or two important stimuli or ideas being dealt with while suppressing awareness of competing distractions. Focused or selective attention was further clarified as attributing the “ability to respond discretely” to specific stimuli as the focusing aspect of attention and the “capacity to ward off” distractions to selective attention. Focused or selective attention is also commonly referred to as concentration. Children with AD/HD appear to be fast decision-makers, but tend to make many errors, blurt out answers and jump to conclusions. They struggle to focus their attention and monitor their responses.

2. **Sustained attention or vigilance**: this refers to the capacity to maintain an attentional activity over a period of time. Children with AD/HD find it difficult to concentrate for extended periods of time and struggle to organize what they are supposed to do and therefore focus their attention on the wrong things. They tend to pay as much attention to the other children talking, or the birds singing in the trees as they are to the teacher giving instructions. AD/HD children are quickly fatigued when their attention needs to be sustained (Selikowitz, 2004).

3. **Divided attention**: the ability to respond to more than one task at a time or to multiple elements or operations within a task, as in a complex mental task. Children with AD/HD frequently appear to have difficulty with selective / divided attention, which impairs their ability to distinguish relevant information from irrelevant information (Selikowitz, 2004).

4. **Alternating attention**: this allows for shifts in focus and tasks. This is another difficulty for children with AD/HD. They experience difficulty in adjusting their level of attention to suit the situation. For example, children may be less focused in the playground and then need to become more attentive when they return to the classroom after recess. Children with AD/HD have great difficulty coping with such transitions. Instead of increasing their state of alertness once in the classroom, like other
children of the same age, they remain unfocused and do not settle back to work again (Selikowitz, 2004).

Although children with AD/HD have inefficient attentional mechanisms that quickly tire, it is inaccurate to believe that children with AD/HD cannot concentrate at all (Mash & Wolfe, 1999). Their mechanisms for concentrating are inefficient and unreliable, not absent. It is this that makes their performance so inconsistent (Selikowitz, 2004). Attentional mechanisms are more stressed under certain circumstances than others, and it is in the difficult situations that children with AD/HD are most likely to find that their attentional mechanisms are failing (Barkley, 1990).

Tedious tasks are very difficult for immature attentional mechanisms. Unfortunately, much of the work that school children need to perform is very tedious and children with AD/HD become quickly distracted (Kewley, 2001). It is not that a ‘normal’ child finds the work any more interesting than the child with AD/HD, it is just that the ‘normal’ child finds concentrating easier. AD/HD children tire easily when having to concentrate, so their work will be full of good beginnings that then taper out, thus the child is described as not being able to persevere at a task (Barkley, 1998).

Difficulties with concentration also result in children with AD/HD often being confused and unable to understand instructions. When the child with AD/HD has to listen, his concentration is easily distracted onto other sounds and so he hears only parts of the instruction. These difficulties may be compounded by the problems with short term memory and language comprehension that frequently occur in children with AD/HD (Gottlieb, Shoaf & Graff, 2006). AD/HD children concentrate best if they are receiving frequent positive feedback. They usually manage best if the work is interesting and if there are immediate consequences for their actions. Their concentration is best early in the day and diminishes as their attentional mechanisms fatigue (Selikowitz, 2004).

2.4.3 Impulsivity

Impulsivity, the difficulty in being able to think before acting, causes many problems for children with AD/HD both at home and at school. Children with this condition lack the reflective and behavioural inhibition mechanisms needed to apply impulse control in their lives (Barkley, 1990). Mash and Wolfe (1999) described two types of impulsivity:

1. **Cognitive impulsivity:** Symptoms associated with this type of impulsivity are a reflection of a need for supervision, hurried thinking and disorganization. An example of this is the child who does not hand in his homework even though it is done.

2. **Behavioural impulsivity:** This is reflected in shouting out in class or acting without thinking. These children struggle to inhibit responses when the situation requires them to do so.

As the frontal lobe of the brain develops, the nerve cells that control behaviour become more powerful and start playing a mediating role between input and output of the brain. This allows the individual to stop and think before acting. Only then can the knowledge and experience that the child
has acquired play a role in preventing impulsive responses (Kewley, 2001). Children with AD/HD who behave in an impulsive way do not do so because of ignorance, but instead they respond in a reflexive (impulsive) way to the things that happen around them (Barkley, 1990). Knowledge is not enough to stop the child with AD/HD from behaving impulsively. It is only when behaviour inhibition systems start to become active, either as a result of normal brain maturation, or by being ‘activated’ by medication, that the child with AD/HD is able to stop and think before acting (Green & Chee, 1995).

The impulsivity of children manifests itself in many ways. They act impulsively, think impulsively, and feel things impulsively (Selikowitz, 2004). Most obvious is the tendency to act without thinking. This may mean that the child endangers himself or others by risk-taking acts. As these children are known for risk-taking behaviour, they are quite accident prone (Neuwirth, 2002). The AD/HD child is also likely to make heedless or careless errors because of his failure to think carefully. Children with AD/HD are often compulsively destructive. They are quick to damage or destroy their toys. Their impulsivity generally means that they play harder with their toys and are more likely to damage their parents’ property and the property of others (Bester, 2006). It is also extremely difficult for an impulsive child to wait in line when queuing is needed and, will most likely blurt out answers in the classroom and will find it very difficult to wait their turn while participating in a game or activity (Neuwirth, 2002). Children who are impulsive want to finish things very quickly and will find all kinds of ways of getting to the end of an activity without worrying about the quality of what they produce. Impulsivity impedes the child’s ability to delay gratification and makes it difficult for the child to work towards a long-term goal. They are reward-driven like other children, but need the reward immediately (DuPaul & Stoner, 2003).

Impulsive thinking makes children with AD/HD very illogical at times. Instead of thinking about things in a clear sequence, they move impulsively from one idea to another. It is very difficult to reason with a child who thinks in this way (Mash & Wolfe, 1999). A tendency towards impulsivity interferes with a child’s ability to carry out sequential tasks, that is, the ability to get things into the right order. Children with significant difficulty in sequential organization will experience problems with tasks such as following directions, counting, telling the time, using a calendar, and getting to know the day’s schedule. Such a child will often have difficulty getting dressed quickly, having the correct books ready for a class, getting to the right classroom, and following complex instructions (Selikowitz, 2004).

Emotional impulsivity results in quick changes of mood. Children display this by having a ‘short fuse’ and a low frustration tolerance. Parents will notice that the child seems to be managing quite well and then suddenly becomes upset for no apparent reason (Green & Chee, 1995). Furthermore, children with impulsive AD/HD may have difficulty controlling their tendency to be noisy. Generally they are boisterous children who are more talkative than their peers (Bester, 2006).
2.4.4 Hyperactivity

Unlike inattention, which occurs in other disorders as well, hyperactivity or overactivity, is a distinguishing feature of AD/HD (Mash & Wolfe, 1999). Some AD/HD children experience significant motor restlessness as they appear to be constantly in motion. They talk without ceasing, rush around, squirm in their seats, wiggle their feet and are constantly fidgeting (Neuwirth, 2002). They find it impossible to quietly sit through a lesson (Neuwirth, 2002). These children’s activities are extremely energetic, inappropriate and intense, and because the behaviour is not goal-directed and tends to be aimless, not much is accomplished through these activities (Mash & Wolfe, 1999).

Differing levels of motor activity can be seen in children from birth onwards. Parents also differ in their thresholds of what they consider to be excessive and in their disciplinary effectiveness, but “true” hyperactivity is not just a product of parental permissiveness or of inadequate setting of limits; it has a neuropsychological basis (Selikowitz, 2004). If one visits a pre-school and observes a group of three year olds, and then visits a primary school and observes a group of eight year olds, one will notice an important difference: the three year olds are more restless and fidgety than the eight year olds. Filming of children of different ages shows that the level of activity in normal children decreases markedly in the first three years of life and then, more gradually, over the rest of the school years (Strydom, Du Plessis & Strydom, 2002). This is most likely due to the greater influence, with increasing age, of inhibiting mechanisms in the brain that temporarily immobilize parts of the body when they are not needed.

Young children cannot efficiently immobilize muscles in this way and associated movements of their bodies, such as ‘mirror’ movements and ‘overflow’ movements, are common (Selikowitz, 2004). ‘Mirror’ movements occur when a child does something with one side of the body and another side moves in unison. Younger children also have more ‘overflow’ movements, a tendency for some part of the body to move when the child is excited or concentrating (e.g. moving the tongue while writing) (Selikowitz, 2004). The persistence of immaturities of motor function, such as mirror and overflow movements, constitute part of the ‘soft’ neurological signs that are common in children with AD/HD of all ages and provide evidence of immaturity of parts of the brain that control movement in these children (Strydom et al., 2002).

Motor and/or vocal tics are a second type of excessive movement that are commonly associated with AD/HD and occur in approximately 10% of those children with the condition (DuPaul & Stoner, 2003). Nearly all children with severe tics will have AD/HD. This co-morbidity occurs because tics and AD/HD share a number of causative genes. Simple motor tics consist of brief, sudden movements and include eye blinking, neck jerking, shoulder shrugging, facial grimacing and mouth opening. A vocal tic consists of a repeated sound or vocalization. Simple vocal tics include throat clearing, grunting, sniffing, barking and snorting (Barkley, 1998). AD/HD often occurs with other disorders, referred to as comorbidities of AD/HD which are addressed in the following sub-section.
2.5 Comorbidities of AD/HD

AD/HD often occurs with other disorders, referred to as comorbidities of AD/HD. Recent research has shown that these comorbid conditions are more likely to occur if a child has AD/HD, complicating their symptoms (Kewley, 2001). The combination of these disorders presents extra challenges to affected individuals, educators and health care providers (Barkley, 2006). At least 60-70% of those diagnosed with AD/HD also have one or more co-existing conditions, and the later the diagnosis, the more likely these are to occur. (Kewley, 2001). Any assessment of AD/HD must not only determine whether or not an individual has AD/HD, but should also evaluate the day-to-day impact of the co-existing conditions and should be treated accordingly (Barkley, 1998).

AD/HD is often accompanied by learning problems, as well as behavioral and emotional problems (Strydom, Du Plessis & Strydom, 2002). The following section is subdivided into two categories, with the first category focusing specifically on learning disorders, and the second category focusing specifically on behavioural and emotional disorders associated with AD/HD.

2.5.1 Learning Disorders

Data released from the National Health Interview Survey (1998) suggested that 50% of those children diagnosed with AD/HD may also have a Learning Disorder (LD). The combination of attention problems caused by AD/HD and LD’s can make it particularly difficult for a child to succeed in school. Up to 80% of children with AD/HD have problems with reading, spelling and writing and 60-70% will become aggressive and develop behavioural problems (Strydom et al., 2002). Furthermore, coordination problems are often encountered and up to 60% have some dysfunction of early speech development (DuPaul & Stoner, 2003).

A child with AD/HD may underachieve at school for a variety of reasons. Learning difficulties may occur in children with or without behavioural problems (Green & Chee, 1995). Even when behaviour problems are present, the learning difficulty may be related more to impairment in information processing than the behaviour problem. Specific deficits in information processing in the brain are the commonest causes of academic difficulties in children with AD/HD (Selikowitz, 2004). AD/HD can affect any area of school performance, but language-based subjects are most commonly involved (Gottlieb, Shoaf & Graaf, 2006). Story writing is typically poor in children with AD/HD. These children may have good ideas that they can express verbally yet they find it extremely difficult to put their thoughts down on paper in a coherent manner. Their attempts usually consist of meagre amounts of poorly expressed written work. Spelling and reading comprehension are also often poor (Bester, 2006).

In a child with a language-based learning difficulty, poor reading may impair the child’s understanding of mathematical word problems. Nevertheless, for some children with AD/HD, weakness in mathematics is unrelated to impairment in language-based learning (Barkley, 1998).
Such children experience mathematical difficulties that relate to deficits such as poor working memory and impulsivity. For many children with AD/HD, academic difficulty is not confined to a particular subject but occurs across a number of areas of study. In such children, weak organizational skills, lack of motivation, poor behaviour in class, or an inability to foster productive relationships with teachers or peers may be the cause of their poor grades (Kewley, 2001). The causes of these learning difficulties in children with AD/HD are briefly mentioned.

2.5.1.1 Poor Concentration

Some children with AD/HD absorb and retain very little information in the classroom because they are so easily distracted (Selikowitz, 2004). Children with AD/HD misunderstand the teacher’s instructions and may feel lost in the classroom. Furthermore, children with AD/HD find it difficult to maintain the attention and concentration necessary to read a book. Poor concentration is the reason why reading comprehension is a particular weakness for children with AD/HD (Bester, 2006). While reading is difficult for such a child, there is no task more taxing for poor attentional mechanisms than writing. Writing provides very little immediate gratification: letters must be formed on the page one after another with no immediate reward (Barkley, 1998).

2.5.1.2 Impulsivity

The impulsivity of many children with AD/HD can interfere with learning. Inability to reflect and to plan ahead leads to carelessness that can be a significant handicap in solving mathematical problems. Impulsivity impairs logical and sequential thinking and organization (Selikowitz, 2004).

2.5.1.3 Poor Working Memory

The poor working memory of children with AD/HD is a very important cause of learning impairment. Poor working memory leads to difficulties in understanding texts, in carrying out multipart instructions, in planning written work and in solving mathematical problems that require logical thinking (Barkley, 1998). A child with poor working memory will struggle to understand the text that he is reading because his mind cannot hold the part of the story he has already read while he continues reading. The parts of the story will not connect for this child, and no sooner has he finished reading the page, than it has been forgotten. This child will find reading boring and unrewarding and will try to avoid it (DuPaul & Stoner, 2003).

When given a series of instructions, a child with a poor working memory will not be able to hold them in his mind. He will forget the last steps of the task. Difficulties with sequencing may be related to poor working memory or impulsivity (Mash & Wolfe, 1999). Poor working memory is also implicated in reading (decoding) and spelling (encoding) difficulties in children with AD/HD. Working memory plays a critical role in the early stages of learning to read and spell. This is when the brain is
establishing a store of remembered words that has to be accessed during the process of reading and spelling (Barkley, 1998).

2.5.1.4 Defiance

Children with AD/HD who are badly behaved in class will underachieve academically. This becomes a more significant problem in the last years of primary school or the early years of senior school when the hormonal changes of puberty compound the defiance associated with AD/HD (Chronis, Jones & Raggi, 2006). A defiant child will respond poorly to authority figures such as parents and teachers. Such a child will rebel against teachers who are overbearing, who teach subjects in which the child is weak, or who teach in a style that is not suited to the child. For example, a teacher who expects pupils to take down notes from dictation will not suit a child with poor auditory attention (Selikowitz, 2004). Unfortunately, when a child misbehaves at school, his academic progress may be further impaired by attempts to discipline him. This occurs when he misses schoolwork because he is sent out of class, or suspended from attending school (Bester, 2006).

2.5.1.5 Poor Self-Esteem

Poor self-esteem is commonly present in children with AD/HD and is a factor that may impede their academic progress (Gotlieb et al., 2006). Once a child’s confidence in his ability is compromised, it becomes difficult for the child to apply himself to his schoolwork. The child will not make an effort to learn if he or she feels despondent about their chances of success (Mash & Wolfe, 1999).

The child will try to avoid embarrassing failures by strategies such as playing the ‘class-clown’ to cover up for academic difficulties, disrupting the class, refusing to go to school, truanting, and failing to hand in their work (Selikowitz, 2004). The adverse effect on self-esteem, as a consequence of repeating a class, usually has a negative impact on the educational progress of children with AD/HD. In some children, poor self-esteem may manifest in children as excessive moodiness, irritability, tearfulness or withdrawal (Kewley, 2001).

2.5.1.6 Auditory Processing Impairment

Auditory processing deficits are common in children with AD/HD. These deficits impair the ability of these children to make sense of what they hear (Green & Chee, 1995). Their brains may not efficiently discriminate similar sounds from one another, retain words in the order they are spoken, or comprehend the meaning of language. A child with auditory processing impairment will misunderstand instructions and become confused by a teacher who teaches by talking a great deal (Green & Chee, 1995). Often such a teacher will question whether the child has a hearing impairment because of their difficulties understanding the spoken word, however, hearing tests will be normal if the problem is AD/HD (DuPaul & Stoner, 2003). Special tests of auditory discrimination and
processing performed by a psychologist or speech therapist, will uncover the true nature of the child’s difficulties (Barkley, 1990).

2.5.1.7 Spelling Difficulties

AD/HD children often experience difficulties with spelling. According to Selikowitz (2004), there are basically three types of spelling errors seen in the work of these children.

1. **Visual errors:** These errors sound correct, but look wrong. Examples are ‘lite’ for ‘light’ and ‘grate’ for ‘great’. These mistakes are due to poor visual memory and lack of attention to detail. They are the most common type of error seen in the work of children with AD/HD.

2. **Sequential errors:** An example is ‘brigde’ for ‘bridge’. These errors are due to sequencing problems associated with poor working memory, poor concentration and impulsivity.

3. **Phonetic errors:** These are the least common difficulty in these children. Such errors will have some resemblance to the correct spelling, but sound different when read. For example, the child may write ‘lap’ for ‘lip’ or ‘goase’ for ‘goose’. These errors are more common if the child has co-existing dyslexia.

2.5.1.8 Handwriting Difficulties

Children with AD/HD are often poorly coordinated and are clumsy when manipulating objects (poor fine motor skills) (Coleman, 2002). Handwriting is often slow and untidy in children with the disorder. If a child is able to perform any of the actions involved in forming letters in isolation, but cannot carry out these actions in an uninterrupted sequence when writing, the difficulty is known as ‘motor dyspraxia’ (Pliszka, Carlson & Swanson, 1999). The handwriting of a child with motor dyspraxia is slow and untidy.

2.5.1.9 Organizational Difficulties

Organizational skills are very poor in most children with AD/HD (Barkley, 1998). This will have a negative impact on their schoolwork, particularly in their high school years when teachers expect and demand a great deal of self-sufficiency from their pupils. Even bright children with AD/HD will obtain poor marks if they forget to bring work and books home, fail to plan ahead for projects and for studying, and fail to hand in their work for marking (Bester, 2006).

2.5.1.10 Dyslexia and AD/HD

Dyslexia is a specific difficulty in learning that interferes with a child’s ability to read a book. It occurs because of an abnormality in brain function that is usually inherited (Pliszka, Carlson & Swanson, 1999). Although dyslexia can be an isolated problem in a child, it is much more common in children with AD/HD than children who do not have AD/HD (Barkley, 1990). When a well-behaved
child with dyslexia has the inattentive form of AD/HD, his learning difficulties may be incorrectly ascribed to the dyslexia alone. This occurs because many parents, and even some professionals, regard AD/HD exclusively as a behavioural problem (Pliszka et al., 1999). They assume that the child’s good behaviour excludes AD/HD.

If a child who has dyslexia and AD/HD receives remedial teaching alone, he will usually make little or no progress because impairments in working memory and attention to detail will continue to block learning (Chronis et al., 2006). With time, the child’s self-esteem diminishes and it becomes even less likely that he will overcome his difficulties. In such a child, it is often only when medication to treat the AD/HD is combined with the remedial program that real progress is made and maintained (Chronis et al., 2006).

2.5.1.11 The Gifted Child and AD/HD

Since AD/HD is unrelated to intelligence, the proportion of gifted individuals is no different among those with AD/HD than those without (Bester, 2006). Selikowitz (2004) suggested that the presence of AD/HD presents three special problems to a gifted child. First, the performance of gifted children is sensitive to even very mild degrees of AD/HD. It appears that small impairments in working memory and organizational skills have a disproportionately severe impact on the performance of a gifted child. Such children may not score below average in their areas of difficulty, but they may score significantly less as compared to other areas. It is therefore important that the treatment of AD/HD be considered in any gifted child who is experiencing academic difficulties, even if tests show very mild degrees of the impairment.

Secondly, in considering a gifted child who has AD/HD, both the giftedness and the AD/HD may be missed. This occurs when the learning impairment associated with the AD/HD reduces the child’s academic performance from above average (where it should be) to an average level. Parents and teachers may be satisfied that the child seems to be performing in the average range of performance without realizing the child’s true potential. Only an astute parent or teacher will suspect that the child is underachieving. Thirdly, in some gifted children with AD/HD who are underachievers, the child’s exceptional gifts may be detected, but the presence of co-existing AD/HD missed. This occurs when the child’s underachievement is wrongly ascribed to boredom or lack of motivation. Such explanations should never be accepted without a comprehensive assessment to exclude other causes of the child’s underperformance (Selikowitz, 2004).

2.5.2 Behavioural and Emotional Comorbid Disorders

About 50% of children with AD/HD present with a behavioural disorder as well (Barkley, 1998). These children suffer to a significant degree from low self esteem. As a result, these children employ various techniques to gain acceptance by their peer group and for this reason, they are much more
easily influenced and led by other children and are frequently exploited (Green & Chee, 1995). Up to 20-30% of children with AD/HD experience anxiety disorder and up to 75% experience depression (Barkley, 2006).

The results from the Multimodal Treatment Study of Children with AD/HD (MTA; MTA Cooperative Group, 1999a) concluded that in their study, 31.8% of the participants had a diagnosis of AD/HD alone; 29.5% were diagnosed with AD/HD and either Oppositional Defiant Disorder (ODD) or Conduct Disorder (CD); 14% were diagnosed with both AD/HD and an anxiety disorder; and 24.7% were diagnosed with AD/HD, ODD or CD, and an anxiety disorder (Chronis et al., 2006). Mash & Wolfe (1999) suggested that excessive anxiety is experienced by about 25-30% of children with AD/HD and that depression is experienced by 75% of children with this disorder. Children with AD/HD often have poor sleeping habits; 30% suffer from bedwetting, and 15% from encopresis.

Research has shown that if any one hundred children with AD/HD are followed from birth to adulthood, by ages five to seven, half of them will be hostile and defiant, a condition psychologists and psychiatrists diagnose as Oppositional Defiant Disorder (Neuwirth, 2002). Symptoms associated with this disorder include losing their temper, often arguing with adults, actively defying or refusing to comply with requests or rules, often blaming others for their mistakes and usually experiencing anger and resentment. By ages 10-12, this group will start running the risk of developing Conduct Disorder which includes symptoms such as consistent lying, stealing, running away from home and regular truancy from school (Neuwirth, 2002). Eventually 20-40% of children with AD/HD will develop Conduct Disorder (CD). It has been found that AD/HD males are 14 times, and AD/HD females 40 times more likely to develop CD than “normal” children (Barkley, 2006). By the age of sixteen, approximately 75% of this group will continue to have problems at school, with their families or with authorities. As adolescents, the AD/HD group may exercise poor judgment when they are not supervised and with their peers. The AD/HD child with a comorbid diagnosis of ODD is at much higher risk for early substance abuse (25-30%) and social rejection (50% or more) (Barkley, 2006).

The assumption that the child will eventually outgrow AD/HD is usually incorrect. On the contrary, the problem frequently gets worse, especially at puberty when the complications of excessive oppositionality, conduct disorder and associated anti-social activity may occur (Brown, 2000). Many children continue with the problem into adulthood and as many as 50-65% would still be symptomatic for AD/HD. Approximately 50% of those with CD will develop into anti-social adults (Strydom et al., 2002). Of the group of CD children who do not develop into anti-social adults, a high percentage will have other psychiatric problems, including drug and alcohol abuse (Brown, 2000). They are likely to have more psychiatric hospitalizations, be unemployed and have impaired marital and family relationships with more frequent divorces and remarriages. One in ten children with AD/HD turn out to be severely dysfunctional adults and may require hospitalization or eventual imprisonment (Barkley, 1990).
Neuwirth (2002) suggested that the correlation between AD/HD and antisocial behaviour is so high that AD/HD can be considered as a predisposing risk factor. According to this author, in South Africa, as many as 90% of those imprisoned currently have hyperactivity, and over 60% could have the diagnosis of AD/HD – a significant percentage considering that a percentage of 3 to 5% of the population is generally said to have AD/HD. Other comorbid conditions associated with AD/HD include Obsessive/Compulsive disorder, Tourette’s syndrome, Asperger’s syndrome and Tic disorders (Kewley, 2001). Barkley (1998) reported that early identification and successful treatment of the child’s AD/HD symptoms could decrease the incidence of comorbid disorders associated with AD/HD. The following section addresses those factors which contribute towards a diagnosis of AD/HD.

2.6 Etiology of AD/HD

For almost a hundred years, scientists suspected that brain damage caused AD/HD. Later, it was determined that only between 5 and 10% of AD/HD sufferers may have suffered brain damage in utero or at birth. Researchers today agree that brain damage does not cause AD/HD and that AD/HD is also not associated with cognitive disability (a low intellectual ability) (Bester, 2006).

According to Barkley (1995), studies involving chimpanzees and other primates have produced interesting results. When the frontal lobes of the brains of the primates were manipulated or injured, they manifested behaviour that corresponds with AD/HD symptoms. The animals became more hyperactive and had difficulty with concentration and reaction to impulses (Barkley, 1995). Many other studies confirm that the frontal area of the brain is underdeveloped in AD/HD sufferers (Bester, 2006). The exact causes of AD/HD have not yet been established. Parents are encouraged to look to the future in terms of dealing with the disorder instead of looking to the past to try and establish what caused it (Kaplan & Sadock, 1998; Neuwirth, 2002). A list of suggested contributory factors is provided below.

2.6.1 Genetic Factors

It is more common for monozygotic twins to both have AD/HD than it is for dizygotic twins (Kaplan & Sadock, 1998). AD/HD children normally have at least one relative with the disorder and a third of fathers with AD/HD in their youth had children with the disorder (Neuwirth, 2002). Hyperactive children’s siblings have double the risk of developing AD/HD than the general population (Kaplan & Sadock, 1998).

One study found that fathers of children with AD/HD had a higher rate of psychopathology than fathers of normal children. Children with AD/HD are also more likely to have family members with mood or antisocial disorders (Teether & Semrud-Clikeman, 1997). AD/HD is a hereditary condition with approximately 80% of AD/HD cases having a parent or close relative with AD/HD (Barkley, 1998). In
spite of the convincing genetic evidence, the gene(s) involved or the mode of inheritance is/are uncertain (Mash & Wolfe, 1999).

2.6.2 Pregnancy, Birth and Developmental Factors

Factors like maternal smoking during pregnancy, malnutrition, early neurological trauma, low birth weight, pre-, peri-, or postnatal complications may hamper development of the central nervous system, which may in turn predict AD/HD symptoms at a later stage. These are however associated with many other forms of pathology and there is no evidence to suggest that any of these are specific to AD/HD (Mash & Wolfe, 1999).

Maternal use of drugs, alcohol and cigarettes during pregnancy may cause damage to the fetal brain. Fetal alcohol syndrome (FAS) may result from excessive drinking during pregnancy. Along with low birth weight, physical defects and intellectual impairment, children with FAS display hyperactivity, impulsivity and inattention similar to that in children with AD/HD (Neuwirth, 2002).

2.6.3 Neurochemical Factors

The study of drugs in the treatment of AD/HD has led to the belief that many neurotransmitters are associated with symptoms of AD/HD. Most researchers agree that there is a biochemical imbalance in the brain of AD/HD sufferers, but 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 respond to impulses (Bester, 2006).

According to Taylor (1999), the brain of AD/HD sufferers underproduces certain neurotransmitters. The neurotransmitters that are possibly deficient in AD/HD sufferers are dopamine, noradrenaline and serotonin. In recent years, researchers have been emphasizing the dopamine deficiency (Bester, 2006).

2.6.4 Neurophysiological Factors

Several different neur anatomically based theories have been generated regarding the underlying causes of AD/HD. These range from dysfunctional diencephalic (hypothalamus and thalamus) structures, to decreased reticular activating system excitation, to deficient frontal lobe inhibition (Teether & Semrud-Clikeman, 1997). Positron Emission Tomography (PET) studies of the brain have shown that children with AD/HD have decreased metabolic rates and cerebral flow in the frontal lobe area compared to normal children. The resultant theory is that these children’s frontal lobes are not adequately inhibiting in the lower structures, which leads to disinhibition (Kaplan & Sadock, 1998).

Processes of attention are distributed widely throughout many structures of the brain. Abilities like selecting, maintaining and controlling attention might involve directing and accessing resources from both hemispheres of the brain. When a particular stimulus demands action, competition among potential responses may require mutual inhibitory interaction of structures in both hemispheres. This
interhemispheric regulation might be the problem in children with AD/HD (Teether & Semrud-Clikeman, 1997).

2.6.5 Psychosocial Factors

Socio-economic status is not seen as a predisposing factor as there are children with AD/HD from every socioeconomic group (Taljaard, 2001). However, the relationship between poverty and health has long been recognized by the Department of Health Services, and it is recognized that AD/HD is slightly more prevalent among groups with lower socio-economic status (SES), living in urban areas (Barkley, 1998). The specific relationship between SES and AD/HD prevalence is not fully understood.

Barkley (1998) has speculated that AD/HD prevalence in lower SES groups may be related to poorer health care and nutrition in women in lower income groups and to relatively higher rates of family instability, mental illness, divorce and social difficulties that these families experience. Difficulties that are SES related do not cause AD/HD but may exacerbate AD/HD symptoms and child behaviour problems and increase family conflict and mothers’ distress in parenting children with genetic based behavioral disorders, such as AD/HD. Although environmental factors cannot cause AD/HD, they can affect the outcome and severity of the symptoms. Genetic-familial factors, societal demands for routine, and children’s temperaments are seen as predisposing factors (Green & Chee, 1995).

Overactivity and poor attention span are often seen in institutionalized children and when their emotional deprivation is relieved through placement in a foster home or adoption, these symptoms disappear. Initiation and maintenance of AD/HD symptoms can be the result of anxiety inducing factors like a disruption in family equilibrium or stressful psychic events (Kaplan & Sadock, 1998).

Furthermore, a family environment of conflict and chaos can exacerbate the symptoms of AD/HD. Children with this disorder have been found to have families with dysfunctional patterns of interaction: parents may be very controlling, directive or negative towards their children. Interactions tend to improve when the child is on medication and when parent-child relationships improve (Teether & Semrud-Clikeman, 1997).

2.6.6 Diet

During the past decade, a significant amount of research has been conducted on the influence of diet on AD/HD. There are divergent views and convictions about the effect of eating habits on AD/HD (Bester, 2006). According to Green & Chee (1995), diet is not a contributing factor in AD/HD as the few children who suffer with adverse effects from natural and artificial food chemicals might or might not have AD/HD. Many writers agree that the AD/HD child often has allergies associated with dairy products, corn, eggs, cereal, oranges and peanuts (Bester, 2006). Taljaard (2001) claimed that allergies to cow’s milk and cereals are common amongst children with AD/HD and that 10% of South African primary school children have allergic reactions that adversely affect their behaviour and
concentration. Preservatives and colorants are also believed to have much more of a negative effect on the AD/HD child’s behaviour than sugar.

It is widely held that a shortage of essential fatty acids is a relevant factor in AD/HD. A research project titled the “Durham Trial”, undertaken by the University of Oxford, published the first scientifically, evidence-based results on the effects of essential fatty acids on AD/HD in the Journal of the American Academy of Pediatrics (Bester, 2006). It is the first double blind placebo-controlled study of its kind ever done. The AD/HD group used in this study all had a backlog of at least twelve months in reading and spelling ability. The control group received olive oil capsules (placebos), whilst the study group received an essential fatty acid supplement. The supplement consisted of a combination of Omega 3 and Omega 6 fatty acids in a 4:1 ratio. These participants did not take methylphenidate (Bester, 2006).

After three months, some of the members of the control group received the placebo while the others received the Omega 3 and Omega 6 capsules for the following three months. The AD/HD learners who took the essential fatty acid supplement showed a statistically significant improvement with regard to reading and spelling ability and also with regard to the relevant behavioural criteria. The improvement of the group that took the supplement for the full six months was better than the group that took the supplement for three months (Bester, 2006). It has been concluded that a supplement of Omega 3 and 6 fatty acids, is important in the AD/HD individual’s diet.

2.6.7 Environmental Toxins

Brain function and development can be influenced by environmental toxins, which can then lead to AD/HD. Soil, dust, flaking paint and water pipes can contain lead which is associated with AD/HD symptoms in the classroom and deficits in intellectual functioning. The correlation between symptoms of AD/HD and body lead is, however, low. Around 4% of the variance in AD/HD symptoms can be accounted for by lead, thus the relationship is a weak one (Mash & Wolfe, 1999). The following section addresses the most effective treatment approaches for AD/HD.

2.7 Treatment of AD/HD

The widespread use and evidence for the efficacy of stimulant medication are overwhelming. In fact, treatment effects of stimulants surpass evidence for pharmacological treatment of any other child psychiatric disorder. It is estimated that at least 85% of children diagnosed with AD/HD are medicated with stimulants (Olfson, Gameroff, Marcus & Jensen, 2003). Despite the vast literature supporting the efficacy of stimulant medication in the treatment of AD/HD, several limitations of pharmacological treatments highlight the clear need for effective psychosocial treatments to be identified (Chronis, Jones & Raggi, 2006).

A large evidence base exists for behavioural interventions, including parent training and school interventions, which have resulted in their classification as “empirically validated treatments” (Chronis,
Given the chronic impairment children with AD/HD experience across multiple domains of functioning, multimodal treatments are typically necessary to normalize the behaviour of these children. Stimulant medications and other effective psychosocial treatments for the management of AD/HD are now reviewed.

2.7.1 **Stimulant Medication**

Stimulant medication has been shown to have large, beneficial effects of a number of outcome measures, particularly measures of AD/HD symptoms for the majority of children for whom they are prescribed (Swanson, McBurnett, Christian & Wigal, 1995). In the classroom, stimulants have been found to reduce classroom disruption and increase on-task behaviour, compliance, and academic productivity. In addition, stimulants have been shown to decrease negative social behaviours, including aggression, inappropriate peer interactions, and negative parent-child interactions (Barkley, 2006). The most widely used stimulant medication in South Africa for the treatment of AD/HD, include Ritalin, in which the active ingredient is methylphenidate, as well as Concerta. Ritalin is a central nervous stimulant which is currently available in South Africa in three forms, namely Ritalin, Ritalin SR 20 (slow release) and Ritalin LA 20, LA30 and LA40 (long acting). Bester (2006) provided a brief description of these stimulants.

1. **Ritalin:** The ‘normal’ ritalin is a small white tablet containing 10mg of methylphenidate hydrochloride which is absorbed quickly and almost totally. Peak plasma concentration is reached on average between one to two hours after administration. Ritalin’s efficacy period is about four hours.

2. **Ritalin SR 20 (slow release):** This is a white film-covered tablet containing 20mg of methylphenidate hydrochloride. Absorption of the methylphenidate in SR20 is slower than conventional Ritalin. Peak plasma concentration is reached on average two and a half to three hours after administration and has an efficacy period of about eight hours.

3. **Ritalin LA20, LA30 and LA40 (long acting):** Half of the methylphenidate in these capsules are absorbed immediately. The other half of the active ingredient, is absorbed about four hours later after administration and are coated in a waxy covering to control the release time. In other words, a Ritalin LA capsule basically contains two doses of methylphenidate that are administered as one dosage and that are absorbed at different times. As a result, there are two different concentration peaks, separated by about four hours.

Concerta has been available in South Africa since 2005 and because this medication is still very new in South Africa, there is not much feedback from South African users and suppliers. The active ingredient is methylphenidate and works in the same way as Ritalin (Bester, 2006). It is a capsule-shaped, yellow tablet and peak concentration plasma is reached on average between six to eight hours after administration (Bester, 2006).
More recently Atomoxetine, approved by the U.S. Food and Drug Administration (FDA) in 2002, is the first non-stimulant drug for the treatment of AD/HD and is currently available in South Africa (http://www.remspeced.co.za). This chemical is manufactured and marketed under the brand name Strattera. Strattera is a schedule 5 drug which is one schedule lower than Ritalin, meaning that the control regulations regarding its prescription are lighter than those imposed on Ritalin (Biederman, Wigal, Spencer, McGough & May, 2006). Strattera is classified as a norepinephrine reuptake inhibitor and is approved for use in children, adolescents and adults. However, its efficacy has not been studied in children under six years of age (Biederman, Wigal, Spencer, McGough & May, 2006). Its advantage over stimulant medication for the treatment of AD/HD is that it has less abuse potential as compared to that of stimulant medication and is not scheduled as a controlled substance. Furthermore, it has proven in clinical trials to offer 24 hour coverage of symptoms associated with AD/HD in adults and children (O'Regan, 2007). Since norepinephrine is believed to play a role in AD/HD, Strattera was tested and subsequently approved for the treatment of AD/HD (Biederman, Wigal, Spencer, McGough & May, 2006). Stattera is sold as a white solid that exists as a granular powder inside a capsule and is long-acting (Bester, 2006).

The literature suggests that AD/HD is associated with a host of family problems, and therefore it is unlikely that stimulant medication for children is sufficient to treat the multiple mental health needs and pervasive impairment common in these families (Chronis et al., 2003). Children who receive combined treatments are more likely to be normalized, and parents overwhelmingly endorse treatment conditions including a behavioural component (Pelham, Fabiano, Gnagy, Greiner & Hoza, 2004). Thus, there is overwhelming evidence that points to behaviour therapy as a valuable component of treatment for AD/HD (Chronis et al., 2006).

2.7.2 Family-Based Interventions

The inattentive, hyperactive, and impulsive behaviours that characterize AD/HD often contribute to impairment in the parent-child relationship and increased stress among parents of children with the disorder (Fischer, 1990; Johnston & Mash, 2001). Over time, parents may develop maladaptive and counterproductive parenting strategies to deal with these problems that may serve to maintain or exacerbate existing behavioural difficulties (Patterson, DeBaryshe & Ramsey, 1989). Effectively modifying poor parenting practices is of utmost importance, as poor parenting is one of the more robust predictors of negative long-term outcomes in children with behaviour problems (Chamberlain & Patterson, 1995). Behavioural parent training then, is one of the most effective ways to change parenting and therefore treat AD/HD (Pelham, Wheeler & Chronis, 1998).

Behavioural parent training has a long, successful history as a treatment for children with AD/HD (Pelham et al., 1998), oppositional defiant disorder and conduct disorder (Brestan & Eyberg, 1998), as well as many internalizing disorders, such as anxiety and depression (Silver, 1992). Behavioural
parent training explicitly provides parents with instruction in the implementation of behaviour modification techniques that are based on social learning principles. Parents are taught to identify and manipulate the antecedents and consequences of child behaviour, target and monitor problematic behaviours, reward prosocial behaviour through praise, positive attention, and tangible rewards, and decrease unwanted behaviour through planned ignoring, time out, and other non-physical discipline techniques, for example, the removal of privileges (Chronis et al., 2006).

2.7.3 School Interventions

2.7.3.1 Inclusive Education Policy

Policy changes in the Department of Education are creating new challenges for teachers. In terms of the inclusive education policy, all learners, including those with special needs, have the right to be accommodated in the mainstream teaching system (Bester, 2006). These policy changes have positive implications for the AD/HD learner, but the practical problem of how to deal with the AD/HD learner still remains. It is difficult for teachers to cope with AD/HD learners in the classroom situation as their classes are large, and if one puts three or four AD/HD learners in a class of forty, their task immediately becomes that more difficult (Bester, 2006).

Inclusive education however refers to the empowerment of educators with, for example, special knowledge regarding AD/HD and how to accommodate these learners in the mainstream teaching programme. The new inclusive education policy implies, amongst other things, that adaptations are made with regard to the level of support for learners with specific learning needs (Department of Education, 2000). According to Dr. Matthi Theron, Director of Specialized Education Support Services in the Western Cape, teaching staff are currently being trained in highly successful programmes to deal with behaviour difficulties. These programmes aim to understand the learner and the reason(s) for his or her unacceptable behaviour so that support can be given from this perspective (Bester, 2006). This means that teaching staff now often have to look at these learners differently and can no longer label them as ‘naughty’.

Many school principals are delighted with this new approach because it has brought about a whole new culture of learning in their schools (Bester, 2006). Inclusive education policy also stipulates that a child may not be categorized or labeled and the medical model will no longer be used to focus on the child’s ‘deficiencies’. Rather the learner’s teaching needs, as well as what is required from the education system for the child to be able to learn effectively, is taken into consideration (Chronis et al., 2006). The key role of educators would be managing the programmes of learners for which they are responsible. This would include assessing the needs of learners with specific reference to AD/HD and providing flexible programmes (Department of Education, 1997).

Successful intervention programmes will require careful planning, thorough classroom management, appropriate curriculum adaptation, positive classroom interaction, cooperation with
teachers, realistic teacher expectations and by using a variety of teaching strategies, the teacher can create positive learning environments in their classrooms (Chronis et al., 2006). In practice, this means that differentiated teaching will have to be applied in schools. Adaptations with regard to teaching style are suggested and assessment models will also have to be adapted. Inclusion is about supporting all learners, educators and the system as a whole, so that the full range of learning needs can be met (Bester, 2006).

2.7.3.2 Classroom Behaviour Management

Many of the difficulties that characterize AD/HD may interfere with a child’s classroom behaviour and their ability to learn, resulting in lower academic achievement and impaired functioning in the school setting. Researchers have long examined effective ways of helping children with AD/HD to behave appropriately in school and to perform better academically (Chronis et al., 2006). Behaviourally based classroom interventions constitute an empirically supported treatment for children with AD/HD and generally involve regular consultation with the child’s teacher regarding the use of behaviour modification strategies (Pelham et al., 1998).

Consultation usually begins with psychoeducation about AD/HD and identification of specific target behaviours, based upon a functional assessment of behaviour (i.e., examination of antecedents, behaviors and consequences). Teachers are then instructed regarding the use of specific behavioural techniques, including praise, planned ignoring, effective commands, time out as well as the daily report card (DRC) and more extensive individualized contingency management programs (Barkley, 2002).

The DRC is a school-based intervention in which specific behavioural goals are set and the child is rewarded at home, based on the attainment of these goals (O’Leary, Pelham, Rosenbaum & Price, 1976). Behavioural goals are set at a level that is challenging, yet attainable, and are made increasingly more difficult until the child’s behaviour is within developmentally normative levels based on the principle of shaping. The DRC also provides parents with daily feedback regarding their child’s behaviour and performance at school, and allows them to provide back-up reinforcement for classroom behaviour. The number of DRC goals and frequency of feedback and reinforcement are based on the child’s developmental level (Pelham et al., 2002). Many researchers have reported beneficial effects of the DRC on observational measures and teacher ratings of classroom behaviour (Chronis et al., 2001; Fabiano & Pelham, 2003; McCain & Kelley, 1993; O’Leary et al., 1976).

2.7.4 Academic Interventions

Academic interventions for AD/HD focus primarily on manipulating antecedent conditions such as academic instruction or materials in order to improve both behavioural and academic outcomes (DuPaul & Eckert, 1998). Direct targeting of academic impairment is an important component of
comprehensive treatment of children with AD/HD due to the strong association between AD/HD and academic underachievement (Barkley, 1998), the high rate of co-occurring learning problems in this group (Silver, 1992), and the high rates of grade retention, expulsion and school dropout in adolescents with this disorder (Barkley, Fischer, Edelbrock & Smallish, 1990).

Academic approaches that have been developed for AD/HD children include task and instructional modifications, peer tutoring, computer-assisted instruction, and strategy training (DuPaul & Eckert, 1998). Task and instructional modifications involve implementing procedures such as reducing task length, dividing tasks into subunits and setting goals for the child to achieve in shorter time intervals, using increased stimulation of the task (i.e., color, texture or rate of stimulus presentation), and modifying the delivery of instruction depending on the student's individual learning style (DuPaul & Eckert, 1998).

Computer-assisted instruction entails the manipulation of the task format through presentation of specific instructional objectives, highlighting of essential material, use of multiple sensory modalities, dividing content material into smaller chunks of information, and providing immediate feedback about response accuracy (DuPaul & Eckert, 1998; Zentall & Lieb, 1985). The instructional approach of strategy training requires teaching students to use a set of procedures or strategies that specifically address the demands of an academic situation (i.e., notetaking, study skills, homework completion, or self reinforcement procedures) (Chase & Clement, 1985; DuPaul & Eckert, 1998). Finally, during peer tutoring, one student provides assistance, instruction and feedback to another, thereby simultaneously working on academic and social skills goals (DuPaul & Eckert, 1998; Locke & Fuchs, 1995).

2.7.5 **Peer Interventions**

Interpersonal difficulties are one of the hallmark characteristics of children with AD/HD (Whalen & Henker, 1985). Children with high levels of hyperactivity, noncompliance or aggression are rated more negatively by peers on sociometric measures (Erhardt & Hinshaw, 1994; Pelham & Bender, 1982) and are more likely to be rejected by peers (Hinshaw & Melnick, 1995). As Coie and Dodge (1998) have documented, poor peer relationships are predictive of negative long-term outcomes for disruptive children. Thus, peer relationships are an important target of comprehensive treatment for AD/HD (Chronis et al., 2006).

Social skills interventions focus on developing and reinforcing the use of appropriate social skills (i.e., communication, co-operation, participation and validation) (Kavale, Forness & Walker, 1999). Although it appears logical that such interventions would improve the social behaviour of these children, convincing evidence supporting the efficacy of social skills interventions for children with AD/HD has been lacking (Pelham et al., 1998). Recently three studies of combined parent training and social skills training demonstrated stronger and more generalized treatment effects for the combined treatment versus social skills training alone (Frankel et al., 1997). These results suggest
that combining parent training with social skills training may result in more robust effects for both parents and children than parent training alone.

2.7.6 Combined Behavioural-Pharmacological Interventions

Many studies have compared stimulant medication to behaviour therapy and/or combined behavioural-pharmacological interventions for children with AD/HD. The largest of these was the fourteen-month MTA study, which included 579 children between the ages of 7 and 9 who were diagnosed with AD/HD (Chronis, Jones & Raggi, 2006). Results of this study suggested that careful medication management was as effective as combined treatment in reducing the AD/HD symptoms, with no clear incremental benefit of behaviour therapy noted.

However, combined treatment typically fared better than medication alone with regard to many of the socially valid targets of treatment (i.e., areas of functional impairment), such as improved social skills and parent-child relationships, including reduction of parent-reported harsh and ineffective parenting (Hinshaw et al., 2000). Also, combined treatment may allow for lower doses of medication to be used in conjunction with behaviour management in the home and school settings, resulting in increased satisfaction with treatment (MTA Co-operative Group, 1999a; Pelham et al., 1998).

2.8 Predictors of Treatment Response

Parental psychopathology, parental cognitions, socioeconomic status, race and ethnicity are all potential moderators in determining the degree to which individual children improve as a result of treatment. Several studies have documented the greater prevalence of psychopathology in parents of children with AD/HD (Cantwell, 1972; Chronis et al., 2003, Fischer, 1990; Mash & Johnston, 1990). Parental psychopathology in general, and maternal depression specifically, is perhaps the most widely studied barrier to optimal treatment response following parent training for children with ODD and CD (Griest & Forehand, 1982; Webster-Stratton, 1992). Furthermore, it has been shown that parental problems are associated with poorer treatment adherence to parent training programmes for noncompliant or aggressive children (McMahon, Forehand, Griest & Wells, 1981).

These findings are not surprising given that distressed individuals often lack the motivation or organization to complete effortful tasks that require ongoing work, such as the consistent implementation of behavioral management techniques. Thus, comprehensive treatments for AD/HD may benefit from adjunctive treatment components addressing parental psychopathology (Chronis et al., 2003).

The literature on parental cognitions, including both attributions regarding child behaviour and expectations regarding treatment, suggests that, compared to parents of children without behaviour problems, parents of children with AD/HD tend to attribute their children’s inattentive, hyperactive and impulsive behaviours to internal and stable child factors (Johnston & Freeman, 1997). Such
attributions may be related to maladaptive parenting behaviour. For instance, Slep and O’Leary (1998) found that maternal attributions about their child’s misbehaviour were related to harsh parenting; mothers who were told that their child deliberately misbehaved reported more anger toward their children and were more likely to display overreactive parenting. Further findings from the MTA study (MTA Cooperative Group, 1999a) suggested that negative parental cognitions about themselves, their AD/HD children, and their parenting were associated with poorer response to behavioural, pharmacological and combined treatments for AD/HD (Hoza et al., 2000). Parental cognitions may be particularly relevant in the treatment of AD/HD, as behavioural treatments rely on parents and teachers to consistently implement treatment over the long-term (Chronis et al., 2003).

Studies have shown that low income and minority children with AD/HD are less likely to have their special education services met and are less likely to adhere to prescribed stimulant medication regimes (Bussing, Zima & Belin, 1998). Similarly, low SES has been shown to contribute to poor compliance with and outcome following parent training for noncompliant children (McMahon et al., 1981).

Furthermore, differences in cultural norms, expectations about children and parenting, or attitudes regarding mental health may influence treatment attainment, compliance or outcomes (Kazdin & Weisz, 2003). Research has indicated that AD/HD children of different ethnic backgrounds may benefit from behavioural management programmes in the home environment. Despite the successes in parent training seen in families who complete treatment, many ethnic minorities are less likely to seek or obtain mental health services (Armbruster & Schwab-Stone, 1994; Chronis et al., 2003). In a large survey assessing knowledge and opinions regarding AD/HD, 31% of African parents incorrectly believed that children with AD/HD will outgrow the disorder (Kendall, 1998). Parents who believe that their child will outgrow the inattentive or hyperactive/impulsive behaviours may be less likely to devote their time, energy and money in treatment of these behaviours (Chronis et al., 2006). It would be important for further research to be directed at understanding what can be done to improve the attainment of, adherence to, and outcomes following both behavioural and pharmacological treatments.

Once the child has been diagnosed and assigned a treatment regime, with or without medication, the day-to-day management of all facets of the child’s life reverts largely to the parents and teachers, in particular the parents. They must find strategies for coping with the daily medical, behavioural, and to some extent, the educational needs of the child (Bester, 2006). It is important to comprehend that the AD/HD child exists as an integral part of the family system and therefore the following subsection addresses the impact that the AD/HD child has on family functioning and relationships.
2.9 Impact of AD/HD on Family Functioning and Relationships

It is widely recognized in research that children with special needs generate heightened concern, stress and tension within their families (Coleman, 2002). Parents of children with AD/HD encounter a variety of severe hardships in caring for their children’s needs and coping with the challenge. Many parents feel that they have either lost the child they once knew, as the symptoms have progressed, or have never had any positive experiences or relationship with them (Coleman, 2002). The parents comment that the child with a bright, bubbly personality and good relationships was gradually lost once school started and much of the seeming ability was replaced by underachievement and a loss of self-confidence (Kewley, 2001). They are no longer able to communicate with their child in the same way as before the child attended school, and feel frustrated and uncertain as to why these difficulties are occurring. Research literature on the difficulties of parenting a child with AD/HD is growing (Barkley, 1998; Kendall, 1998; Leung, Robson, Fagan & Lim, 1994; Melnick & Hinshaw, 1996) along with the documentation of the negative effects of AD/HD on family life (Hankin, 2002; Johnston, 1996; Kaplan, Crawford, Fisher & Dewey, 1998). Families with AD/HD children report more interpersonal conflict, increased maternal distress, increased marital conflict, separation and divorce, less contact with extended family, and fewer positive family experiences compared to families with non-AD/HD children (Barkley, 1998; Edwards, Schultz & Long, 1995; Johnston & Mash, 2001). Some researchers have hypothesized that interventions to increase the overall functioning of the family and to decrease the amount of family conflict would improve outcomes for youth with AD/HD and individual family members (Kendall, Hatton, Beckett & Leo, 2003). As a result of the severe behavioural problems that children with AD/HD exhibit, parents report more negativity in their social life and feel less competent in their parenting abilities (Harrison & Sofronoff, 2002; Pelham et al., 1997).

2.9.1 Impact of the AD/HD Child on the Mother

Research findings indicate that mothers of AD/HD children are particularly vulnerable to the effects of the disorder on their psychological well-being, with high levels of caregiver strain and low levels of instrumental support (Barkley, 1998; Kendall 1998; Pelham & Lang, 1999). Mothers of children with AD/HD reportedly have significantly higher rates of depression and anxiety than mothers of children without AD/HD (Barkley, 1998), and AD/HD in children has been shown to predict depression in mothers even without the presence of ODD or CD (Faraone et al., 1995). Researchers have also documented that mothers of children with AD/HD experience elevated levels of daily child-rearing-related stress (Barkley, 1998; Faraone et al., 1995; Kendall 1998). The literature on AD/HD investigating the interactions of AD/HD children with their mothers indicates substantially greater conflict in their communicative exchanges than is seen in normal mother-child dyads (Barkley, 1990). It was demonstrated by Cunningham and Barkley (1979) that AD/HD children were less compliant, more negative, and less able to sustain compliance to maternal directives than children who did not
have AD/HD. In turn, mothers of AD/HD children were more commanding and negative and less responsive to positive or neutral communication from their children. However, further research indicated that if the child is compliant with medication, the medication enabled the child to sustain compliance to commands and that the mother’s frequency of commands, disapproval and control diminished (Barkley, 1990). A study conducted by Tallmadge and Barkley (1990) suggested that fathers and mothers of AD/HD children differ little in their interactions with their children. However, it was found that boys with AD/HD were more negative and less compliant with their mothers than with their fathers (Tallmadge & Barkley, 1990). This literature therefore indicates predominantly incendiary communication within families living with a child diagnosed with AD/HD, however it appears that the child’s compliance with medication may increase the probability of affirming communication within the family unit.

Mash and Johnson (1990) found that mothers of AD/HD children reported more depression, social isolation, self blame, role restriction, and lack of attachment to their children compared to mothers of normal children. The role of mothers has been described as being critically important in these families, because of the mother’s caregiver role in families and because other family members, including fathers, reported that much of the AD/HD parenting work is left to them. Mothers carry primary responsibility for the exceedingly difficult work of caring for a behaviourally disordered child while simultaneously organizing home and family life, being the family AD/HD expert, and acting as the child’s advocate and liaison with the school, health care system, extended family and community (Kendall, Hatton, Beckett & Leo, 2003).

2.9.2 Impact of the AD/HD Child on the Father

Fathers reported that having a child with a developmental disability like AD/HD can put an enormous strain on the marital relationship (Kendall, Hatton, Beckett & Leo, 2003). This frequently stems from differing parenting styles or a difference of opinion on how to appropriately discipline the child with respect to negative behaviour (Kilcarr, 2007). Research has indicated that fathers may not understand the way AD/HD manifests itself in their sons, and subsequently will express ongoing disappointment resulting in emotional withdrawal (Kilcarr, 2007). Many fathers struggle to determine which behaviours are related to the AD/HD and which negative behaviours were purposeful on the part of the child. This often leads to a heightened sense of frustration in fathers, resulting in an over focusing on the problematic behaviours. This dilemma has the potential of keeping the father and son locked in a cycle of negative interaction (Kendall, 1998).

A father who perceives himself as a provider first and a parent second, is likely to respond differently to child-rearing difficulties than a mother who believes that the child comes before her career. If a child needs increasing parental concern and attention, the father may retreat by spending more time at work while the mother might reduce commitment at work to provide the care needed
In a study conducted by Tallmadge & Barkley (1990), it was found that AD/HD boys were more negative and less compliant with their mothers than with their fathers. Tallmadge and Barkley (1990) suggested that one of the reasons for this is that mothers are still the primary custodians in the family, and are therefore the ones who are most likely to tax or exceed the child’s limitations in the areas of persistence of attention, activity regulation, impulse control, and rule governed behaviour. It remains predominantly a mother’s responsibility to get the AD/HD child to perform chores, to do school work, and to control their behaviour in public, and so mothers are more likely to encounter the child’s AD/HD symptoms than the father (Tallmadge & Barkley, 1990).

Barkley (1990) stated that it is not uncommon for greater parental distress and marital problems to develop out of these discrepancies in the child’s behaviour towards their parents. This could result in fathers denying that the child has problems and refusing to admit that the problems are actually as serious as the mother reports them to be. In some cases, the fathers may believe that their wives are overly sensitive to what they themselves label as normal childhood behaviour in boys. Barkley (1990) noted that this can sometimes lead to the insistence by the father that their wives, not their children, are in need of professional assistance.

2.9.3 Impact of the AD/HD Child on their Siblings

Research indicates that siblings are affected by the presence of the AD/HD child and are at risk for psychological disturbances. Kendall (1998) stated that the relationship between the AD/HD child and siblings is often tense as the siblings grow tired of, and exasperated at trying to understand and live with such a disruptive force as their AD/HD brothers and sisters. Parents of AD/HD children complain that their child does not accept household chores and responsibility as well as other children their age and greater supervision is necessary. Some siblings therefore develop resentment over the greater burden of work and responsibility they carry as compared to their AD/HD sibling (Barkley, 1990).

Mash and Johnson (1990) noted that more sibling envy and resentment occurs in families with AD/HD children. The greater time and attention these AD/HD children receive from their parents is often a source of jealousy on the part of their siblings, especially those who are younger than the AD/HD child (Barkley, 1990). On the other hand, the AD/HD child’s siblings are often favoured as the well-mannered children, receiving more praise. This pattern results in a substantial amount of sibling conflict and rivalry (Barkley 1990; Kendall, 1998).

Siblings of AD/HD children are also more likely to be experiencing their own psychological distress and psychiatric disorders. Siblings of AD/HD children are more likely to experience depression, anxiety, aggression and have learning difficulties as compared to other children (Fischer, 1990; Mash & Johnson, 1990). These sibling problems are likely to exacerbate the confusion and
negativism in the household and to place further tension on the parents and the marital relationship.

2.10 Conclusion

The review of literature suggests that AD/HD is a lifelong neurochemical imbalance that is associated with specific problems and difficulties that the child will experience throughout their lifetime, as reviewed in this chapter. It appears that the use of medication and cognitive behaviour therapy is the principal treatment for AD/HD. Multifaceted programs, utilizing medication and behaviour change agents such as parents, teachers, and peers are seen as imperative to creating meaningful behaviour change (Chronis, Jones & Raggi, 2006). Research appears to indicate that optimal change occurs through the use of medication and cognitive behavioural interventions (Hinshaw et al., 2000). Barkley (1990) stated that none of the treatments available are curative, but merely reduce the symptom levels of the emotional and behavioural difficulties such as depression, low self esteem or academic underachievement.

It is also evident from the literature that the AD/HD child has a disruptive effect on all social environments, particularly within the family. Major interrelated themes seem to emerge in families with AD/HD children, namely, maternal depression and stress, conflict laden parent-child interactions, high levels of parental distress, family instability and marital disruption. However, research conducted by Heiman (in Bester, 2006), focusing specifically on the hardships encountered by parents of children with special needs concluded that, despite the parents' initial perception of a personal tragedy, they expressed a strong belief in the child and his or her future, and an optimistic outlook and a realistic view and acceptance of the disability (Bester, 2006). Heiman’s study highlighted the importance of social resources, support services used by parents, the need for effective intervention programs and the support of family and friends, all of which contributed to their resilience, i.e., their ability to “bounce back” and cope effectively, despite their considerable adversities.

Further studies in this field reflected that even though there is considerable stress, pain and difficulty encountered by parents raising children with AD/HD, it would be incorrect to view these families as pathological (Silberberg, 2001). It is more correct and beneficial to focus on the strong and positive relationships which parents and families develop and that bolster them. In recent decades, there has been a shift in psychology from looking at a person’s pathology to rather examining his/her strengths for development (Walsh, 2003). De Frain (1999) pointed out that:

If one studies only family problems, one finds only family problems. Similarly, if educators, community organizers, therapists and researchers are interested in family strengths, they look for them. When these strengths are identified, they can become the foundation for continued growth and positive change in a family and a society (p. 13).
Researchers are therefore moving away from a somewhat disempowering approach and are embracing a strengths perspective in their work. A family that is depicted as resourceful and skilled is more likely to become actively engaged in the process of addressing their issues and solving their problems (Silberberg, 2001). It is both important and necessary to explore and gain understanding of how families with AD/HD children are able to adjust and adapt when faced with this crisis. The following chapter will introduce and define the concept of resilience and will consider a family resilience framework.
CHAPTER THREE

RESILIENCE

Challenge is a fact of life. Making adjustments in each life stage, coping with unexpected setbacks, or handling the daily stressors of life can turn a crisis into an opportunity for growth.


3.1 Introduction

The current chapter focuses on one of the construct formulations of positive psychology, namely resilience. A brief overview of the historical background of the resilience concept is provided with a specific focus on individual and family resilience. Subsequent to this discussion, an overview of research using individual and family resilience as a variable is provided. As work in the area evolved, researchers moved from the conceptualization that resilience is a characteristic in the individual that could be influenced by the family, to a family resilience framework that conceptualizes resilience as a systemic quality. In terms of the current research study, the Resiliency Model of Family Stress, Adjustment and Adaptation was used as a conceptual framework to explore and describe the adjustment and adaptation of families living with a child diagnosed with AD/HD. The Resiliency Model of Family Stress, Adjustment and Adaptation, is the most recent development in theory building on resilience in the family. Although the process of adaptation was the focus of the present study, the adjustment process will also be described. Finally, the applicability of the Resiliency Model to families living with a child diagnosed with AD/HD is highlighted.

3.2 Resilience as a Construct

A focus on deficiencies rather than on the strengths that reside within individuals has been a societal concern for many years. In recent decades there has been a shift in psychology from looking at a person’s pathology to rather examining his/her strengths for development (Walsh, 2003). In recognizing the limitations of the medical model approach, some writers began to promote an alternative paradigm, known as the strengths perspective (Saleebey, 1997; Weick, Rapp, Sullivan & Kisthardt, 1989). Consequently, a paradigm shift occurred from pathogenesis to salutogenesis (i.e., a perspective that emphasizes strengths and health as opposed to illness) (Antonovsky, 1987). The basic premise of this approach is that people possess inherent strengths, or assets, that hold the key to their ability to cope with stress and trauma. Instead of diagnosing deficits and prescribing treatment to address them, the strengths-based perspective helps the individual or family identify and build on
their capacities. Such strengths include not only internal attributes but also support from the social environment. This change from a deficit-based approach to a strengths-based approach is referred to as ‘Positive Psychology’, a term coined by Martin Seligman in 1998 (Compton, 2005; Seligman, 1998). Seligman urged psychologists to remember that the goal of psychology is not just the study of weakness and damage, but that it is also a study of strength and virtue (Seligman, 1998). The emphasis for research focusing on strengths rather than weaknesses is evidenced at a governmental level and can also be seen in community work and family therapy where an increasing number of professionals are applying narrative, assets-based or competency-based approaches in their work (Cole, Clark & Gable, 1999). In recent times, researchers have questioned how some people are able to stay healthy and do well in the face of risk and adversity while others do not (Patterson, 2002a; Zimmerman & Arunkumar, 1994). A construct that focuses on strengths during adversity is resilience. Resilience – the ability to withstand and rebound from disruptive life challenges; has become an important concept in mental health theory and research over the past two decades (Walsh, 2003). The following section provides a brief, descriptive overview of the resilience construct.

3.2.1 Descriptions of Resilience

Resilience refers to a dynamic process encompassing positive adaptation within the context of significant adversity (Luthar, Cicchetti & Becker, 2000). Implicit within this notion are two critical conditions: (1) exposure to significant threat or severe adversity; and (2) the achievement of positive adaptation despite major assaults on the developmental process (Garmezy, 1990; Luthar & Zigler, 1991; Masten, Best & Garmezy, 1990; Werner & Smith, 1992). Resilience is described in developmental psychopathology literature in numerous ways. Rutter (1987) referred to it as “individual variation in response to risk” (p. 317), Werner (1993) as “successful adaptation following exposure to stressful life events” (p. 72), and Garmezy (1993) as “functioning following adversity” (p.129). Hawley and DeHaan (1996) suggested that many of these definitions encompass several themes. First, resilience surfaces in the face of hardship. It involves the manner in which individuals respond to difficulties. Without struggle, resilience does not exist. Second, resilience carries a property of buoyancy. It assumes that individuals exhibiting resilience are able to “bounce back” or “rebound” from adversity, reaching or surpassing a precrisis level of functioning. Finally, resilience is generally described in terms of wellness rather than pathology. Antonovsky (1987) called this a “salutogenic orientation” (p. 2). Strengths, rather than deficits, are emphasized and are viewed as the resources that allow individuals to overcome adversity.

Resilience is often discussed in terms of risk and protective factors. The factors that seem to shape the individual’s ability to endure in the face of adversity are referred to as protective factors and risk factors (Rutter, 1987). The aforementioned concepts are more specific and narrowly defined than the construct of resilience. The defining feature of these factors is that there is a modification in the
person’s response to adversity. It requires some form of intensification (vulnerability) or amelioration (protection) of the reaction to the factor that would usually lead to a maladaptive outcome (Rutter, 1987). Vulnerability refers to the individual’s predisposition to develop different forms of psychopathology or behavioural ineffectiveness under high-risk conditions and reflects a susceptibility to negative outcomes (Zimmerman & Arunkumar, 1994). Protection in this case does not imply that risk is avoided, but rather that it is successfully managed (Rutter, 1987).

Hawley (2000) suggested that risk factors increase the likelihood of barriers to effective functioning arising for an individual, either in childhood or throughout the lifespan. Parental divorce, poverty, and physical or mental illness are examples of risk factors. Family is sometimes viewed as a risk factor which resilient individuals have to overcome (Hawley, 2000). For example, Wolin and Wolin (1993) provided a number of case anecdotes describing the “survivors pride” (p. 8) of individuals who have overcome the effects of families of origin marked by alcoholism and mental illness. Protective factors, on the other hand, are resources that help individuals buffer the effects of adversity. Garmezy (1990) identified three common categories of protective factors for resilient children: an easy temperament, the presence of an individual who takes a strong interest in the child, and a strong social network. Wolin and Wolin (1993) have identified seven protective characteristics namely insight, independence, relationships, initiative, humor, creativity and morality. In general, resilience is most likely to be found when risk factors are minimized and protective factors are present. Rutter (1989) stated that risk and protective factors are not static but ever changing in that what is described as a protective factor at one point in time may function as a risk factor at another time or in another context. The following subsections address the two types of resilience, namely individual resilience and family resilience.

### 3.2.2 Individual Resilience

Most research to date has focused on individual resilience (Walsh, 2003). The investigations of factors that result in adaptive outcomes in the presence of adversity had a long and illustrious history, with the empirical literature on schizophrenia constituting a salient founding base (Masten et al., 1990). Studies of children of Schizophrenic mothers played a crucial role in the emergence of childhood resilience as a major theoretical and empirical topic (Garmezy, 1974; Garmezy & Streitman, 1974; Masten et al., 1990). Evidence that many of these children thrived despite their high-risk status led to increasing empirical efforts to understand individual variations in response to adversity (Garmezy, 1974; Rutter; 1979). Following Emmy Werner’s groundbreaking studies on children in Hawaii (Werner et al., 1971; Werner & Smith, 1977), research on resilience expanded to include multiple adverse conditions such as socioeconomic disadvantage and associated risks (Garmezy, 1990; 1991; Rutter, 1979; Werner & Smith, 1982, 1992), parental mental illness (Masten & Coatsworth, 1998), maltreatment (Beeghly & Cicchetti, 1994; Cicchetti & Rogosch, 1997; Cicchetti,
Rogosch, Lynch & Holt, 1993; Moran & Eckenrode, 1992), urban poverty and community violence (Luthar, 1999; Richters & Martinez, 1993), chronic illness (Wells & Schwebel, 1987), and catastrophic life events (O'Dougherty-Wright, Masten, Northwood & Hubbard, 1997). The thrust of this research was a systematic search for protective forces, that is, those which differentiated children with healthy adaptation profiles from those who were comparatively less well adjusted.

In the 1980's, increasing evidence was found that the same adversity may result in different outcomes, which challenged the prevailing deterministic assumption that traumatic experiences, especially in childhood, are inevitably damaging. In surveying these findings, Rutter (1987) noted that no combination of risk factors, regardless of severity, gave rise to disorder in more than half the children exposed. Although many lives were shattered, others overcame similar high risk conditions and were able to lead loving and productive lives and to raise their children optimally. Studies found, for instance, that most abused children did not become abusive parents (Kaufman & Ziegler, 1987). To account for these discrepancies, early studies focused on personal traits for resilience, or hardiness, reflecting the dominant cultural ethos of the “rugged individual” (Luthar & Ziegler, 1991; Walsh, 1996). Initially, resilience was viewed as innate, as in the character armor of “the invulnerable child”, who, like a “steel doll”, was thought to be impervious to stress (Anthony & Cohler, 1987). Earlier efforts were primarily focused on personal qualities of resilient children, such as autonomy or high self-esteem (Masten & Garmezy, 1985). As work in the area evolved, researchers increasingly acknowledged that resilience may often derive from factors external to the child. Researchers moved toward recognition of an interaction between nature and nurture in the emergence of resilience. Subsequent research led to the delineation of three sets of factors implicated in the development of resilience: (1) attributes of the children themselves, (2) aspects of their families, and (3) characteristics of their wider social environments (Masten & Garmezy, 1985; Werner & Smith, 1982, 1992).

During the last two decades, the focus of empirical work also shifted away from identifying protective factors to understanding underlying protective processes (Luthar, Cicchetti & Becker, 2000). Rather than simply studying which child, family and environmental factors are involved in resilience, researchers are increasingly striving to understand how such factors may contribute to positive outcomes (Cowen et al., 1997; Luthar, 1999). Resilience came to be viewed in terms of an interplay of multiple risk and protective processes over time, involving individual, family and larger sociocultural influences (Garmezy, 1991; Masten, Best & Garmezy, 1990; Patterson, 2002; Rutter, 1987). Individual vulnerability or the impact of stressful conditions could be outweighed by mediating influences (Walsh, 2003). Werner’s research (1993; Werner & Smith, 1992) and other emerging studies of resilient individuals all remarked on the crucial influence of significant relationships with kin, intimate partners, and mentors, such as coaches or teachers, who supported the individual’s efforts and believed in their potential and encouraged them to make the most of their lives. Still, the prevailing focus on parental pathology blinded many to the family resources that could be found and
strengthened even where a parent’s functioning was seriously impaired. A family resilience perspective recognized parental strengths and potential alongside limitations (Walsh, 2002).

Furthermore, grounded in systemic orientation, a family resilience perspective looked beyond a parent-child dyad and considered broader influences in the kin network, from sibling bonds to couple relationships and extended family ties. This approach fundamentally altered the deficit-based lens from viewing troubled parents and families as damaged and beyond repair, to seeing them as challenged by life’s adversities with potential for fostering healing and growth in all members (Patterson, 2002). Attention to understanding these underlying mechanisms involved in resilience is viewed as essential for advancing theory and research in the field, as well as for designing appropriate prevention and intervention strategies for individuals facing adversity (Cicchetti & Toth, 1991, 1992; Luthar, 1993; Masten et al., 1990; Rutter, 1990). The following section focuses on resilience in the family context.

3.2.3 Family Resilience

The 21st century will be characterized as the era of family transformation and stress. Diverse family forms such as single parent households, blended family units, interracial marriages and stepfamily systems have already changed the family landscape. When combined with the emergence of intergenerational family responsibilities, care of the chronically ill and disabled, and other pressures on the family system, it is reasonable to assume society expects the family system to be competent and resilient in the face of these challenges (McCubbin, McCubbin, Thompson, Han & Allen, 1997). Although the study of resilience among individuals is well established in developmental psychopathology (Garmezy, 1993; Rutter, 1987), it has only recently appeared in family literature. Much of the work on family resilience has been at a theoretical level (Hawley & DeHaan, 1996; McCubbin & McCubbin, 1993; Walsh, 1996), although studies using family resilience as a key variable are beginning to emerge (Genero, 1995). According to McCubbin et al. (1997), studies that focused on children revealed the importance of the family system in fostering resilience.

As with resilience in the individual, multiple descriptions of family resilience exist in the family literature. McCubbin and McCubbin (1988) defined resilience as “the characteristics, dimensions, and properties of families which help families be resistant to disruption in the face of change and adaptive in the face of crisis situations” (p. 247), while the National Network for Family Resiliency (1996) stressed that resiliency includes strengths a family utilizes in response to difficulties. A more recent definition by McCubbin et al. (1997) defined family resilience as “the property of the family system that enables it to maintain its established patterns of functioning after being challenged and confronted by risk factors” (p. 2). The definition of resilience in the Random House Webster’s Dictionary (1993) may be paraphrased to apply to the family system as: (1) the property of the family system that enables it to maintain its established patterns of functioning after being challenged and confronted by risk
factors: elasticity, and (2) the family’s ability to recover quickly from a misfortune, trauma, or transitional event causing or calling for changes in the family’s patterns of functioning: buoyancy. These definitions affirm the reparative potential of the family and should not be confused with the concept of invulnerability. The latter implies that families are untouched by the adversity they have to face whereas family resilience suggests that the family has the capacity to effectively adapt to the crises they experience (Zimmerman & Arunkumar, 1994).

The concept of family resilience extends beyond seeing individual family members as potential resources for individual resilience to focusing on risk and resilience in the family as a functional unit (Walsh, 1996). A basic premise in this systematic view is that serious crises and persistent adversity have an impact on the whole family (Walsh, 2003). These stresses can derail the functioning of a family system, with ripple effects to all members and their relationships. In turn, key family processes mediate the recovery of all members and the family unit. These processes enable the family system to rally in times of crisis, to buffer stress, reduce the risk of dysfunction, and support optimal adaptation. Building on theory and research, on family stress, coping and adaptation (Hill, 1958; McCubbin & Patterson, 1983; Patterson 1988; 2002), the concept of family resilience entails more than managing stressful conditions, shouldering a burden, or surviving an ordeal. It involves the potential for personal and relational transformation and growth that can be forged out of adversity (Boss, 2001). A more recent definition of family resilience is offered by McCubbin, Thompson and McCubbin (2001) and according to these authors, resilience refers to:

The positive behavioural patterns and functional competence individuals and family members demonstrate under stressful or adverse circumstances, which determine the family’s ability to recover by maintaining its integrity as a unit while insuring, and where necessary, restoring the well-being of family members and the family unit as a whole (p. 5).

By encouraging key processes for resilience, families can emerge stronger and more resourceful through their shared efforts in meeting future challenges (Walsh, 2002). A crisis can be a wakeup call, heightening attention to what matters. It can become an opportunity for reappraisal of priorities, stimulating greater investment in meaningful relationships and life pursuits (Walsh, 2003). Members may discover or develop new insights and abilities. Many families report that through weathering a crisis together their relationships were enriched and more loving than they might otherwise have been (Stinnett & DeFrain, 1985). In other words, members may discover untapped resources and abilities they had not recognized in the past. The family’s reparative potential is shaped by protective factors which have an effect on the family’s ability in the face of adversity. Family protective factors in combination with family recovery factors facilitate the family’s ability to bounce back from a family crisis situation (McCubbin et al., 1997). Through years of research, some general resilience factors (protective and recovery) that are associated with both adjustment and adaptation in the family system
have been identified (McCubbin et al., 1997). These factors that serve the family by playing a role in the family’s ability to both endure in the face of risk factors and adapt in the face of crisis situations are briefly discussed in the following section.

3.2.3.1 General Resilience Factors

The National Network of Family Resiliency (1996) has conceptualized resilience as occurring at multiple levels including individual, family, and community, with each level being unique yet interdependent. This conceptualization draws primarily on the family strengths literature to identify several factors associated with resilience in families, including commitment, communication, cohesion, adaptability, spirituality, connectedness, time together and efficacy (Hawley, 2000). Walsh (1996) introduced the concept of relational resilience. This concept focuses on the family as a functional unit. Walsh (1996) proposed that relational resilience emphasizes family processes and describes the manner in which families adapt these processes to their unique challenges. Walsh (1996) also suggested that relational resilience incorporates a developmental perspective concerned with how a family deals with stress over time. Thus, the pathway each family takes to resilience is unique, negating the possibility of discovering a “blueprint for any singular model of the resilient family” (p. 269). Hawley and DeHaan (1996) also stressed the importance of viewing family resilience as a developmental construct. These authors suggested that it can be conceptualized as a trajectory a family follows over time as it adapts and prospers in the face of stress. Thus, family resilience should be considered a process rather than a static set of qualities (Hawley, 2000). Like Walsh, DeHaan, Hawley and Deal (2002) indicated that the path of resilience each family follows is unique. These authors emphasized the need for longitudinal research to adequately measure this construct. In the 25 years of research on families under stress, 10 general resiliency factors (protective and recovery) have been identified as operative factors in family systems that help them negotiate life’s normative and non-normative changes (McCubbin, McCubbin, Thompson, Han & Allen, 1997).

1. Family Problem-Solving and Communication: In the face of normative and non-normative life events and changes, family members must communicate. Communication is the very tool through which families create a shared sense of meaning, develop and orchestrate coping strategies, and maintain harmony and balance (Walsh, 2003). Families appear to have at least two basic patterns of communication, affirming (i.e., pattern of family communication that conveys support and caring and exerts a calming influence such as talking things through to reach a solution), and incendiary (i.e., pattern of family communication that tends to exacerbate a stressful situation such as yelling and screaming). All families have both, but in the face of risk factors and crises the incendiary pattern may dominate, causing the resultant imbalance to contribute to family deterioration and undermining the family’s ability to adapt (McCubbin et al., 1997). A family system that emphasizes affirmation as its
primary pattern of communication increases its potential for recovery and minimizes the family’s risk for dysfunction. Walsh (2003) suggested that communication in families should consist of clear and consistent messages and ambiguous information should be clarified.

2. **Spirituality:** When catastrophic life events occur, families face the reality that their crisis situation cannot be explained by reasoning and logic alone (McCubbin & McCubbin, 1986; McCubbin, Dahl & Hunter, 1975). Families might struggle to find meaning when a young child is diagnosed with a mental illness and could search for meaning through their spiritual beliefs and practices (McCubbin et al., 1997; Walsh, 2003).

3. **Equality:** All too often, policies and programs undermine the family member’s ability to act constructively on the family’s behalf. Policies may be constructed to empower only select members of the family, such as the husband, and in so doing undermine the independence and self-reliance needed to manage a crisis situation. The importance of self-reliance and independence grounded in equality appears to play a significant role in fostering family adjustment and adaptation (McCubbin et al., 1997).

4. **Flexibility:** In the face of risk factors and particularly in the context of family crises, flexibility emerges as an important protective and recovery factor in the family’s efforts to maintain stability and recover from adversity (McCubbin, Thompson, Pirner & McCubbin, 1988; Olson et al., 1983). Particularly in the face of family crises, families are compelled to change their patterns of functioning, including roles, rules, meanings and in some cases, lifestyles to achieve harmony and balance and to recover (McCubbin, Dahl, Lester, Benson & Robertson, 1976; McCubbin & McCubbin, 1988).

5. **Truthfulness:** Ambiguity is an inherent element of family crisis. Not only is there a lack of clarity as to what families can and should do, but society often does not offer the much needed blueprints for managing the situation; such blueprints are necessary for facilitating the family’s adaptation in these destabilizing situations (Lavee, McCubbin & Patterson, 1985; McCubbin, Dahl & Hunter, 1975). Furthermore, the family may not have all of the facets and information needed to respond to the crisis, i.e., in the case of a child with a chronic, pervasive condition requiring a major at-home care regimen (McCubbin, 1998; McCubbin & McCubbin, 1988). In the context of family crisis situations where the family’s patterns of functioning may need to change and the family seeks to change their social, psychosocial and economic situations, getting the information, the truthful facts, is vital to the family’s adaptation process (McCubbin et al., 1997). Crisis situations demand not only truthfulness in the family system but also truthfulness from those social, medical, and political agencies and programs that inform and guide families in these difficult times and circumstances (Anderson, Loughlin, Goldberg & Laffel, 2001; DeCoster, 2001; Lo, 1999).

6. **Hope:** Families are often left with an unclear picture of their future or no picture at all in times of crisis. Family crisis situations that demand changes in the family’s typical patterns of functioning leave the family with a sense of helplessness and diminished hope. Hope, which refers to wishes or desires
that the family feel confident will be fulfilled, is a vital resilience factor in the process of adaptation (McCubbin et al., 1997). Hope is a future-orientated belief that enables the family to see beyond their problem-saturated present. It fuels energy and efforts to rise above adversity (Walsh, 2003).

7. **Family Hardiness:** There is little doubt that when confronted with risk factors and crisis-producing events, the family system is taxed, often to the limit. These situations call for all family members to work together and rally their collective strength to maintain a sense of integrity and purpose (McCubbin, Dahl & Hunter, 1975). Family hardiness refers to the family’s ability to ‘steel’ themselves against adversity. To effectively work through a crisis, the family has to commit to work together as a team and actively work towards resolving the present crisis. Part of this process is to reframe the crisis as manageable and to affirm the family’s sense of control over the outcome (McCubbin et al., 1997). Family hardiness includes characteristics such as (1) having a sense of control (the perception of how well the family is able to manage a crisis), (2) the orientation of the family in respect to dealing with challenges, and (3) an active orientation (an inclination to do something about the situation). If these characteristics of hardiness (commitment to the family, a positive orientation and an active approach to a crisis) are present within the family unit, the family would most probably show successful adaptation after the crisis (Aspeling & Greeff, 2004). Previous research has also indicated that a greater measure of family hardiness results in better family coherence (Drapeau et al., 1999; Mederer, 1998).

8. **Family Time and Routine:** All family systems work to develop patterns of behaviour and functioning with the sole purpose of creating predictability and stability, the milieu for harmony and balance (McCubbin et al., 1997). Families cultivate such practices such as having meals together and spending quality time with each other which create special meaning and value to family relationships. The literature on resilience suggests that the specific activities and routines that a family engages in offer relatively reliable indices of family integration and stability, which contribute to family resiliency (McCubbin, Thompson and McCubbin, 2001). In times of crisis, family routines and time together can help the family create a sense of predictability (McCubbin et al., 1997). Further research on resilience indicates that family time and routines may have a direct influence on the well-being of the family unit and its members. Families who invest in activities that promote togetherness among family members appear to be beneficiaries or developers of other family strengths such as coherence, bonding, flexibility and hardiness (McCubbin et al., 2001). When a family crisis occurs, family time and routines are often disrupted, set aside or cancelled and replaced by a total devotion to the family problem and all of its accompanying hardships. According to McCubbin et al. (1997), the care of an ill family member or a family member living with a disability is best accompanied by a commitment and effort to sustain some family practices and routines in an attempt to maintain the family’s stability and continuity during times of stress. From this it follows that health can also be viewed as an important protective factor for the family.
9. **Health:** Physical and emotional health and well-being of family members are essential protective and recovery factors in promoting resiliency in family systems (McCubbin et al., 1997). When family members experience health problems, the family system becomes vulnerable (Anderson et al., 2001; McCubbin et al., 1997). Although research confirming this line of reasoning is not conclusive, health of family members remains a viable protective and recovery factor in explaining the variability in resilience in the family system (McCubbin et al., 1997).

10. **Social Support:** Finally, the family does not function in isolation, but as part of an interrelated system, which could offer additional, if not unique forms of support (Lo, 1999; McCubbin et al., 1997; Waller, 2001). The family could draw from a network of relationships that can help the family give meaning to the crisis situation, develop coping strategies, and foster the family’s ability to change (Cobb, 1982; McCubbin, Thompson & McCubbin, 1996; Olson et al., 1983). Social support emerges as having five dimensions: (1) emotional support (i.e., sharing information of caring), (2) esteem support (i.e., sharing of information affirming the value of family members and what they do), (3) network support (i.e., sharing information that members belong to a larger group to whom they have a responsibility and from which they get something in return), (4) appraisal support (i.e., sharing information of evaluation to give members a sense of boundary), and (5) altruistic support (i.e., sharing of information indicating the importance of giving of one’s self for the benefit of others as a means of enhancing one’s self esteem and worth (McCubbin et al., 1997).

This section has provided an overview of the development of the constructs of individual and family resilience. In addition to this, general resilience factors that have been identified through years of research were outlined. The following section focuses on resilience research in the South African context.

3.3 **Resilience Research in the South African Context**

Although the concept of resilience has been studied extensively on an individual level, the family as a unit of analysis, with family resilience as the key variable, is a more recent trend. In South Africa the construct of individual resilience was studied by researchers like Wissing (1996). As interest in the salutogenic paradigm grew, a number of researchers began to investigate resilience from a family perspective. The value of a proactive, health-focused orientation is of particular value in a developing country such as South Africa where resources are limited. At a time when there is some concern for the demise of the family unit, it is becoming more important than ever to recognize existing strengths and to understand those processes which enable families to weather change and to rebound as a strengthened unit from life’s challenges.

South African studies that have been conducted have focused on identifying and describing resilience factors in families in which a parent had been retrenched (Der Kinderen & Greeff, 2003); Solomons and Greeff (2001) looked at poor single parent families; Greeff and Human (2004)
examined families in which a parent had died; Greeff and Van der Merwe (2004) looked at divorced families; and Redinger (2005) studied family resilience in response to extra-familial child sexual abuse. Research undertaken at the Nelson Mandela Metropolitan University focused on families with a Type 1 diabetic child (Coetzee, Brown-Baatjies, & Fouche, 2006); Hanekom and Brown-Baatjies (2006) investigated families with autistic children; Haddad, Brown-Baatjies and Howcroft (2007) examined families where a member had been diagnosed with Schizophrenia; and Robinson and Brown-Baatjies (2006) examined step-families. Currently, a family resilience project at the University of Stellenbosch is investigating the characteristics of different population groups of families affected by normative and non-normative crises. This project includes African (e.g., Zulu and Xhosa speaking) and Coloured (Afrikaans and English speaking) families in South Africa. Most of the abovementioned studies, as well as the present study formed part of the family resilience project which was funded by the South African Netherlands Research Programme on Alternatives in Development (i.e., SANPAD).

In summary, the literature suggests that South African families are able to bounce back in the face of challenges and that they make use of various resources in their attempt to adjust and adapt to crises (Greeff & Human, 2004; Greeff & Van der Merwe, 2004). Results from studies conducted in the South African context reveal that family hardiness characteristics, such as the internal strengths and durability of the family unit play a significant role in the family's resilience (Greeff & Human, 2004; Greeff & Van der Merwe, 2004). The importance of the support and utilization of members of the immediate family, the extended family and friends was also highlighted (Greeff & Human, 2004; Greeff & Van der Merwe, 2004). Research conducted by Aspeling and Greeff (2004) investigated resiliency in South African and Belgian single parent families and identified several protective factors that appeared to be prominent in fostering resilience in South African families. These included: the family’s hardiness; redefinition of the crisis situation in terms of meaning; family integration into the community and experiencing the community as a source of support; the availability of support and good relationships (friends and family); and an active rather than a passive orientation towards crises. Further research conducted by Greeff and Der Kinderen (2003) confirmed the significance of several of the ten general (protective and recovery) resiliency factors, such as spirituality, family problem solving and communication and social support, identified by McCubbin et al. (1997). Families in this study subjectively identified religion and social support as the most important coping resource. Not only did religion appear to play a buffering role, but it was also reported to contribute to the families' ability to feel hopeful about the future and to cope in an active, problem-solving way. Secondly, family support and communication were identified by almost half the participants as constituting one of the crucial factors contributing to coping and recovery. In this study, participants placed a high value on the fact that decisions were made as a family and that other members of the family stood by and supported them. These factors appeared to correspond to the critical family strengths and coping skills such as family accord, balanced interrelations among family members, communication, and the
sharing of beliefs and emotions, identified by McCubbin and McCubbin (1988). The following section considers the advantages of using a Family Resilience Framework.

3.4 Advantages of a Family Resilience Framework

Over the past two decades, the field of family therapy has refocused attention from family deficits to family strengths (Nichols & Schwartz, 2000). This shift rebalances the longwithstanding overemphasis on pathology and assumptions of family causality in the field of mental health, heavily influenced by the medical model. The therapeutic relationship has become more collaborative and empowering of client potential, recognizing that successful interventions depend more on tapping into family resources than on therapist techniques (Walsh, 2003). Assessment and intervention are redirected from how problems were caused to how they can be resolved, identifying and amplifying existing and potential competencies (Walsh, 2003). A family resilience approach builds on these developments to strengthen family capacities to master adversity (Walsh, 1996; 1998b). A family resilience framework can serve as a valuable conceptual map to guide prevention and intervention efforts to support and strengthen vulnerable families in crisis. This framework recognizes the potential for personal and relational transformation and growth that can be forged out of adversity.

McCubbin et al. (1997) alerted us to the stressors and demands that will be faced by families in the 21st century. A resilience framework is timely in helping families to manage unprecedented challenges as they and the environment around them change at an accelerated pace (Walsh, 2002). The use of a family resilience framework offers several advantages. By definition, the framework focuses attention on family strengths under stress rather than on pathology (Walsh, 2003). Secondly, it assumes that no single model fits all families or their situations (Walsh, 2002). Walsh (2002) asserted that functioning is therefore assessed in context, relative to each family’s values, structure, resources and life challenges. No definition of an ideal family is provided. The reasoning behind this is that myths of what constitutes an ideal family can exacerbate the sense of deficiency for families in crisis, impeding their ability to adapt (McCubbin et al., 1997). What is of greater importance are the family processes, with a specific focus on the quality of care and the level of commitment in relationships (McCubbin et al., 1997). Thirdly, processes for optimal functioning and the well-being of members are seen to vary over time, as challenges unfold and families evolve across the life cycle (Walsh, 2002). Although no single model of family health fits all, a family resilience-based approach to practice stems from a strong conviction that families have the potential to recover and grow from adversity (Walsh, 2002). A family resilience framework can be applied with a wide range of crisis situations and persistent life challenges. Interventions use principles and techniques common amongst many strength-based approaches, but attend more centrally to links between presenting symptoms and significant family stressors, identifying and fortifying key processes in coping and adaptation (DeFrain, 1999).
The family resilience framework selected for the purpose of this study is the Resiliency Model of Family Stress, Adjustment and Adaptation. This model was used to conceptualize the families’ resilience since it represents the most recent development in the field of family resilience frameworks (McCubbin & McCubbin, 2001). The Resiliency Model of Family Stress, Adjustment and Adaptation is discussed in the following section.

3.5 Conceptual Framework

Since the Resiliency Model of Family Stress, Adjustment and Adaptation was used as a conceptual framework in this study, it is important to review the development of this conceptual model. This is followed by a discussion of the two processes that are associated with family resilience, namely adjustment and adaptation.

3.5.1 The Development of the Resiliency Model of Family Stress, Adjustment and Adaptation

Over the last two decades, attempts to explain the variability in family behaviour in response to perceived crises or stress has lead to the development of family stress literature being organized into four main theory building groupings (Luthar, 1993). These four groupings are briefly outlined below.

1. Hill (1949) investigated pre-crisis factors related to family stress during wartime and this research lead to the development of the ABCX model to which scholars have strictly adhered.
2. Initial studies that focused on both the pre-crisis and post-crisis factors and processes that facilitated adjustment as well as the family’s ability to recover from adversities, formed the second main theory group that conceptualized the Double ABCX Model and the FAAR (Family Adjustment and Adaptation Response) Model (McCubbin & Patterson, 1983; Lavee, McCubbin & Patterson, 1985).
3. Other studies which focused on the pre-crisis and post-crisis factors but gave added emphasis to the family patterns of functioning and their role in both adjustment (pre-crisis recovery) and in family recovery or adaptation (post-crisis recovery) in the face of adversity formed the third main theory group, namely the Typology Model of Family Adjustment and Adaptation (McCubbin & McCubbin, 2001).
4. The fourth main theory building group included more recent conceptualizations which included both Hill’s ABCX pre-crisis and post-crisis Double ABCX and FAAR processes but which gave greater emphasis to discovering and testing the resiliency factor processes in families.

The resiliency focus is on what family types, patterns, processes, system properties, appraisal strategies, meanings, coping, supports, problem solving abilities and transactions with the community play a role in family recovery. The Resiliency Model of Family Stress, Adjustment and Adaptation developed by McCubbin and McCubbin (2001) focused on family post-crisis situations which taxed the
family’s long-term stability. Emphasis on post-crisis situations attempted to explain why some families recover and are deemed resilient and why others remain vulnerable and deteriorate under the same circumstances. These four bodies of research and theory building converge in many ways, by pointing out what factors are important to families and their adjustment and what factors are of importance to adaptation. The Resiliency Model of Family Stress, Adjustment and Adaptation, is rooted in the pioneer work of Reuben Hill (1949) and the development of the ABCX model.

Hill (1949) investigated pre-crisis factors related to family stress during wartime and this research lead to the development of the ABCX model. The research by Reuben Hill (1949) advanced the ABCX thesis that family resistance to the impact of stressors and avoidance of a family crisis could be explained by understanding the stressor (A), the resources available to and used by families (B), the family’s definition of the stressor (C), and the outcome of family crisis (X) (Hill, 1949; McCubbin et al., 2001). Further research and theory building by McCubbin and Patterson (1983), nearly four decades later, focused on explaining the variability in family systems responding to, and recovering from a family crisis. The original ABCX model was developed into the more comprehensive Double ABCX model of adaptation to emphasize the recovery phase of family behaviour which included an emphasis on postcrisis factors, such as the pile up or accumulation of life events and changes (AA); the family’s rebuilding of protective resources that were depleted and the use of family recovery resources inclusive of family coping (BB); the family’s appraisal of the situation focused on balancing of demands and resources (CC); and family adaptation (XX), reflecting the outcome of family change and recovery from a crisis situation (McCubbin & Patterson, 1983).

This model evolved into the FAAR framework, the Family Adjustment Adaptation Response, representing the integration of the Hill ABCX and the McCubbin & Patterson Double ABCX model into a full model with an added focus on family processes (McCubbin & Patterson, 1983). This model highlighted the processes involved in balancing the demands that the family face with the available resources. The FAAR model emphasized domains such as the coping mechanisms, problem solving and coping skills that the family employs during the adjustment processes (McCubbin et al., 2001).

This emphasis on the dynamic processes of both adjustment and adaptation inspired family scholars to examine the role of family typologies (core family patterns of functioning) as core family competencies in shaping outcomes, adjustment and adaptation and gave rise to the Typology Model of Family Adjustment and Adaptation (McCubbin et al., 2001). This was the next step in theory building since this model incorporated both pre- and post-crises factors in addition to highlighting the importance of family patterns of functioning. The typologies of regenerative family systems (with core strengths in hardiness and coherence), versatile family systems (with core strengths in bonding and flexibility), rhythmic family systems (with core strengths in family time and routines and the valuing of both), and traditionalistic family systems (with core strengths in traditions and celebrations) emerged in
the literature as both core protective factors and recovery factors across the family life cycle (McCubbin, Thompson, Pirner & McCubbin, 1988).

McCubbin, Thompson, Pirner & McCubbin (1998) describe the family life cycle across four main stages. These will briefly be mentioned. The first stage is the Couple Stage. This refers to the early years of marriage which is a period of adjustment between partners who may have come from very different backgrounds. In the beginning a young couple tends to rely heavily on their families of origin as a model for their own ritual occasions, but is it necessary to deliberate and negotiate which rituals from each family will be retained and while will be discarded or modified to fit the new family. What is chosen, and the modifications and adaptations made, mark the couple as a unique family and determine what they will pass on to their children if they decide to have any. The second stage is the Pre & School Life Cycle Stage. This stage marks the arrival of children which presents new difficulties, particularly if the issues were not well resolved during the couple stage. In this stage, rituals now become a means to pass the heritage from the past on to the future generation. With the arrival of a child new roles develop with regard to daily routines and there also seems to be a resurgence of greater interest in traditional family procedures which the young parents have been moving away from since adolescence. The acceptance of the importance of routines helps to lessen tensions involving rituals between the grandparents and the parents. As children enter the pre-school years, rituals gain greater importance as a way to ensure smooth family functioning. At this stage, children thrive on regularity, and routines surrounding discipline tend to emerge. The third stage is the Adolescent Life Cycle Stage. As children enter adolescence, family rituals have the function of preparing children for adult socialization and complete separation appears to multiply; however, families may back away from rigid adherence to rituals that no longer “fit” this stage. Teens may be hypercritical of family rituals at this age and may turn their back on them altogether when they begin to leave home. The fourth and final stage is the Empty Nest/ Retirement Life Cycle Stage. As children depart from the family home to begin their own families and as parents’ age, rituals again gain in importance. Aging people like the regularity and security gained from ritualized behaviour and are both physically and psychologically disposed to such a regimen. The families’ participating in the present study are placed within the Pre & School Life Cycle Stage as one of the inclusion criteria for the present study was that participants had to be living with a child diagnosed with AD/HD between the ages of 7 – 12 years. The rationale for using this age range preference was to homogenize the life cycle stage of the family.

Resiliency can be defined as the positive behavioural patterns and functional competence individuals and the family unit demonstrate under stressful or adverse circumstances, which determine the family’s ability to recover by maintaining its integrity as a unit while insuring, and where necessary restoring, the well-being of family members and the family unit as a whole (McCubbin et al., 2001). To date, research on family transitions, crises and adaptations, guided by the Resiliency Model of Family
Stress, Adjustment and Adaptation, has been based on five fundamental assumptions about family life: (1) families face hardships and changes as a natural and predictable aspect of family life over the life cycle; (2) families develop basic competencies, patterns of functioning and capabilities designed to foster growth and development of family members and the family unit and to protect the family from major disruptions in the face of transitions and changes; (3) families develop basic and unique competencies, patterns of functioning and capabilities designed to protect the family from unexpected or non-normative stressors and strains and to foster the family’s recovery following a family crisis or major transition; (4) families draw from and contribute to the network of relationships and resources in the community, including its ethnicity and cultural heritage, particularly during periods of family stress and crises; and (5) families faced with crisis situations demanding changes in the family’s functioning work to restore order, harmony and balance even in the midst of change.

The Resiliency Model of Family Stress, Adjustment and Adaptation represents the most recent development in the abovementioned models and was a natural evolution of earlier theory building and research with a dedicated commitment to explaining the variability in family behaviour in the course of recovery when faced with traumatic life events and catastrophes (McCubbin & McCubbin, 1993; McCubbin, Thompson & McCubbin, 2001). This model integrates elements from all the abovementioned models, but the main focus of the model is the discovery and testing of resilience factor processes in families. The model adds four domains of family functioning that were found to be significant in the adjustment and adaptation processes (McCubbin et al., 2001). This includes interpersonal relationships; development, well-being and spirituality; community ties; as well as structure and functioning. The model highlights important family processes such as the family’s attempt to restore harmony and balance in the family system in the face of adversity. In addition to this, the model stresses the importance of five levels of family appraisal and includes the family’s culture and ethnicity which was found to play a significant role in the family’s development and recovery. Finally, the model also considers family relationships as a factor that plays a central role in the family’s adaptation (McCubbin et al., 2001).

By definition, the Resiliency Model of Family Stress, Adjustment and Adaptation, as well as its predecessors, is a contextualized and developmental framework; the family and family members are seen as an integral and interacting part of the larger social ecology of nature, community, society, nation, and the world over time (Patterson, 2002). In general, because the family is a system, each domain of family life has an effect on each of the other domains. From a process perspective, in crisis situations, particularly when faced with major traumas or catastrophes, the family’s numerous and substantial hardships call for substantive changes in the family system, including roles, goals, values, rules, priorities, boundaries, and overall patterns of functioning (Walsh, 2002). These changes are necessary to achieve balance and harmony across the domains of family functioning.
Family resilience involves two processes that are distinguishable, yet interrelated processes. These processes, namely adjustment and adaptation, play a unique role in promoting the family’s ability to adapt and bounce back after a family crisis situation (McCubbin et al., 1997). The following sections outline the dynamics of these two processes.

3.5.2 The Process of Adjustment

The adjustment phase involves the influence of family protective factors in promoting the family’s ability and attempts to maintain their level of functioning and integrity, and complete normative developmental tasks in the face of adversity (McCubbin et al., 1997). Family protective factors shape the family’s ability to endure in the face of risk factors and, in combination with recovery factors, play a significant role in facilitating the family’s ability to bounce back from a crisis (McCubbin et al., 1997). The adjustment phase is diagrammatically represented in Figure 1 on the following page.
Figure 1. The Adjustment Phase of the Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin, Thompson & McCubbin, p. 15).
When the family is faced with a stressor, successful or unsuccessful family adjustment is determined by several important interacting components. The Stressor (A) and its severity interact with the family’s level of Vulnerability (V). The severity of the stressor is influenced by factors such as the degree to which the stressor threatens the family’s level of stability, and the extent to which it disrupts the functioning of the family or places demands on the family that the family finds difficult to manage. Family vulnerability can be described as the family’s susceptibility to deterioration and dysfunction in the face of adversity (McCubbin et al., 1997). The family is seldom in a situation where they are only dealing with one stressor. The family’s level of vulnerability is affected by the pile-up of family stresses, strains and transitions that occur simultaneously with the stressor as well as where the family are in terms of the family’s life cycle (McCubbin et al., 2001).

The family’s level of vulnerability interacts with the family typology, referred to as the Established patterns of functioning (T). These patterns are predictable and discernible. Four family types have been identified, namely regenerative families, versatile families, rhythmic families and traditionalistic families (McCubbin & McCubbin, 1988; McCubbin et al., 2001). Regenerative families can be perceived to have a high level of family hardiness and family coherence. This implies that the family copes with family crises by trusting each other, showing respect and maintaining an emotional calm and stability. These families have faith in their ability to cope with challenges; they are able to accept stressful life events and actively work together to solve problems. Furthermore, they are secure in their sense of purpose and confident about their ability to make future plans, and view life as meaningful. Related to the above-mentioned perceptions, regenerative families feel that they are in control and therefore, not victims of circumstance. In short, regenerative families are active, in control, and when faced with life challenges, are also more nurturing, loyal and tolerant of hardships (McCubbin, Thompson, Pirner & McCubbin, 1988; McCubbin et al., 2001).

The Versatile family’s strength lies in their ability to change. These families have high levels of family bonding and flexibility. Family bonding refers to the degree to which the family is emotionally bonded together into a meaningful family unit. Family flexibility refers to the family’s ability to shape and change rules, boundaries and roles in an attempt to accommodate changing dynamics within and outside the family system. Versatile families are dependent on each other for support, feel close to each other and find it easy to decide what to do when it comes to decisions that affect the family (McCubbin et al., 1988).

Rhythmic families value the importance of creating predictable activities and routines in an attempt to foster a shared sense of purpose and meaning of family togetherness, regularity and predictability (McCubbin et al., 1988; McCubbin et al., 2001). The Traditionalistic family typology highlights the importance of traditions and celebrations. Traditions refer to specific family behaviours and practices (e.g., decorating for holidays and special rules to follow on religious occasions) which families choose to integrate and maintain in an effort to sustain beliefs and values that can be passed
on to future generations. Family celebrations punctuate and highlight events and situations that are significant to the family. Celebrations such as a family birthday, a special occasion (e.g., Mother’s Day) and holidays (e.g., New Year’s Day) represent a few of the events that can be celebrated by families (McCubbin et al., 1988; McCubbin et al., 2001).

The abovementioned components (A, V, and T) now interact with the family’s resistance resources (B). Family resistance resources refer to the family’s abilities and capabilities to tackle and manage the stressor and maintain and promote harmony and balance in the face of adversity. The family’s goal would be to avoid a crisis, disharmony and significant changes in the family’s established patterns of functioning (McCubbin et al., 2001). To manage this crisis effectively, family resources become part of the family’s capabilities for resisting a crisis and promoting family resilience, leading to successful adjustment. Some of the essential family resistance resources include social support, cohesiveness, financial stability, flexibility, hardiness, shared spiritual beliefs, open communication, and traditions. In turn, the family’s resistance resources (B) interact with the family’s appraisal of the stressor (C).

The family’s appraisal of the stressor refers to the family’s definition of the significance of the stressor and the resultant difficulties. The definition of a stressor may range from being uncontrollable (i.e., something that could possibly lead to the family’s downfall); to viewing it as a minor incident and a challenge to be met with growth-producing outcomes (McCubbin et al., 2001). The family’s appraisal of the stressor then interacts with their problem-solving and coping strategies (PSC). The family employs their problem-solving skills to effectively manage the stress caused by the stressor by employing coping resources to manage or eliminate the stress and the related hardships. In the process of problem solving, the family organizes stressors and hardships into manageable tasks; explores alternative options to manage each component, takes active steps to resolve issues, and adopts more constructive patterns or problem solving communication. Some of the strategies that a family could consider in an attempt to restore balance and harmony include adopting more effective communication styles, seeking help from friends, and taking advantage of the help that is offered by friends (McCubbin et al., 2001).

The above-mentioned components (A, V, T, B, C, PSC) interact with one another in order to determine the family’s level of adjustment. Whereas the desired outcome of the adjustment process is bonadjustment, maladjustment may occur. Bonadjustment requires minor adjustments in the family system and its functioning. When the family is faced with a major stressor, minor adjustments may not be sufficient to attain harmony and balance in the family system. Due to the severity of the stressor, substantial changes in the family system in terms of family roles, values, priorities, boundaries and overall general functioning have to be considered. Major stressors may challenge the family’s established patterns of functioning to such an extent that maladjustment may occur and the family consequently experiences a crisis (McCubbin et al., 2001).
3.5.3  **The Process of Adaptation**

As mentioned previously, the adjustment phase describes the family’s pre-crisis adjustment and the influence of protective, or resistance factors. In the face of normative stressors, strains and transitions, the family makes minor changes and short-term adjustments to manage demands with as little disruption to family behaviour or structure as possible (Frude, 1991; McCubbin, 1998). When these adjustments are inadequate to meet demands for example, when there are structural changes such as a member of the family being diagnosed with a mental illness, or when resources are depleted, the adjustment process ends and the family enters into a crisis phase, and the need for more permeable and possible structural changes to restore stability arises (McCubbin, 1998; McCubbin & Thompson, 1991; Walsh, 1996). When a family crisis is experienced, the family will enter into the adaptation phase of the Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin & McCubbin, 2001). Figure 2 provides a diagrammatical representation of the adaptation phase of the Resiliency Model of Family Stress, Adjustment and Adaptation, hereafter referred to as the Resiliency Model.
Figure 2: The Adaptation Phase of the Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin, Thompson & McCubbin, 2001, p. 25).
McCubbin et al. (2001) defined family crisis as “a state of imbalance, disharmony and disorganization in the family system” (p. 22). Family crisis is consequently set in motion by normative or structural changes, which is characterized by a demand for change in order to restore normal family functioning (McCubbin & Thompson, 1991). This entry into the second phase, family adaptation, requires the resilient family to use instrumental and expressive resources from within and outside the family to protect and promote adaptation (McCubbin & McCubbin, 1998). Adaptation (XX) is the term that is used to describe the outcome of family efforts to facilitate a new level of balance and harmony after a crisis has been experienced (McCubbin & Thompson, 1991). This adaptation phase thus entails restorative action by the family during which it alters its internal functions, such as behaviours, rules and roles, and external reality, to achieve a family-environment fit and to restore stability (McKenry & Price, 1994). The outcome of this adaptation process, involving restructuring and consolidation, is either bonadaptation (an exit from the crisis), or maladaptation (a reversion into crisis and exhaustion) (McKenry & Price, 1994; McCubbin & Patterson, 1983).

The adaptation phase of the Resiliency Model was the main focus of the present research project. For the purposes of this study, the identified crisis in the family was that the family had to be living with a child diagnosed with AD/HD. A family member diagnosed with AD/HD can be viewed as a family stressor when this condition produces demands on the family that they cannot cope with. Stress results when there is a perceived or actual imbalance between the family’s capabilities and demands of the illness that can leave the family in a state of crisis. For the family to regain their sense of harmony and balance, they have to attend to the stressor (in this case, the management of the disorder in the child) and adapt to it (McCubbin & McCubbin, 1993). The Resiliency Model highlights various adaptation-orientated elements and resilience processes in an attempt to describe the family’s behaviour in the process of post-crisis adaptation. The adaptation phase involves various interacting components that facilitate the family’s adaptation to a crisis to regain harmony and balance in the family which are described in the following subsections.

### 3.5.3.1 Pile-Up of Demands (AA)

The AA factor in the Resiliency Model accounts for the pile-up of pre-and post crisis stressors and strains on the family system which, if not managed, deplete resources and lead to the emergence of family tension and stress (Lavee, McCubbin & Patterson, 1985; Lavee et al., 1987; McCubbin & Patterson, 1983). Stress is defined as “a state of tension that arises from an actual or perceived demand that calls for adjustment or adaptive behaviour” (Olson et al., 1989, p. 119) and is named “distress” when family members perceive the stress as unpleasant or undesirable. Stressor events are defined as any life event or transition that has the potential to provoke change in the boundaries, goals, values, or roles in the family system (Lavee, McCubbin & Olson, 1987; McCubbin et al., 1980). These stressors can be divided into normative stressors and non-normative stressors. Normative
stressors include everyday, predictable family life events such as retirement, the birth of a family member, or a child’s entry into school. Non-normative stressors are mostly unexpected such as a child being diagnosed with AD/HD (McCubbin et al., 1980; McKenry & Price, 1994). Strains, on the other hand, seldom have a discrete onset, but unexpectedly emerge from unresolved tension associated with prior stressors or role strain, creating the need or desire to change matters (Lavee et al., 1985; McCubbin & Patterson, 1983; Patterson, 1988). Stress can also arise from interfamily and social ambiguity caused by the community’s vague guidelines on how families should act or cope effectively with the crisis. The above-mentioned authors identified nine broad categories of stressors that could contribute to an accumulation of stressors and impact on the family’s level of vulnerability.

3.5.3.2 Family’s Level of Vulnerability (V)

Families do not exist in isolation and therefore they seldom deal with only one stressor such as a disorder. Demands tend to accumulate (AA), which has an impact on the family’s level of vulnerability (V) (McCubbin & McCubbin, 1993). McCubbin et al. (2001) stated that the family’s adaptation is a process achieved over time within a dynamic social context. The family’s level of vulnerability will contribute to the crisis situation and have an impact on the ease with which a family achieves harmony and balance (McCubbin et al., 2001). The consequences of the family’s attempts to adjust to the crisis could also add to the family’s burden (McCubbin et al., 2001). Of the family’s own accord or with some type of intervention such as family therapy, the family might take on the challenge of regeneration by entering into a process of change to achieve a positive level of adaptation. This process is triggered by a pile-up of demands, the stressor(s) and dysfunctional and/or deteriorated patterns of functioning (T) that lead to maladjustment and a crisis situation (X). The deteriorated patterns of functioning refer specifically to the inadequacy of the problematic nature of the family’s established patterns of functioning (T) in response to stressful situations which consequently places the family in the crisis situation. The following section describes the newly instituted patterns of functioning which may very well be the primary family vehicle for restoring family harmony and balance.

3.5.3.3 Newly Instituted Patterns of Functioning (TT)

The level of successful adaptation referred to as bonadaptation (XX) is determined by the interacting influence of newly instituted patterns of functioning (TT) (i.e., patterns of communication, rules and boundaries), the modification, maintenance or revitalization of already established patterns of functioning (i.e., traditions, celebrations, ethnic practices), and restoration and/or maintenance of viable established patterns of functioning (T) (McCubbin et al., 2001). Newly established patterns of functioning demand additive changes in the family and these may not necessarily find acceptance within the family unit, even if they have brought about increased harmony and balance.
The established patterns of functioning and family types described in the adjustment phase predictably carry over into the adaptation phase. Family type is described as the basic set of qualities in the family system which characterizes and explains how it typically appraises, operates and behaves which include the four family types namely regenerative, resilient, rhythmic and traditionalistic families (McCubbin et al., 2001). These established patterns of functioning and family types provide stability and harmony and some must be preserved. These patterns of functioning reinforce desirable family patterns of functioning. Some patterns however need to change and even be eliminated. Routines in the family system however are difficult to remove, much less replace and they may run into conflict with the much needed newly instituted patterns of family functioning (McCubbin, Thompson, Pirner & McCubbin, 1988). The new patterns to be instituted depend on the nature of the crisis situation and what changes are called for and needed to foster family balance and harmony and thus adaptation (McCubbin et al., 2001).

McCubbin et al (2001) asserted that new patterns of functioning focus on five domains of family functioning which include patterns which involve changes in the: (1) family’s rules and boundaries, (2) family’s routines, relationships and roles, (3) coalitions in the family unit, (4) family’s patterns of communication and (5) family’s transactions and interactions with the community. Newly instituted patterns of functioning are guided by and legitimated by the family’s appraisal of the situations. New patterns of functioning have the function of bringing about change in the family dynamics, to manage the stressor and the pile-up of demands as well as restore family harmony and balance to achieve adaptation. In revitalizing, introducing, replacing or modifying old patterns of functioning, the family unit will also determine the efficacy of these changes by contrasting and screening the changes with the family’s values, beliefs, expectations and rules which are integral to the family’s appraisal processes (McCubbin, Thompson & McCubbin, 1993). The following section addresses the family resources (BB) component of the Resiliency Model.

### 3.5.3.4 Family Resources (BB)

A multitude of crisis-meeting resources (BB) interact with stressors, family vulnerability and family type. The family’s potential to meet the demands of stressors and strains is determined by a combination of factors, some of which are already in existence and available, and others which are developed, strengthened or managed by means of the family’s coping behaviours (McCubbin & Thompson, 1991; Patterson, 1988). These crisis-meeting resources include: (1) traits and abilities of individual family members, such as economic well-being, education and health; (2) the family system’s internal resources, such as family adaptability, cohesiveness, problem solving and management of resources; (3) social support involving network and esteem support; as well as (5) a cognitive coping strategy regarding the perception of the stressful situation (Lavee et al., 1985; McCubbin et al., 2001).
Social support is considered to be one of the most important crisis-meeting resources. Families who are able to develop and use social support in the form of practical or financial assistance as offered by relatives, friends, work associates or church organizations are both more resistant to major crises and better able to recover and restore stability (Walsh, 1996). Community resources and supports include all persons and institutions that the family and family members may use to manage a crisis situation. Supports include both informal sources such as other family members, extended family and friends, as well as formal sources such as medical or social services (McCubbin et al., 2001). At the broad social level, state and governmental policies that support families are also viewed as sources of support. Cobb (1982) defined social support as informational support, leading the individual family members in the family unit to believe that they are cared for and loved; (2) esteem support, leading family members to believe that they are respected and valued; and (3) network support, leading the family members to believe that they belong to a network of communication involving mutual support and mutual understanding (McCubbin et al., 2001). In the study of family adaptation, social support is the one community resource that has received the most attention in literature on stress and is viewed as one of the primary buffers or mediators between stress and family breakdown (McCubbin, Thompson & McCubbin, 1993). The following section considers the appraisal processes of the family unit.

3.5.3.5 Appraisal Processes

Another important resource that is available to the family is their appraisal of the stressor. The family's perception of the pile-up of demands, the available resources and its appraisal of what needs to be done in order to cope, is a critical factor in predicting family adaptation (McCubbin & Patterson, 1983; McCubbin & Thompson, 1991; McKenry & Price, 1994). Formulating a definition of the stressor as well as evaluating its severity is the initial level of assessment. The appraisal of the stressor is shaped by four levels of appraisal, namely the family’s appraisal of the situation (CC); schemas (CCCCC) (e.g., the family’s shared values and belief systems); a sense of coherence (CCCC) (e.g., the view of the family’s sense of order, trust, predictability and manageability); and paradigms (CCC) (e.g., shared expectations in terms of areas of family functioning, such as discipline) (McCubbin et al., 2001). The four levels of appraisal are briefly discussed.

While the family is seeking internal and/or external sources of support, the family simultaneously evaluates and interprets their experiences (i.e., situational appraisal) in an attempt to break the problem situation (i.e., the stressor) into more manageable tasks (McCubbin & McCubbin, 1993). In the process of making this situational appraisal (CC), the family weighs up their capabilities against the demands on their established patterns of functioning created by the crisis. The other levels of appraisal further influence situational appraisal (CC) (McCubbin et al., 2001). A family's schema (CCCCC) is integral to the family’s appraisal of incoming stimuli, such as experiences and behaviours.
It is expressed through the family’s worldview and includes family values and beliefs for such activities such as respecting and maintaining the family’s ethnic heritage, and respecting one’s elders. Not only does it give order, harmony, balance and structure to family life, it also plays a significant role in shaping and justifying the family’s patterns of functioning, as well as the family’s problem-solving and coping behaviours and patterns (McCubbin et al., 2001). According to Hawley (2000), families with healthy schemas tend to focus more on a collective “we” than an “I”; are able to accept less perfect solutions to challenges; and tend to have a relativistic view of the world and their place in it. Although the family schema is generally seen as a relatively stable construct, McCubbin, Thompson and McCubbin (1993) emphasized that under drastic conditions family schemas are reshaped, or reframed, in response to modifications which the family makes in its established patterns of functioning in order to cope with the crisis.

The family’s sense of coherence (CCCC) forms the motivational and appraisal basis for transforming the family’s potential resources into actual resources. The family’s sense of coherence refers to the dynamic feeling that the world is comprehensible (internal and external environments are structured, predictable and explicable), manageable (resources are available to meet the demands), and meaningful (life challenges are worthy of investment by the family) (Hawley, 2000; McCubbin et al., 2001). Family paradigms (CCC) refer to expectations and rules that are shared and shaped by the family unit. These paradigms offer the family a guide for the family’s development or patterns of functioning (for example, parenting, work and family communication and spirituality) (McCubbin et al., 2001). The above-mentioned levels of appraisal also have an impact on the definition of the stressor (C) that was previously made by the family (McCubbin et al., 2001). According to McCubbin and Patterson (1983), family efforts to redefine the crisis situation as a challenge, or an opportunity for growth, and to give the crisis a meaning, appear to play a useful role in facilitating family coping and eventual adaptation. Finally, the established patterns of functioning, resources, and levels of appraisal, influence and are influenced by the family’s problem-solving and coping repertoire (PSC) which are discussed in the following sub-section.

3.5.3.6 Problem Solving and Coping (PSC)

In the process of adaptation, the family also employs their problem-solving and coping resources (PSC) and creates changes and discards patterns of family functioning to restore harmony and balance and a satisfactory level of adaptation (McCubbin et al., 2001). Family coping refers to the attempt made by the individual and family to reduce or manage demands on the family system (McCubbin & Thompson, 1991). Family coping is not an instantly created state, but is an adaptation strategy which is developed and modified over time and through experience (McCubbin & Patterson, 1983; McKenry & Price, 1994). The problem-solving process prompts changes within the family as well as in the family’s relationship to the larger community and environment.
The dynamic interplay between the components described in the previous sub-sections, is cyclic in nature. Family adaptation (XX) encompasses both the initial family stress response to demands (X), as well as subsequent adaptation, as the family attempts to achieve a balance of functioning at the member-to-family, and family-to-community levels (McCubbin & Patterson, 1983; McKenry & Price, 1994). The level of family bonadaptation, or maladaptation and transition back into the crisis, is determined by the interaction between the stressor events (AA), the family’s resources for dealing with stressors (BB) and the family’s assessment of the situation (CC) (Aspeling & Greeff, 2004). If the outcome of the adaptation process is successful, bonadaptation occurs. Bonadaptation essentially implies that the family is able to stabilize, promote the individual development of its members, and achieve a sense of congruence despite being faced with major changes in the patterns of family functioning (McCubbin & McCubbin, 1993). On the other hand, families may not achieve a satisfactory level of adaptation and experience a maladaptive outcome (i.e., maladaptation). Consequently, the family returns to a crisis situation (XX) and the cycle repeats itself until more successful patterns of adaptation are adopted (McCubbin et al., 2001). Now that the Resiliency Model has been discussed in detail, its relevancy and applicability to the present study is detailed.

3.5.4 The Applicability of the Resiliency Model of Family Stress, Adjustment and Adaptation to the Present Study

Parenting any child is a challenging, dynamic process. When a child’s disability requires special care or places physical, economic, social, and emotional demands on the family, this challenge to family resources may in itself become a risk factor for the healthy development of that child and others in the family (Bester, 2006). Although the primary distress of AD/HD falls mainly on the child’s shoulders, all family members experience the disorder’s negative effects. It is widely recognized in research that children with special needs generate heightened concern, stress and tension within their families and that the parents of AD/HD children encounter a variety of severe hardships in caring for their children’s needs and coping with the challenge (Bester, 2006). Stress results when there is a perceived or actual imbalance between the family’s capabilities and the demands of the disorder. To cope with the demands of AD/HD, the challenges faced by the child has to be managed in an attempt to adapt. Families must find strategies for adjusting and adapting to the daily medical, behavioural and to some extent, the educational needs of the child.

However, Masten (2001) reminds us of the “ordinary magic” (p. 232) associated with the adaptive capacities of all children and the families within which they reside. This author asserted that resilience is more common than not and concluded that very little evidence has emerged to indicate that severe adversity has major lasting effects on adaptive behaviours in the environment unless important adaptive systems are compromised prior to or as a result of the adversity. In summary, a child diagnosed with AD/HD will have an impact on the entire family system and will effectively challenge
the family’s established patterns of functioning. This appears to be in line with one of the basic assumptions of a family resilience framework, namely that crises and challenges impact the whole family, and in turn, family processes mediate the adaptation of all members and the family unit (McCubbin et al., 2001). The emergence of research with a focus on enhancing the capacities of at-risk children and families has contributed to the reframing of mental health issues in terms of resilience rather than psychopathology (Ungar, 2004).

There have been numerous studies in South Africa, focusing on the treatment and management of children with AD/HD, and the stress and coping strategies of the parents in these families. However there has been limited research to date on the resilience in families living with a child diagnosed with AD/HD and the factors that contribute towards the adjustment and adaptation of these families. A recent study conducted by Heiman (in Bester, 2006) focusing specifically on children with special needs, highlighted the importance of social resources and support services used by parents, the need for effective intervention programmes and the support of their family and friends, all of which contributed to their resilience. In short, the family has to rely on itself to adjust and adapt to the condition. The family has to attend to this stressor (in this case, the management of the special needs of the child) and subsequently adjust and adapt to it (Ungar, 2004). A family’s ability to make changes in their roles, rules and relational patterns in the attempt to adjust and adapt to the unique needs of a child diagnosed with AD/HD would be evidence of resilience (Patterson, 2002a). Since the very outcome of the Resiliency Model of Family Stress, Adjustment and Adaptation is adjustment and adaptation, the model was found to be relevant to the present study. The Resiliency Model of Family Stress, Adjustment and Adaptation also provided a framework to explore and describe factors that contribute to families’ adaptation and created a better understanding of these factors which in turn would contribute to theory building in this area. In the future, this information could be used to inform the development of professional support and counseling for families to build resilience in the face of adversity (Seppanen et al., 1999; Shapiro, 2002).

3.6 Conclusion

Chapter Three provided a brief overview of the development of the construct of resilience in the field of positive psychology. In the past resilience was viewed as an individual, inherent quality, but as time progressed researchers started to recognize the importance of the individual’s family and larger community as contributing factors to resilience in the individual. Research on individual resilience seems to have contributed to this paradigm shift in that results suggested that an individual’s family could contribute to their resilience. While the study of individual resilience had its roots in developmental psychopathology, the study of family resilience is rooted in the more salutogenic orientation, which implies that it focuses on the strengths of the family rather than deficits. In addition to this, it acknowledges the importance of the individual and the family as well as the environment in
facilitating adjustment and adaptation, which is important in the South African multi-cultural context, and allows for a richer understanding of the construct of resilience. However, both research on individual and family resilience can be viewed as important areas of scientific inquiry since they contribute to the identification of resilience factors and their resultant promotion. This seems to be in line with what Seligman (1998) referred to as positive psychology.

As resilience factors are identified, they can be used to inform intervention programmes that support vulnerable families. As families become more resilient in dealing with crises and weathering persistent stressors, families become more adept at meeting challenges. The Resiliency Model of Family Stress, Adjustment and Adaptation was used to conceptualize the adjustment and adaptation processes in a family after a child had been diagnosed with AD/HD. The design and methodology of this study is discussed in the following chapter.
CHAPTER FOUR

RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

This chapter provides an overview of the research design and methodology that was utilized in this study. The primary aim of the study is presented. This is followed by an overview of the research methodology with a specific focus on the research design, the participants and sampling procedure, the method of data gathering, the research procedure and the data analysis. The aim of the present study was best met through a combination of quantitative and qualitative research techniques (i.e., triangulation of method). The quantitative data obtained from the biographical questionnaire were analyzed using descriptive statistics and the data obtained from the questionnaires in the study were analyzed using correlation and regression analysis. Thematic content analysis was used to analyze the qualitative data obtained from the open-ended question on the biographical questionnaire. The chapter is concluded with an outline of the ethical issues that the researcher considered, such as gaining informed consent from institutions and research participants, respecting the privacy of research participants, as well as minimizing psychological risk and harm.

4.2 Aim of Study

The primary aim of the present study was to explore and describe the resiliency factors that facilitate adjustment and adaptation in a family living with a child diagnosed with Attention Deficit/Hyperactivity Disorder.

4.3 Research Design

Authors like Walsh (2003) have called for a combination of quantitative and qualitative research approaches in contributing to research on resilience. For the purpose of this study, triangulation was employed within an exploratory-descriptive approach.

Various methods of triangulation exist, such as triangulation of measures (Neuman 2003; Struwig & Stead, 2001). This involves measuring the same phenomenon in multiple and different ways. Any discrepancy that is observed between these measurements then informs the research (Leedy & Ormrod, 2005). Another type of triangulation method is triangulation of observers. This implies that multiple people are used to observe the same phenomenon in order to gain different views and thus contribute to a more holistic understanding of the phenomenon (Struwig & Stead, 2001). In addition to these types of triangulation, triangulation of theory can also be used, which entails the use of different theories to plan and interpret data. The last type of triangulation is referred to as triangulation of
method which implies that qualitative methods are used in conjunction with quantitative methods (Neuman, 2003).

For the purpose of this study, triangulation of method was utilized since the study combined qualitative and quantitative styles of research in order to use their complementary strengths to enrich the data obtained from the study (Neuman, 2003). An advantage of this type of triangulation is that it enables the researcher to look at a phenomenon from different perspectives and thus gain a fuller picture of what is being studied (Struwig & Stead, 2001).

Quantitative data was gathered by means of structured questionnaires, while qualitative data was obtained from the open-ended question in the biographical questionnaire. The open-ended question requested participants' opinions on factors of strength that they believed helped them as a family in living with a child diagnosed with AD/HD. An exploratory-descriptive research design was employed for the purpose of this study. Each of the components of this research design is now discussed.

4.3.1 **Exploratory Research**

Exploratory research is typically employed to examine a new topic or issue when the subject under study is in itself relatively new and unstudied (Neuman, 2003). Even though exploratory research might not yield definite answers, it is considered to be an essential step in research, since it creates a foundation for further research inquiry (Gravetter & Forzano, 2003; Neuman, 2003; Rosnow & Rosenthal, 1993). Although the concept of resilience has been studied extensively on an individual level, the family as a unit of analysis with family resilience as the primary variable, is a more recent trend. The concept of family resilience research is gaining attention in South Africa, with a number of researchers having investigated resilience from a family perspective. Der Kinderen and Greeff (2003) examined families in which a parent had been retrenched; Solomons and Greeff (2001) investigated poor single parent families; Greeff and Human (2004) examined families in which a parent had died; Greeff and Van der Merwe (2004) looked at divorced families and Redinger (2005) studied family resilience in response to extra-familial child sexual abuse.

The most recent research undertaken at the Nelson Mandela Metropolitan University focused on families with a Type 1 diabetic child (Coetzee, Brown-Baatjies, & Fouche, 2006); Hanekom and Brown-Baatjies (2006) investigated families with autistic children; Haddad, Brown-Baatjies and Howcroft (2007) examined families where a member had been diagnosed with Schizophrenia and Robinson and Brown-Baatjies (2006) examined step-families. There have been numerous studies in South Africa focusing on the treatment and management of children with AD/HD and the stress and coping strategies of the parents in these families, but there has been limited research to date focusing specifically on the resilience of families living with a child diagnosed with AD/HD. Consequently, it was both necessary and important to explore and gain an understanding of how these families are able to adjust and adapt when faced with a crisis.
4.3.2 Descriptive Research

Descriptive research plays an important role in psychology as it presents a picture of the specific details (i.e., the frequency and prevalence) of a situation, social setting or relationship (De Vos, 2005; Neuman, 2003; Rosnow & Rosenthal, 1993). The purpose of a descriptive research strategy is to describe single or multiple variables (Gravetter & Forzano, 2003). Descriptive research describes participants in their natural setting without manipulating variables. In this case, resilience in families living with an AD/HD child is explored and described.

A researcher can choose from a variety of descriptive methods (Elmes, Kantowitz & Roedifer III, 2003). These include (a) observational methods (i.e., making observations in a specific natural setting or making observations of one or more specific behaviours in a particular setting); (b) case studies (i.e., the detailed examination of an individual, organization or community, and so on); (c) survey research (i.e., the use of self-report measures to question people about their attitudes, behaviours and demographics); and (d) meta analysis or archival research (i.e., using already existing information to answer questions).

For the purpose of the present study the survey method was viewed as the most applicable data gathering technique to obtain both quantitative and qualitative data, since a biographical questionnaire and structured paper and pencil measures were utilized. The survey method is discussed in the following section.

4.3.2.1 Survey Research

A survey technique was used for gathering information by questioning individuals who were the object of the research. According to Cozby (2004), survey research uses questionnaires and interviews in order to gain information about people’s demographics, behaviours and beliefs. Survey research can be seen as an important way of collecting data to examine the frequency and relationships between sociological and psychological variables (Corbetta, 2003; Cozby, 2004). Survey research methods do not suggest a link of causality between the variables that are employed in a research project. Despite this limitation, survey research is still valuable in that it can indicate if a relationship is present, and may point to the strength or direction of that relationship (Rosnow & Rosenthal, 1993). There are three distinguishable techniques for collecting survey data, namely face-to-face interviews, telephonic interviews and written questionnaires (Goodwin, 2002). In the current study, research participants were requested to complete questionnaires in an attempt to describe the family resilience factors in families living with a child diagnosed with AD/HD.

Survey research is not without risk, but according to Cozby (2004), it is relatively easy to determine the validity of survey data. Some of the advantages of survey research are that it allows the researcher to gain a broad picture of the topic under study. Data can be gathered in one sitting and minimal facilities are required (Salkind, 2003). Other advantages of the survey method include
savings in terms of time and money, the amount of quality information yielded is economical and this technique ensures greater privacy for the research participants (Cozby, 2007). In addition to this, interview bias is reduced in that participants complete identically worded self-report measures and the results can be generalized to the larger population if the correct sampling technique is used (Neuman, 2003).

Though survey research seems to have many advantages, this research method has potential challenges. Considerable time could be spent seeking participants and dealing with many extraneous sources of variance that are difficult to control for the researcher. Examples of extraneous sources of variance include socially acceptable responses or no response at all, resulting in an insufficient response rate (Cozby, 2007; Neuman, 2003; Whitley, 2002). There are many reasons for a lower response rate such as participants with literacy problems, low educational background or simply too many time demands and constraints. Often people do not understand questions, or are too busy or not interested enough to complete the survey (Cozby, 2004). Other disadvantages associated with the survey technique include susceptibility to faking, unanswered questions, lack of spontaneous responses as well as a lack of control over the environment (Neuman, 2003). Low response rates inadvertently produce smaller samples than the researcher intended. Although this would be a serious concern, the size of the sample is not the most serious problem. The greatest problem is that low response rates typically suggest response bias (Shaughnessy et al., 2000). This could have serious implications as the people who do not respond might represent a qualitatively different group from those who do respond (Salkind, 2003). The implications of this are that the findings based on those who do respond will be different than if the entire group had been considered and as a result the external validity of the study decreases (Gravetter & Forzano, 2003; Salkind, 2003; Whitley, 2002).

In view of some of the limitations related to survey research, the researcher identified more families than the study intended in an attempt to manage a possible low response rate. Regular follow-ups were also done with families during which they were encouraged to complete the sets of questionnaires. To increase the families’ level of understanding, they were provided with sufficient information about the study as well as the contact details of the researcher in the event that any questions or concerns related to the study arose. One inclusion criteria of the study was that families had to have at least a Grade 10 language proficiency in English or Afrikaans. Families were also provided with sets of questionnaires in their language of choice. By doing this, possible difficulties related to literacy were avoided. Furthermore, the researcher encouraged parents to answer the questions as honestly as possible, reassuring the parents and/or caregivers that their spontaneous and honest perceptions of their experience would facilitate better management of the child’s disorder and would create insight regarding the development of healthier family relations. In addition, the researcher provided all research participants with a stamped, addressed envelope to return the questionnaires as a means of reducing the poor response rate.
From the abovementioned literature it can be concluded that it is important to be careful when designing survey research and cautious about generalizing from the results (Corbetta, 2003; Neuman, 2003). The following section indicates how the sample for the present study was obtained.

4.4 Participants and Sampling

A critical issue related to survey research is the sample that is being surveyed (Elmes et al., 2003). The sampling procedure and the issues related to the research participants are discussed in the following section.

4.4.1 Sampling

In the light of the aim of this study, nonprobability purposive sampling was employed. In nonprobability sampling, the probability of a person being chosen as a research participant is unknown since the researcher does not know the size or the members of the population (Gravetter & Forenzo, 2003; Neuman, 2003). A limitation of this type of sampling is that the participants are not randomly selected and therefore the results of the study cannot be generalized beyond the scope of the selected group. However, nonprobability sampling is less expensive and consists of a group of people that are easily accessible to the researcher (Cozby, 2004). Since the research was exploratory and descriptive in nature, the above-mentioned limitations related to the sampling procedures were considered, but not seen as significant problems (Cozby, 2004).

In purposive sampling, the researcher uses his/her judgment to select the membership of the sample based on the specific goals of the research (Whitley, 2003). Participants are included on the basis of characteristics such as specific knowledge or experiences related to the purpose of the study (Shaughnessy, Zechmeister & Zechmeister, 2000). In this type of sampling, the chances of selection bias are high and therefore the results of the study cannot be generalized to the larger population. Advantages include the fact that the researcher does not have to have a sampling frame available and the researcher can ensure that the research participants meet the inclusion criteria (i.e., purposive sampling). The discussed sampling technique was used to identify families who met the inclusion criteria for the present study. The goal was to obtain a minimum of 56 families as research participants. The inclusion criteria of the study are stipulated in the section to follow:

A family was defined as two or more people that live together for the benefit and the development of each member, and the group as a whole (Greeff, 2004). The AD/HD child had to form part of a family where the caregivers reside within the same house, regardless of the nature of their relationship (e.g., co-habitating, or married). Additional inclusion criteria were that the family had to include a child between the ages of seven and 12 years who had been diagnosed with AD/HD by a psychologist or pediatrician, for a minimum of six months but not longer than two years. This age group was chosen for two reasons namely, 1) the DSM-IV-TR (2000) suggested that the child should display some
hyperactive-impulsive or inattentive symptoms that cause impairment in functioning before seven years of age which would then contribute towards a diagnosis of AD/HD and 2) if AD/HD is diagnosed early and successful interventions are employed to manage the symptoms, this would facilitate increased family adjustment and adaptation and would decrease the incidence of co-morbid disorders that persist through to the adolescent and adult years.

The inclusion criteria further stipulated that the child should be on medication for treatment of the AD/HD symptoms as prescribed by a pediatrician or child psychiatrist. Offson, Gameroff, Marcus & Jensen (2003) indicated that at least 85% of all children diagnosed with AD/HD are medicated with stimulants as the efficacy of stimulant medication is overwhelming. Research has indicated that pharmacological interventions increase the AD/HD child’s on-task behaviour, compliance and academic productivity and decreases negative social behaviours including inappropriate peer interactions and negative parent-child interactions (Barkley, 2006). A Grade 10 proficiency level in English or Afrikaans was recommended to understand the questionnaires. Previous family resilience research projects that were published had been conducted with participants with a Grade 8 language proficiency (Der Kinderen & Greeff, 2003; Greeff & Human, 2004; Greeff & van der Merwe, 2004). Participants had to be over 18 years of age.

The researcher approached several pre-determined schools in the Port Elizabeth area and requested their participation in the research. The researcher also contacted the President of the AD/HD support group of South Africa (ADHASA) to enlist her help in obtaining participants for the study. The researcher requested that the study be advertised on the ADHASA website with the aim of obtaining participants for the study. Interested participants were requested to contact the researcher directly and research packages were then mailed to these participants. As a result of the low response rate to this approach, the researcher again contacted ADHASA and requested that the research proposal be presented at the ADHASA annual conference which was held between 10 and 11 September 2007. A small sample of participants outside the Port Elizabeth area was identified in this manner. The researcher also approached the coordinator of the AD/HD support group in Port Elizabeth and requested permission to attend the support group meetings held in Port Elizabeth with the aim of identifying possible participants. The study was also advertised in the Port Elizabeth Weekend Post and subsequently placed on the Port Elizabeth Community Website (www.mypewebsite.co.za). As a last resort, the researcher attempted to enlist the support of pediatricians and psychologists in private practice in the Port Elizabeth area to obtain participants for the study.

Interested participants that were sampled through the methods discussed above contacted the researcher and requested that the questionnaires be mailed to them. These participants’ contact details and addresses were recorded for the use of the researcher only, as regular reminders and follow-ups were done with the identified families in an attempt to maximize the size of the sample.
A total of 22 families from three provinces in South Africa participated in this study, namely Eastern Cape, Gauteng and the Western Cape. Although 31 families who met the inclusion criteria for the research were identified in the Port Elizabeth area, only 9 families from this area participated in the study. Since the goal of the research was to include a minimum of 56 families, the researcher attempted to identify and involve families from outside the Port Elizabeth area in an effort to obtain the desired sample size. The President of the ADHASA support group was particularly helpful in assisting the researcher with identifying a small sample of participants in the Gauteng and Western Cape regions by means of the ADHASA annual conference as well as the advertisement placed on the ADHASA website.

Of the 22 families that participated in the study, 9 families were from the Port Elizabeth area, 9 families were from the Gauteng region, 3 families were from the Western Cape and 1 family was from Middelburg (Eastern Cape). While sampling research participants from other areas allowed the researcher to gain a bigger research sample, the disadvantage of this sampling technique is selection bias. Selection bias occurs in the case when selection procedures are utilized so that a segment of the population (in this case, families living with a child diagnosed with AD/HD between the ages of 7 and 12) are overrepresented or underrepresented. In this study, the majority of research participants were drawn equally from Port Elizabeth (9 families) as well as Johannesburg (9 families).

Of the included research participants, there was an equal amount (22) of male and female participants. The ages of research participants ranged from 29 to 42. The mean age of the caregivers that participated was 35 years and 3 months (female caregiver’s age) and 37 years and 9 months (male caregiver’s age). In terms of marital status, the majority of families that participated in the research were married (21), while 1 family was co-habitant. The majority of families did not have additional people living at home with them (16) while the remaining 6 families indicated that there was somebody staying with them. In this study, questionnaires were made available in English and Afrikaans. The sample included a majority of English-speaking participants. Of the forty-four participants in the research, 36 indicated English as their home language while only 8 indicated Afrikaans as their home language. A Grade 10 proficiency level in English or Afrikaans was recommended to understand the questionnaires. The results obtained from the biographical questionnaire indicated that the educational level of research participants varied from high school to tertiary education. The majority of research participants had obtained a degree (23), 11 had obtained
a diploma, and 10 had obtained a high school education. In this sample, 6 participants indicated that they were unemployed and all these participants were female caregivers. The remaining 38 participants were either self-employed or employed by an organization.

One of the inclusion criteria of this study stipulated that the family had to include a child between the ages of seven and 12 years who had been diagnosed with AD/HD by a psychologist or pediatrician, for a minimum of six months but not longer than two years. The rationale behind the inclusion criteria is that family resilience literature (McCubbin, Thompson & McCubbin, 2001; Walsh, 2002; 2003) suggested that adjustment and adaptation involves processes that occur over time. Lowes et al (2004) indicated that the adjustment and adaptation processes take approximately one year and therefore to include a family over the two year period may have skewed the results of the study. The rationale for the age range preference was to homogenize the life cycle stage of the family. The majority of the families that participated in this study indicated a time period of 2 years since the child was diagnosed (9), 7 families indicated a time period of 6-11 months, and the remaining 6 families indicated a time period of 1 year since the child had been diagnosed with AD/HD. The ages of the children in this sample group ranged from 7 to 11 years. This sample group included 6 seven year olds, 7 eight year olds, 3 nine year olds, 2 ten year olds and 4 eleven year old children. The biographical data further indicated that the gender of the children on which information was provided was mostly boys (15), with only seven of the children being girls.

The inclusion criteria further stipulated that the child should be on medication for treatment of the AD/HD symptoms as prescribed by a pediatrician or child psychiatrist. The data obtained from the biographical questionnaires revealed that the majority of children (14) were prescribed Ritalin for the treatment of the AD/HD symptoms; 2 children were prescribed Ritalin together with Epilim for the management of their symptoms; 3 children were using Concerta and the remaining 3 children were using Strattera in managing their AD/HD symptoms. In reviewing the 26 sets of questionnaires returned to the researcher, 4 sets of questionnaires had to be excluded from the study. Two sets of questionnaires were incomplete, one set exceeded the 2 year time period and the remaining set was returned by the caregiver stating that the child was not on any medication and therefore returned the forms without completion. The various measures that were utilized to obtain the data are discussed in the section to follow.

4.5 Research Measures

Various measures were used to gather data for the study. These included a biographical questionnaire with an open-ended question as well as seven brief structured paper-and-pencil questionnaires. The following structured questionnaires were employed for the purposes of this study:
1. Relative and Friend Support (RFS)
2. Social Support Index
3. Family Crisis-Oriented Personal Evaluation Scales (F-COPES)
4. Family Hardiness Index (FHI)
5. Family Time and Routine Index (FTRI)
6. Family Problem-Solving Communication (FPSC) and the
7. Family Attachment and Changeability Index (FACI8)

The FACI8 can be viewed as the dependent variable, namely the extent to which the family has adapted while the other measures represent the independent variables. These questionnaires were made available in English and Afrikaans and from previous studies conducted in the South African context, a Grade 8 proficiency level in English or Afrikaans was considered acceptable (Der Kinderen & Greeff, 2003; Greeff & Human, 2004; Greeff & van der Merwe, 2004).

The biographical questionnaire and the seven structured questionnaires took the participants approximately one hour to complete. Since the measures have not been standardized for the South African population, scores are in the form of raw scores as opposed to standardized scores. Although the measures have not been standardized for the South African population, they have been used in South African studies that have been published (Der Kinderen & Greeff, 2003; Greeff & Human, 2004; Greeff & van der Merwe, 2004). Furthermore, a study is currently being conducted at the University of Stellenbosch that is investigating the reliability, validity and the relevance of these measures for the South African population (Brown-Baatjies, 2006). During the data analysis, item analysis of the seven measures were conducted to indicate the internal reliability of the measures (in this study, a coefficient alpha). The measures that were used for the aim of this study are described in the section to follow.

4.5.1 Biographical Questionnaire

A brief biographical questionnaire (see Appendix C) was compiled to obtain relevant information for the current research study. This questionnaire consisted of 11 items and the data requested included area of residence, family composition (e.g. number of family members), relationship to the family member as well as language. The participant was requested to indicate the child’s age and gender, what grade the child is in, the time period of the diagnosis and to specify the prescribed medication. Furthermore, the educational level as well as employment of family members, were also requested. An opportunity to request generalized feedback regarding the results of the study was provided as the final item on the biographical questionnaire.

The biographical questionnaire was compiled with the goal of gathering important demographic and background information pertaining to research participants, which enabled the researcher to contextualize the findings of the open-ended question and the paper-and-pencil measures. The open-
ended question of the biographical questionnaire requested the participant’s opinion on which factors or strengths they believed helped their family through their crisis period. This provided the research participants with an opportunity to comment on strengths that were not listed in the other questionnaires. The additional seven questionnaires attempted to measure the components of the Resiliency Model of Family Stress, Adjustment and Adaptation as depicted in Chapter Three.

4.5.2 Social Support Index

The Social Support Index (SSI) was developed by McCubbin, Patterson and Glynn (McCubbin et al., 1996). The SSI was used to determine the degree to which families are integrated into the community and the extent to which they perceive the community as a source of support. This questionnaire also taps into the family and community resources component of the Resiliency Model of Family Stress, Adjustment and Adaptation. Community based social support is viewed as an important contributing factor in resilience. Sources of support include emotional support (such as recognition and affirmation), esteem support (affection) and network support (relationships with relatives) (McCubbin, McCubbin, Thompson, Han & Allen, 1997). Social support is viewed as an important factor in family resilience and links in with the family resources component (BBB) of the Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin, Thompson & McCubbin, 2001). Social support acts as a buffer against family crisis factors, promotes family recovery and acts as a mediator of family distress (McCubbin et al., 2001).

This instrument consists of 17 items based on a 5-point Likert scale (ranging from strongly disagree, disagree, neutral, agree to strongly agree). The Social Support Index has an internal reliability of 0.82 (Cronbach alpha), a test-retest reliability of 0.83 and a validity coefficient (correlation with criterion of family well-being) of 0.40 (McCubbin, Thompson & McCubbin, 2001). The internal reliability for the measure in this study was 0.89 (Cronbach alpha). Examples of items in this questionnaire include the following: “People here know they can get help from the community if they are in trouble” and “People can depend on each other in this community”.

4.5.3 Relative and Friend Support (RFS)

The Relative and Friend Support Index was designed by McCubbin, Larsen and Olsen (McCubbin et al., 1996) to determine the extent to which family members use the support of their own family and friends as a coping strategy when dealing with stressors. This instrument attempts to measure the family resources component (BB) of the Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin et al., 2001). The RFS is an 8-item instrument based on a 5-point Likert rating scale (strongly disagree, disagree, neutral, agree and strongly agree). The internal reliability of 0.82 (Cronbach alpha) and the validity coefficient (with the original Family Crisis Oriented Personal Evaluation Scales (F-COPES) is 0.99 as indicated by McCubbin et al. (2001). The internal reliability
for the RFS in this study was 0.90 (Cronbach alpha). Examples of items that participants were requested to respond to, include: “We cope with family problems by seeking information and advice from people faced with the same or similar problems” and “We cope with family problems by sharing our difficulties with relatives and seeking advice from relatives”.

4.5.4 Family Problem-Solving Communication (FPSC)

Communication allows the family to create a shared sense of meaning, develop and employ coping strategies, and maintain harmony and balance (McCubbin et al., 1997). The FPSC, developed by McCubbin et al. (2001), measures two dominate patterns of communication (i.e., positive and negative) which families use in dealing with stressful situations.

The Family Problem-Solving Communication (FPSC) Index measures two dominant patterns in family communication which families used in dealing with stressful situations, namely positive and negative communication patterns. In particular, the FPSC was essentially developed for research into family stress and resiliency with the goal of measuring the problem-solving and coping component (PSC) of the Resiliency Model. It is assumed that the quality of communication indicates to what extent family functioning, adjustment and adaptation are experienced as satisfactory. This FPSC is a 10-item instrument based on a 4-point Likert scale (false, mostly false, mostly true, true) which can be divided into two scales that represent the two dominant forms of communication, namely incendiary and affirming communication. Incendiary communication involves communication that exacerbates a conflictual situation such as yelling and screaming, while affirming communication supports and cultivates a calming environment (McCubbin, Thompson & McCubbin, 2001). Family systems that emphasize affirmation as the prominent pattern of communication increase their potential for recovery and minimize the family’s risk for dysfunction.

The internal reliability for the whole measure is 0.78 (Cronbach alpha), while the test-retest reliability is reported to be 0.86 (McCubbin, Thompson & McCubbin, 2001). The overall internal reliability for the FPSC in this study was 0.91, while the internal reliability of the subscales was 0.77 (Cronbach alpha) for Affirming communication and 0.62 (Cronbach alpha) for Incendiary communication. The validity of the FPSC is supported by multiple studies conducted by McCubbin et al. (2001), including studies of ethnic families. Examples of items in this questionnaire include: “We are respectful of each others’ feelings” and “We yell and scream at each other”.

4.5.5 Family Hardiness Index (FHI)

The Family Hardiness Index (FHI) was developed by McCubbin, Thompson and McCubbin (2001) to measure internal strength and durability in the family unit. The literature on resilience suggests that internal family strength (as measured by this index) can be regarded as an important resilience factor (Aspeling & Greeff, 2004). The measure taps into the family’s existing resources (BB) and family
schemas (CCCCC), which is a dimension that is closely linked to hardiness as conceptualized in the Resiliency Model. Hardiness refers to a sense of control that the family experiences in terms of the outcomes of life events (CC) and hardships (AA) and facilitates family adjustment and adaptation over time. The family makes a commitment to work together to address and solve the crisis and reframes and defines the hardships as challenges, rather than problems (McCubbin et al., 1997; McCubbin et al., 2001). This instrument also measures the extent to which the family takes an active or passive stance in managing stress and adjusting to stress (McCubbin, Thompson & McCubbin, 2001). Family hardiness includes characteristics such as (1) having a sense of control (the perception of how well the family is able to manage a crisis), (2) the orientation of the family in respect to dealing with challenges, and (3) an active orientation (an inclination to do something about the situation). If these characteristics of hardiness (commitment to the family, a positive orientation and an active approach to a crisis) are present within the family unit, the family would most probably show successful adaptation after the crisis (Aspeling & Greeff, 2004). Previous research has also indicated that a greater measure of family hardiness results in better family coherence (Drapeau et al., 1999; Mederer, 1998).

This instrument consists of 20 items which aim to measure the characteristics of hardiness as a stress resistant and adaptational resource in families which would act as a mediating factor in mitigating the effects of stressors and demands and facilitate adjustment and adaptation over time (McCubbin et al., 2001). The instrument consists of three subscales, namely commitment, challenge and control which require participants to answer on a 5-point Likert rating scale (false, mostly false, mostly true, true, not applicable) the degree to which each statement describes their current family situation. The commitment subscale measures the family’s sense for internal strength, dependence and ability to cooperate. The challenge subscale measures the family’s attempts to be innovative, to be active and to acquire new skills. The control subscale measures the family’s internal locus of control (the level of control the family feels they have over their life) compared to an external locus of control over their life (Aspeling & Greeff, 2004).

The internal reliability (Cronbach alpha) of the Family Hardiness Index is 0.82 and the test-retest reliability was 0.86 (McCubbin, Thompson & McCubbin, 2001). The validity coefficients range between 0.20 to 0.23 with criterion indices of family satisfaction, time routines, and adaptability (McCubbin, Thompson & McCubbin, 1996). The overall internal reliability for the FHI in this study was 0.89 while the internal reliability of the subscales for this study were (1) Challenge (0.86 Cronbach alpha), (2) Control (0.84 Cronbach alpha), and (3) Commitment (0.85 Cronbach alpha). Examples of items in this questionnaire include: “We have a sense of being strong even when we face big problems” and “We believe that things will work out for the better if we work together as a family”.
4.5.6 Family Crisis-Oriented Personal Evaluation Scales (F-COPES)

The Family Crisis-Oriented Personal Evaluation Scales (F-COPES), developed by McCubbin, Larsen & Olson (McCubbin et al., 1996) was used to identify how the family solves problems as well as the strategies they employed in crisis situations. This instrument draws on the coping dimensions of the Resiliency Model and examines how the cumulative effect of demands (AA); family resources (BB); family problem solving and coping ability (PSC) and meaning (CC) of the Resiliency Model interact. The F-COPES features 30 items that focus on two levels of interaction as depicted in the Resiliency Model. Firstly, the items focus on the interaction between the individual and the family system, i.e. the way in which the family manages problems and crises internally amongst themselves. Secondly, the items concentrate on the interaction between family and the social environment, i.e. the way in which a family externally handles problems outside of the family, but which still affect the family unity. Higher marks indicate effective positive coping behaviour.

The F-COPES consists of 30, 5-point Likert-type items (strongly disagree, disagree, neutral, agree, strongly agree). The 30 items are divided into 5 subscales, namely (a) Acquiring social support, (b) Reframing, (c) Seeking social support, (d) Mobilizing family to acquire and accept help, and (e) Passive appraisal. The 5 subscales are further subdivided into internal coping strategies and external coping strategies. Internal coping strategies define the manner in which crises are dealt with by using sources of support within the nuclear family. External coping strategies refer to the family’s active attempt to find sources of support outside the nuclear family (McCubbin & Patterson, 1983).

The F-COPES has a test-retest reliability of 0.71 and an internal reliability coefficient (Cronbach Alpha) of 0.77 for the total scale (McCubbin, Thompson & McCubbin, 2001; Reis & Heppner, 1993). The construct validity of the questionnaire was proved with a factor analysis and a varimax rotation of the axes (Aspeling& Greeff, 2004). In this study, the internal reliability scores of the subscales were also measured, i.e., (1) Acquiring social support (0.86 Cronbach Alpha), (2) Reframing (0.75 Cronbach Alpha), (3) Seeking social support (0.83 Cronbach Alpha), (4) Mobilizing family to acquire and accept help (0.67 Cronbach Alpha); and (5) Passive appraisal (0.67 Cronbach Alpha). Examples of items that participants were requested to respond to, include: “When we face problems or difficulties in our family, we respond by seeking encouragement and support from friends” and “We define the family problem in a more positive way so that we do not become too discouraged”.

4.5.7 Family Time and Routine Index (FTRI)

The Family Time and Routine Index (FTRI) also developed by McCubbin, Thompson and McCubbin (2001) assesses the type of activities and routines families partake in, and the value they attribute to these activities. These activities and routines contribute to the family’s range of new and existing resources (BB). The specific activities and routines that a family engages in offer relatively
reliable indices of family integration and stability, which contribute to family resiliency (McCubbin, Thompson & McCubbin, 2001).

The FTRI is a 30-item instrument which is subdivided into the following eight subscales namely; parent-child togetherness; couple togetherness; child routines; meals together; family time together; family chores routines; relative connection routines; and family management routines. The FTRI links into the family type (T) component of the Resiliency Model as the participants assess the degree to which each statement describes their family’s behaviour (false, mostly false, mostly true, true). In addition to this, the participant has to indicate the value of each routine in keeping the family strong and healthy by circling one of the following options: NI = Not Important; SI = Somewhat Important; VI = Very Important and NA = Not Applicable.

The overall internal reliability of the instrument is 0.88 (Conbach’s alpha) (McCubbin, Thompson & McCubbin, 2001) and the validity was confirmed through significant correlations with various criterion indices of family strengths (McCubbin et al., 1996). In this study, the overall internal reliability of the instrument was 0.87 (Cronbach Alpha). Examples of items that participants were requested to respond to, include: “Parents have some time each day for just talking with their children” and “Family has a certain family time each week when they do things together at home”.

4.5.8 Family Attachment and Changeability Index 8 (FACI8)

The Family Attachment and Changeability Index 8 (FACI8) was adapted from the Family Adaptability and Cohesion Evaluation Scales II (Olson, Portner & Bell, 1989) by McCubbin, Thompson and Elver (McCubbin, Thompson & McCubbin, 2001) as a measure of family functioning. The goal was to develop a questionnaire that would be applicable to both Caucasian and African-American youths and be ethnically sensitive. In this study, the FACI8 represented the dependent variable and was used to determine the level of family adaptation (XX).

The FACI8 consists of 16 items which measures the family’s level of Attachment (cohesion) and Changeability and is rated on a 5-point Likert scale (never, sometimes, half the time, more than half, always). The abovementioned constructs are represented in two subscales. Attachment is an 8-item scale that measures the strength of the family’s attachment, while Changeability (8-item scale) measures how flexible family members are in their relationships with each other.

The internal reliability (Cronbach alpha) for the subscales varies between 0.75 and 0.80, whilst validity was established by determining the FACI8’s relationship to a treatment programme’s successful outcome (McCubbin, Thompson & McCubbin, 2001). The overall internal reliability for the FACI8 in this study was 0.88 while the internal reliability of the subscales was 0.85 (Cronbach alpha) for Attachment and Changeability had a Cronbach alpha of 0.81. Examples of items from this questionnaire include: In our family it is easy for everyone to express his/her opinion” and “In our family, family members discuss problems and feel good about the solutions”. The aforementioned
section provided a brief overview of the questionnaires that were used in the present study. The research procedure that was followed in the study is discussed in the section to follow.

4.6 Research Procedure

This study was subjected to strict evaluation by the Ethics Committee (Human) at the Nelson Mandela Metropolitan University before receiving approval for commencement of the research. Permission was obtained from the Department of Education to approach several schools in the Port Elizabeth area to participate in the study. Thereafter the researcher contacted the principal of each school in order to access participants for the study. The researcher gave a detailed description of the nature and purpose of the study either telephonically or in person, as well as in written document form (sees Appendix A). Upon receiving consent and permission from the principal, the relevant grade teachers assisted in identifying children who had been diagnosed with AD/HD in the school and that were between the ages of 7-12 years. A covering letter was sent to all potential participants informing them about the researcher, the nature and purpose of the study and addressing issues of confidentiality and the voluntary nature of the research. The covering letter also indicated the value and benefit of the research to participants. The researcher’s contact number was included in the covering letter should any questions have arisen regarding the information provided. Interested parents who wanted to participate and that met the inclusion criteria were asked to contact the researcher directly in order to ensure that confidentiality was maintained. Once research participants conveyed their interest to participate, the researcher created research packages which consisted of a pre-designed consent form, a biographical questionnaire as well as the seven structured paper-and-pencil questionnaires, in either English or Afrikaans which were then mailed to the participants. Participants were asked to return the consent forms signed, directly to the researcher, confirming their agreement to participate in the study and indicating their voluntary participation in the research along with the completed biographical form and questionnaires in the stamped, addressed envelope provided. Cozby (2004) suggested that the consent form be written in the second person, in a language that is commensurate with the expected language level of the participants. The consent form was made available to participants in either English or Afrikaans. The researcher respected the individual’s right to decline to participate or withdraw from the research at any time. Upon completion of the questionnaires, the participants were requested to return the forms directly to the researcher by means of a stamped addressed envelope that was provided.

Since the goal of the study was to include 56 families, the researcher also contacted the President of the AD/HD support group of South Africa (ADHASA) to enlist her help in obtaining participants for the study. The researcher requested that the study be advertised on the ADHASA website with the aim of obtaining participants for the study. Permission was obtained and a brief description of the nature and purpose of the study, the inclusion criteria as well as the researcher’s contact details was
placed on the website. Interested participants were requested to contact the researcher directly and research packages were then mailed to these participants. These research packages included the covering letter, the pre-designed consent form, the biographical questionnaire as well as the seven structured paper-and-pencil measures. Only one participant was identified in this manner.

As a result of the low response rate to this approach the researcher again contacted ADHASA and requested that the study be presented at the ADHASA annual conference which was held between 10 and 11 September 2007. This conference was attended by parents of AD/HD children as well as professionals from different fields. The President of ADHASA introduced the study at the conference informing the attendants of the nature and purpose of the study, the inclusion criteria and the voluntary nature of the research and requested that interested participants collect a research package at the end of the conference. Those attendants that conveyed interest and collected research packages were asked to provide their contact details which assisted the researcher in doing regular follow-ups with the participants. The research packages were mailed to the President of ADHASA a week prior and consisted of a covering letter from the Psychology Department of the Nelson Mandela Metropolitan University, a pre-designed consent form, the biographical questionnaire as well as the seven paper-and-pencil questionnaires. The participants were asked to return the questionnaires in the stamped, addressed envelopes provided. A small sample of participants, namely 13 families outside the Port Elizabeth area was identified in this manner.

The researcher approached the coordinator of the AD/HD support group in Port Elizabeth and requested permission to attend the support group meetings held in Port Elizabeth with the aim of identifying possible participants. The researcher attended two AD/HD support group meetings where the members of the public were addressed and the research introduced. Research packages were made available to interested participants and the contact details recorded. The researcher again conducted regular follow-ups with these families. Five families from Port Elizabeth were identified in this manner. The study was also advertised in the Port Elizabeth Weekend Post and placed on the Port Elizabeth Community Website (www.mypewebsite.co.za). Interested participants that were sampled using these methods contacted the researcher directly and requested that the questionnaires be mailed to them. The participants’ contact details and addresses were recorded for the use of the researcher only, as regular reminders and follow-ups were done with the identified families in an attempt to maximize the size of the sample. The researcher received a good response to the advertisement placed in the newspaper but only two families met the inclusion criteria for the study.

In order to increase the families’ response rate, regular follow-ups and reminders were done with families to encourage them to complete the questionnaires and also provided an opportunity for the researcher to answer any questions that the families had which were related to the present study. These follow-ups also provided an opportunity for the participants to inform the researcher if they wanted to withdraw from the study. A total of 51 sets of questionnaires were sent out and 26 sets
were returned. Four sets of questionnaires had to be excluded from the study as two sets were incomplete, one exceeded the stipulated time period and the other did not meet the inclusion criteria relating to medication. Consequently, 22 families participated in the present research. The questionnaires were scored and rechecked by another independent researcher. The following section addresses the analysis of the data.

4.7 Data Analysis

Data were analyzed in terms of the aim of the study. Two types of data had to be analyzed, namely quantitative and qualitative data. The methods of data analysis are described in the subsections to follow.

4.7.1 Descriptive Statistics

One purpose of this study and its analysis was descriptive in nature. The data from the biographical questionnaire was analyzed using descriptive statistics. Descriptive statistics describes the data by investigating the description of scores on different variables and how they are related to each other, if at all. This is usually conducted first to gain an initial impression of the data (Meyer, Moore & Viljoen, 1997). Descriptive statistics provides summary measures of the data contained in all elements of the sample (Rossouw, 1996). Descriptive statistics refer to the values describing the sample and these numerical values summarizing the data are called statistics (Strydom et al., 2002). There are two categories of descriptive statistics namely, 1) measures of central tendency and 2) measures of dispersion. Measures of central tendency refer to the typical score, where the scores bunch or group together and measures of dispersion refer to the amount of variability among scores in the group (Breakwall, Hammond, Fife-Shaw & Smith, 2006).

Furthermore, Lindsey (1993) described three measures of central tendency namely the mean, median and the mode. The mean is the arithmetic average which is obtained by the sum of the values divided by the sample size. The median is the point in the distribution that has exactly the same number of scores above it as below it when all scores are arranged in order. The mode is an indicator of the most frequent score or interval obtained in the sample group. Descriptive statistics is used not only to summarize data, but also used as an estimate of population parameters (Smyth, 2004). Rossouw (1996) stated that:

One key function of statistical analysis is to communicate the value of the findings. An even more important purpose is to convince the reader that through the innate value of the knowledge gained, the research report makes a sufficient contribution for the level of research in question and that the research measures up to the necessary standards of academic worth (p. 72).
4.7.2 **Correlation and Regression Analysis**

The quantitative data was analyzed using correlation and regression analysis. Correlation analysis measures the association between two or more variables and the extent to which values on one could predict from values on another. Furthermore it describes the direction and degree of the relationship between variables (Mertens, 1998).

Pearson product-moment correlations were calculated to determine the relationship between the research participants’ level of family adaptation and potential resiliency variables. The value of \( r \) gives information about the strength and direction of the relationship between two variables, which permits prediction (Elmes et al., 2003; Harris, 2003; Rosnow & Rosenthal, 1993). This value ranges between -1.00 to +1.00, with zero indicating no relationship at all (Cozby, 2007; Spata, 2003). The stronger the relationship, the higher the numerical value of the Pearson \( r \), regardless of the positive or negative sign (Spata, 2003). The sign of the Pearson \( r \) indicates the type of relationship that exists between the variables. A positive correlation suggests that an increase in one value is associated with a corresponding increase in the value of the other variable. The opposite applies for negative correlations: a decrease in the value of one variable is associated with a corresponding decrease in the value of the other variable (Spata, 2003). A limitation of the Pearson product-moment correlation coefficient is that a link of causality cannot be established (Cozby, 2004; Spata, 2003). Although no inferences regarding causality can be made, the significance of relationships between variables can be determined.

To assess this significance, \( p \) values were employed. Harris (2003) stated that most psychological reports make use of a \( p \) value of 0.05 to assess the significance of the correlation. Although correlation that reaches a \( p \) value of 0.05 is considered to be significant, an \( r \) that reaches a \( p \) value of 0.01 or 0.001 is considered to illustrate a more stringent and rigorous significance level (Harris, 2003). With regard to the interpretation of the strength of relationships, the well-established guidelines of Guilford (1946) were used to interpret the magnitude of the relationship between variables. These guidelines are as follows:

- Less than 0.20 slight; almost negligible relationship
- 0.20 – 0.40 low correlation; definite but small relationship
- 0.40 – 0.70 moderate correlation; substantial relationship
- 0.70 – 0.90 high correlation; marked relationship
- 0.90 – 1.00 very high correlation; very dependable relationship

In addition to calculating Pearson product-moment correlation coefficients and determining significant relationships between variables, a regression analysis was conducted. Mertens (1998) explained that the concepts of correlation and regression are closely linked and that without there
being several independent variables, regression cannot be used. The Family Attachment and Changeability Index 8 represented the dependent variable and the other measures represented the independent variables in the research study. The FACI8 measured the outcome of adaptation (XX) resulting from the resiliency process. Thus resilience was measured by looking at the factors needed for adaptation and the extent to which the family had adapted positively (bonadaptation) or negatively (maladaptation). Regression analysis indicated the amount of variance that the independent variables had on the dependent variable (Mertens, 1998). The motivation behind this procedure was that an independent variable on its own may not correlate significantly with the independent variable. However, when combined with other independent variables, this combination may predict the dependent variable (Harris, 2003). The value of regression analysis is that it enables the researcher to look at more than one variable and their relationship, and predict a continuous dependent variable from one or more independent variables (Strydom et al., 2002).

4.7.3 Content Analysis

Thematic content analysis was used to analyze the qualitative data obtained from the open-ended question on the biographical questionnaire. Content analysis involves a technique by which the researcher can make inferences from messages from written communications by objectively identifying specific themes in these messages (Shaughnessy et al., 2000). This systematic analysis involved the researcher devising a coding system to classify information into categories or themes. The researcher defined categories and coded messages that emerged from the questionnaire into these categories in an objective manner that ensured high interrater reliability (Cozby, 2004). An independent coder was employed in order to counter potential researcher bias. The steps that were followed in the content analysis were according to the eight step model as proposed by Tesch (1990). The eight steps in Tesch’s (1990) model are as follows:

1. The researcher gained a sense of the ‘gestalt’ of the data. As the data was gathered, the researcher read the material so as to gain an understanding of the data and formulated ideas around it.

2. After this, the next step was to pick any data document to start with and identify topics from the material and the researcher then captured these topics in writing. The ultimate goal was to determine what the document was about and what the underlying meaning was. This procedure was then repeated for all data documents that met the inclusion criteria of the study.

3. During the third step, the researcher made a list of all the topics and themes from the data documents that were studied. A column was made for each data document and put on the same page so that similar topics could be compared and connected (Tesch, 1990). Lines
were drawn between the topics and these topics were documented on a separate piece of paper.

4. The researcher then chose the most relevant name for the cluster of topics derived from the second sheet of paper. Using a third piece of paper, a new list that contained two to three columns was made. The major topics were recorded in the first column, unique topics were recorded in the second column and the third column reflected the topics that were not relevant to the study.

5. Once these themes were identified, the researcher returned to the data where the themes were abbreviated into codes and written next to the relevant sections in the text. The value of this phase was that it allowed the researcher to detect new themes and codes that could be integrated into the text.

6. The researcher named the themes in descriptive wording and then created categories. From the list of categories created, themes were related to each other. By grouping related themes, the overall list of themes was reduced.

7. Once the researcher had made a final decision of the abbreviation that represented each category, it was then alphabetized.

8. Related data were assembled in one place and a preliminary analysis was done. The goal of this procedure was to identify and summarize the content of each category so as to identify information that was relevant to the present study. After close investigation, the researcher decided whether the categories were inclusive or exclusive enough and recoded the data accordingly.

Guba and Lincoln’s (1985) model of trustworthiness was used in order for objectivity to be maintained while analyzing the data. This model is valuable as it enables the researcher to determine the internal and external validity, reliability and objectivity of the qualitative data. The model includes four constructs, namely credibility, transferability, dependability and conformability (Guba & Lincoln, 1985). These constructs are similar to the more conventional terms of the positivist paradigm, namely internal and external validity, reliability and objectivity. A brief explanation of these constructs is now provided (De Vos, 2005).

Credibility is the alternative to internal validity, in which the goal is to demonstrate that the study was conducted in a manner that ensures that the research participant was identified and described in an accurate way. A researcher should ensure that he/she places adequate parameters around the study. This implies an in-depth description, showing the complexities of variables and interactions. This will increase the probability that data gathered from the setting are valid.

Transferability, as a criterion of trustworthiness, was not considered for the purposes of this study, since it refers to the degree to which the findings can be transferred to a context outside the study.
The present study is exploratory-descriptive in nature and therefore the ultimate goal is not to generalize the findings to larger populations.

*Dependability* is viewed as the alternative to reliability. With reliability, the researcher attempts to account for dynamics surrounding the research subject, such as changing conditions as well as changes in the design as the researcher gains a more refined understanding of the setting. The literature (De Vos, 2005; Guba & Lincoln, 1985) suggests a change from the positivist assumptions surrounding reliability, where it is assumed that we live in an unchanging social world where results can easily be replicated. However, these assumptions are in contrast to the qualitative/interpretive view that the world is dynamic and that replication of results is problematic.

*Conformability* represents the last of the four constructs that were proposed by Guba and Lincoln (1985). Conformability captures the traditional concept of objectivity. Guba and Lincoln (1985) stressed the fact that others should be able to confirm the findings of a study. The goal is to remove the subjective influence of some of the characteristics that are inherent to the researcher and rather focus on the data themselves (De Vos, 2005). An independent coder was employed in an attempt to counter potential researcher bias. The ethical considerations that were taken into account are discussed in the section that follows.

### 4.8 Ethical Considerations

It was important for the researcher to consider the rights and well-being of the participants in all areas of this study. This study was subjected to strict evaluation by the Ethics Committee (Human) at the Nelson Mandela Metropolitan University before receiving approval for commencement of the research. Once permission had been obtained, a number of ethical procedures were considered that governed the activities of this research which included voluntary participation, informed consent, concerns related to confidentiality and anonymity as well as minimizing the psychological risk or harm to participants. In addition to this, research participants were treated with courtesy, dignity and respect. The ethical procedures considered are now discussed.

#### 4.8.1 Informed Consent and Voluntary Participation

Informed consent is a key element in ethically conducted research and it is described as a process which includes both informing prospective participants of what their participation in the research will likely entail and obtaining their written agreement to participate (Cone & Foster, 2006). Informed consent provides research participants with sufficient information to judge for themselves if they want to be part of the intended study (Elmes et al., 2003; Foxcroft & Roodt, 2001).

An introductory letter explaining the nature and purpose of the study as well as the inclusion criteria was given to the principals of the identified schools, the organizations as well as the other professionals that agreed to support the study by helping the researcher obtain participants for the
study. Once permission had been obtained by these individuals and possible research participants were identified, a covering letter was sent to all potential participants informing them about the researcher, the nature and purpose of the study and addressing issues of confidentiality and the voluntary nature of the research. The covering letter also indicated the value and benefit of the research to participants. The researcher’s contact number was included in the covering letter should any questions have arisen regarding the information provided.

The participants were provided with sufficient information to formulate an informed decision as to whether they wanted to be included in the research. Interested parents who wanted to participate and who met the inclusion criteria were asked to contact the researcher directly in order to ensure that confidentiality was maintained. Once research participants conveyed their interest to participate, the researcher created research packages which consisted of a pre-designed consent form, a biographical questionnaire as well as the seven structured paper-and-pencil questionnaires, in either English or Afrikaans which were then mailed to the participants. Participants were asked to return the signed consent forms directly to the researcher, confirming their agreement to participate in the study and indicating their voluntary participation in the research along with the completed biographical form and questionnaires in the stamped, addressed envelope provided. Cozby (2004) suggested that the consent form be written in the second person, in a language that is commensurate with the expected language level of the participants. The consent form was made available to participants in either English or Afrikaans. The researcher respected the individual’s right to decline to participate or withdraw from the research at any time.

4.8.2 Privacy and Confidentiality

A risk inherent in research is the loss of expected privacy and confidentiality. The loss of privacy can be described as any question related to intimate or personal matters that are not usually discussed in public and could trigger feelings of anxiety, guilt or shame (Huysamen, 1994). The general principle in dealing with confidential personal information is that such information should be used with great care and only disclosed where necessary (Edwards & Louw, 1997). The covering letter sent to all participants emphasized the importance of confidentiality in the study, reassuring participants that their privacy would be protected by ensuring that their personal identities would not be revealed in the reporting of the research.

Confidentiality was also maintained through the coding of questionnaires with the participants’ particulars only made available to the researcher. Anonymity is ensuring that no uniquely identifying information is attached to the data, and this was ensured through the participants’ personal details only being recorded if they requested generalized feedback of the results and findings of the study. Furthermore, upon completion of the questionnaires, the participants were requested to return the
forms directly to the researcher by means of a stamped addressed envelope that was provided thus ensuring their privacy and maintaining the confidential nature of the information.

### 4.8.3 Minimizing Psychological Risk and Harm

A basic ethical question when planning any research is whether the research might in any way cause harm to the research participants or the society at large (Edwards & Louw, 1997). The researcher has an ethical responsibility to minimize risk and protect participants from any physical or psychological harm that might be incurred during participation in a study (Strydom, 1998; Leedy & Omrod, 2005). As stated previously, this study was subjected to strict evaluation by the Ethics Committee (Human) at the Nelson Mandela Metropolitan University before receiving approval for commencement of the research. Once permission had been obtained, the researcher considered the rights and well-being of the participants in all areas of this study.

The current study was considered to be of minimal risk since the study explored activities that are a part of the daily life of the research participants (their adjustment and adaptation processes) (Shaughnessy et al., 2000). While the risks related to participation in the study were considered to be minimal, the researcher considered safeguards that were put into place for the participants. If the participants felt any discomfort while completing the different measures, they had the option of contacting the researcher. Participants were also informed that they could withdraw at any time and were not obligated to fulfill their commitment as a result of the signed consent form if they so chose. The researcher also referred participants to established support groups near their city of residence when this information and assistance was requested by participants. The following section considers the dissemination of research results.

### 4.8.4 Dissemination of Results

The sharing of knowledge obtained in the study was also felt to be of importance. The research participants were invited to give their contact details on the biographical questionnaire if they wanted to receive a brief summary report of the general findings of the study. By giving general feedback on group data, rather than individual data, research participants’ right to confidentiality was maintained (Salkind, 2003).

The researcher had an obligation to honour all promises and commitments that were made during the commencement of the study and this included the agreement made with the ADHASA organization in Johannesburg. The President of the ADHASA organization requested a copy of the final treatise which will be honoured by the researcher and provided upon completion of the study. Furthermore, a copy of the finalized treatise will be placed in the library of the Nelson Mandela Metropolitan University. The results of the study will also be outlined in the form of a draft manuscript.
that will be submitted for review for article publication purposes. Furthermore the researcher will present the findings of this study at a research conference or congress.

4.9 Conclusion

Chapter Four provided an overview of the research methodology followed in this study. The aim of the present study was best met through a combination of quantitative and qualitative research techniques (i.e., triangulation of method). Data was gathered in the form of structured questionnaires and from an open-ended question in the biographical questionnaire. 51 sets of questionnaires were sent out to families that met the inclusion criteria of the study through the employment of nonprobability purposive sampling techniques. Despite active attempts by the researcher to increase the response rate of the study, the response rate was below that which was expected. 26 sets of questionnaires were returned of which 22 met the inclusion criteria of the study.

Quantitative data were manipulated through correlation and regression analyses, while Tesch’s approach was used to identify significant themes from qualitative data. The researcher gave significant attention to ethical procedures and practices while governing the activities of the research in an attempt to secure the well-being of research participants. The results obtained from the statistical and content analysis are presented and discussed in the following chapter.
CHAPTER FIVE

RESULTS AND DISCUSSION

5.1 Introduction

The results of this study are presented and discussed according to the primary aim of the study. The aim of the present research was to explore and describe the resilience factors that facilitate adjustment and adaptation in a family living with a child diagnosed with Attention/Deficit Hyperactivity Disorder (AD/HD). Chapter Five provides a description of the quantitative and qualitative results that were obtained from the seven questionnaires.

The seven questionnaires that were employed for the purposes of this study were the Relative and Friend Support Index (RFS), the Social Support Index (SSI), the Family Crisis-Oriented Personal Evaluation Scales (F-COPES), the Family Hardiness Index (FHI), the Family Time and Routine Index (FTRI), the Family Problem-Solving Communication (FPSC) and the Family Attachment and Changeability Index 8 (FACI8). The FACI8 measured the dependent variable, namely the extent to which the family has adapted while the other six measures represented the independent variables. The quantitative data obtained from the questionnaires in the study were analyzed using correlation and regression analysis. Thematic content analysis was used to analyze the qualitative data obtained from the open-ended question of the biographical questionnaire. In this chapter, the relationship between the dependent variable and the independent variables is firstly discussed and is followed by a discussion of results obtained from the open-ended question that was included in the biographical questionnaire. The following section outlines the results of the measures.

5.2 Results of the Measures

This section focuses specifically on the aim of the study, which was to explore and describe the resilience factors that facilitated adjustment and adaptation in the family living with a child diagnosed with AD/HD. To explore and describe these resilience factors, the results of the seven measures are discussed. In this study, the quantitative data was analyzed through correlation analysis, as well as a best-subset regression analysis. The results of these analyses are discussed in the following section.

5.2.1 Quantitative Analysis

5.2.1.1 Correlation Analysis

Pearson product-moment correlation coefficients (Pearson r) were calculated to determine the interrelationship between family adaptation (as measured by the FACI8) and potential resilience factors. While a Pearson product-moment correlation does not indicate a causal or explanatory link, it does indicate relationships between variables. To assess the significance of these correlations, p
values were employed. As discussed in Chapter Four, a $p$ value of 0.05 is the standard value that is used for most psychological research, whereas a $p$ value of 0.01 or 0.001 is considered to be more significant since these $p$ values are representative of more stringent and rigorous significance levels (Harris, 1998). While $p$ values were used to indicate the significance of correlations, Guilford’s guidelines (1946) were used to interpret the magnitude of these relationships. According to these guidelines, correlations that range between 0.40 and 0.70 are considered to be moderate, indicating a fairly substantial relationship. The guidelines as proposed by Guilford are outlined as follows:

- Less than 0.20 slight; almost negligible relationship
- 0.20 – 0.40 low correlation; definite but small relationship
- 0.40 – 0.70 moderate correlation; substantial relationship
- 0.70 – 0.90 high correlation; marked relationship
- 0.90 – 1.00 very high correlation; very dependable relationship

The correlation results for the research participants are presented in Table 1 on the next page.
Table 1: Pearson Product-Moment Correlations between Adaptation (FACI8) and Potential Resilience Variables.

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>CAREGIVERS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative and Friend Support (RFS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total RFS Score</td>
<td>0.69</td>
<td>0.00*</td>
</tr>
<tr>
<td>Social Support Index (SSI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total SSI Score</td>
<td>0.79</td>
<td>0.00*</td>
</tr>
<tr>
<td>Family Crisis-Oriented Personal Evaluation Scales (F-COPES)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social support subscale score</td>
<td>0.61</td>
<td>0.00*</td>
</tr>
<tr>
<td>Reframing subscale score</td>
<td>0.23</td>
<td>0.13</td>
</tr>
<tr>
<td>Spiritual and religious support subscale score</td>
<td>0.19</td>
<td>0.29</td>
</tr>
<tr>
<td>Mobilization subscale score</td>
<td>0.52</td>
<td>0.00*</td>
</tr>
<tr>
<td>Passive appraisal subscale score</td>
<td>0.67</td>
<td>0.00*</td>
</tr>
<tr>
<td>Family Hardiness Index (FHI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commitment subscale score</td>
<td>0.82</td>
<td>0.00*</td>
</tr>
<tr>
<td>Challenges subscale score</td>
<td>0.81</td>
<td>0.00*</td>
</tr>
<tr>
<td>Control subscale score</td>
<td>0.10</td>
<td>0.58</td>
</tr>
<tr>
<td>Total FHI score</td>
<td>0.82</td>
<td>0.00*</td>
</tr>
<tr>
<td>Family Time and Routine Index (FTRI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behaviour total score</td>
<td>0.86</td>
<td>0.00*</td>
</tr>
<tr>
<td>Value total score</td>
<td>0.26</td>
<td>0.15</td>
</tr>
<tr>
<td>Family Problem-Solving Communication (FPSC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affirming communication</td>
<td>0.79</td>
<td>0.00*</td>
</tr>
<tr>
<td>Incendiary communication</td>
<td>-0.75</td>
<td>0.00*</td>
</tr>
<tr>
<td>Total FPSC score</td>
<td>0.83</td>
<td>0.00*</td>
</tr>
</tbody>
</table>

*p<0.05

The results indicate that for the caregivers of the child diagnosed with Attention-Deficit/Hyperactivity Disorder (AD/HD) adaptation (as indicated by the FACI8 total scores) is associated with a variety of resilience factors as described in the measures that were utilized for the purpose of this study. These factors are discussed in the context of the literature provided on AD/HD.
in Chapter Two, as well as the literature of family resilience provided in Chapter Three. The significant findings obtained from the results of the data analysis on these measures are now discussed.

5.2.1.1.1 Relative and Friend Support (RFS)

The results suggest a significant positive correlation between family adaptation and relative and friend support (as measured by the Relative and Friend Support Index: total score). This measure was designed by McCubbin, Larsen & McCubbin (in McCubbin et al., 2001) to determine the extent to which family members use the support of their own family and friends as a coping strategy when dealing with stressors. This instrument specifically attempted to measure the family resources component (BB) of the Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin et al., 2001). The resources component (BB) refers to the psychological, family and social resources that families call upon, are shaped by, and call into use in their effort to facilitate family adaptation (McCubbin et al., 2001). Supports include informal sources such as other family members and extended family and friends, as well as formal sources such as medical or social services. Schools, churches and employers are also resources for the family (McCubbin et al., 2001).

The significant positive correlation between family adaptation and relative and friend support in this study indicated that social support in these families is considered to be one of the important crisis-meeting resources that facilitate adaptation in the family. The significant positive correlation further suggests that these families are able to develop and use social support in the form of practical and financial assistance as offered by relatives and friends which aid their resistance to major crises and facilitate their recovery in restoring stability in the family unit (Walsh, 1996). Cobb (1982) defined social support as: (1) informational support, leading the individual family members in the family unit to believe that they are cared for and loved; (2) esteem support, leading family members to believe that they are respected and valued; and (3) network support, leading the family members to believe that they belong to a network of communication involving mutual support and mutual understanding (McCubbin et al., 2001). The finding in this study is consistent with the conclusions from Heiman’s (in Bester, 2006) research conducted on children with special needs, indicating that the support of family and friends was important in contributing towards the resilience of the family unit. Furthermore, other studies have also indicated that extended family contact and affiliation is a vital source of emotional support for families with AD/HD children (Barkley, 1998).

The significant positive correlation between the FACI8 and the total score of the Relative and Friend Support Index indicates that relative and friend support is a resource that aids family adjustment and adaptation \( r = 0.69, \ p = 0.00^* \). In terms of the strength of the correlation, the correlation between the RFS total score and the FACI8 can be viewed as moderate. According to Guilford’s (1946) guidelines, a moderate correlation indicates a fairly substantial relationship.
5.2.1.1.2 Social Support Index (SSI)

The second measure which showed a significant positive correlation with the FACI8, was the total score obtained on the Social Support Index (SSI). The SSI was developed by McCubbin, Patterson and Glynn (in McCubbin et al., 1996) as part of several national studies with the goal of recording the degree to which families find support in their communities (McCubbin et al., 2001). The SSI taps specifically into the family and community resources component of the Resiliency Model of Family Stress, Adjustment and Adaptation. The SSI was subsequently used to determine to what extent families are integrated into the community and to what extent they perceive the community as a source of emotional support (Aspeling & Greeff, 2004). Emotional support entails recognition, affirmation, esteem support, affection and relationships with relatives (McCubbin & McCubbin, 1993). Community based social support is viewed as an important dimension and factor in family resiliency.

The literature provided on AD/HD suggested that in effectively managing the symptoms of this disorder, caregivers are encouraged to obtain information and support from helping professionals, school teachers and support groups in helping them to deal with the diagnosis of AD/HD and the resulting behaviour of the AD/HD child (Bester, 2006). The positive correlation between the FACI8 and the Social Support Index (SSI total score) in this study indicated that the research participants regarded community based social support as an important factor in family resilience and considered it as an important buffer against family crisis factors ($r = 0.79, p = 0.00^*$). The results indicate that the families in this study are integrated into the community, and the community in turn is experienced as a source of support (as measured by the SSI). In terms of the strength of the correlation, the correlation between the SSI total score and the FACI8 can be viewed as a high correlation. According to Guilford’s (1946) guidelines, a high correlation indicates a marked relationship. The finding in this study is consistent with conclusions from past studies that have emphasized the importance of community based social support as an important resiliency variable in fostering family adaptation (Walsh, 2002, 2003).

Furthermore, the significant result obtained on the social support subscale on the F-COPES measure serves to reinforce this finding. The significant score of the mobilization subscale of the F-COPES measure also confirmed that the family viewed their ability to actively seek out community resources and supports as an important resilience factor in helping them adjust and adapt to crisis situations. These results are presented and discussed in the following section.

5.2.1.1.3 Family Crisis-Oriented Personal Evaluation Scales (F-COPES)

The results suggest a significant positive correlation between family adaptation and the family’s problem-solving and behavioural strategies (as measured by the Family Crisis-Oriented Personal Evaluation Scales: Social support, Mobilization and Passive Appraisal subscales). The F-COPES, developed by McCubbin, Larsen & Olson (1981) was used to identify how the family solves problems
as well as the strategies these families employed in crisis situations. This instrument draws on the coping dimensions of the Resiliency Model and examines how the cumulative effect of demands (AA); family resources (BB); family problem solving and coping ability (PSC) and meaning (CC) of the Resiliency Model interact (McCubbin et al., 2001). This measure is divided into five subscales, namely social support, reframing, spiritual and religious support, mobilization and passive appraisal.

The families in this study indicated a positive relationship between acquiring social support and adaptation (F-COPES: Social support subscale). The strength of the positive correlation between the FACI8 and the social support subscale can be interpreted as a moderate correlation indicative of a substantial relationship ($r = 0.61, p = 0.00^*$). The results also reflect that the families indicated a positive relationship between their ability to seek out community resources and to accept help from others (F-COPES: mobilization subscale score) and adaptation. The strength of the significant correlation between the FACI8 and the F-COPES mobilization subscale can be viewed as moderate ($r = 0.52, p = 0.00^*$).

Furthermore, the significant positive correlation between the FACI8 and the passive appraisal subscale score indicated that the families in this study viewed the ability to accept problematic issues as an important factor facilitating adjustment and adaptation ($r = 0.67, p = 0.00^*$). In terms of the strength of the correlation, the correlation between the passive appraisal subscale score and the FACI8 can be interpreted as a moderate correlation, indicative of a substantial relationship. While the social support, mobilization and passive appraisal subscale scores showed a significant positive correlation with the FACI8, the remaining subscales namely, the reframing and the spiritual and religious support subscales were not significant.

### 5.2.1.4 Family Hardiness Index (FHI)

The results suggest a significant positive correlation between family adaptation and family hardiness (as measured by the Family Hardiness Index: total score as well as the Commitment and Challenges subscales). Family hardiness (as measured by the total score) can be described as the ‘steeling’ quality of the family. This refers to the family’s ability to ‘steel’ themselves against adversity (McCubbin et al., 1997). The FHI was developed by McCubbin, Thompson and McCubbin (2001) to measure internal strength and durability in the family unit. The measure is divided into three subscales, namely commitment, challenge and control.

In terms of the measure’s applicability to the Resiliency Model of Family Stress, Adjustment and Adaptation, the measure taps into the family’s existing resources (BB) (e.g., the individual, family and community) and family schemas (CCCCC). These dimensions are closely linked to hardiness as conceptualized in the Resiliency Model (McCubbin et al., 2001). When families are confronted with risk factors and crisis-producing events, the family system is taxed, often to the limit. These situations call for all family members to work together and rally their collective strength to maintain a sense of
integrity and purpose (McCubbin, Dahl & Hunter, 1975). Hardiness subsequently refers to a sense of control that the family experiences in terms of the outcomes of life events (CC) and hardships (AA) and facilitates family adjustment and adaptation over time (McCubbin et al., 1997). The family makes a commitment to work together to attack and solve the crisis and reframes and defines the hardships as challenges, rather than problems (McCubbin, McCubbin, Thompson, Han & Allen, 1997; McCubbin et al., 2001).

The significant positive correlation between the FACI8 and the total score of the Family Hardiness Index (FHI) indicated that family hardiness is a resource that aided family adjustment and adaptation in this study ($r = 0.82, p = 0.00^*$). In terms of the strength of the correlation, the correlation between the FHI total score and the FACI8 can be viewed as a high correlation, indicative of a marked relationship. This finding appears to contradict existing literature on AD/HD which highlighted the negative impact of AD/HD on family functioning. According to the literature related to the difficulties of parenting a child with AD/HD, families generally reported more interpersonal conflict, increased marital conflict, separation and divorce and fewer positive family experiences as compared to those families with non-AD/HD children (Barkley, 1998; Edwards, Schultz & Long, 1995; Johnston & Mash, 2001). The significant finding in this study suggests that families are able to reframe the crisis of the diagnosis as a challenge and are able to work together as a family in adjusting and adapting to the crisis (the diagnosis).

The families in this study also indicated a positive relationship between their ability to rely on internal strengths, dependability, and the ability to work together and co-operate with other family members (Family Hardiness Index: Commitment subscale) and adaptation. The literature on resilience suggests that internal family strength (as measured by the Family Hardiness Index) can be regarded as an important resilience factor (Aspeling & Greeff, 2004). Family hardiness includes characteristics such as (1) having a sense of control (the perception of how well the family is able to manage a crisis), (2) the orientation of the family in respect to dealing with challenges, and (3) an active orientation (an inclination to do something about the situation). If these characteristics of hardiness (commitment to the family, a positive orientation and an active approach to a crisis) are present within the family unit, the family would most probably show successful adaptation after the crisis (Aspeling & Greeff, 2004). Previous research has also indicated that a greater measure of family hardiness results in better family coherence (Drapeau et al., 1999; Mederer, 1998). The results of this study indicated a high correlation between the FACI8 and the Commitment subscale which is suggestive of a marked relationship ($r = 0.82, p = 0.00^*$). This implies that the family’s level of commitment to the family unit is a significant resilience factor in helping the family adjust and adapt to crisis situations.

Furthermore, the results of the analysis also indicated a positive relationship between the family’s ability to be innovative and motivated to experience new things and to learn (Family Hardiness Index:
Challenge subscale score) and adaptation. This finding could be linked to literature on AD/HD that indicates that parents should obtain an understanding of their child’s disorder by obtaining information related to the diagnosis that would consequently facilitate adjustment and adaptation in the family unit (Honos-Webb, 2005). The strength of the significant correlation between the FACI8 and the Challenges subscale can be viewed as a high correlation, also indicative of a marked relationship ($r = 0.81, p = 0.00^*$). While the FHI total score, as well as the Commitment and Challenges subscales scores showed a significant positive correlation with the FACI8, the remaining subscale (Control) indicated no significant relationship with the FACI8. The Control subscale is indicative of the family’s sense of being in control of family life rather than being shaped by outside events and circumstances. The score on this subscale would have contributed to the total score of the FHI being lower, which in turn effects the magnitude of the relationship of the FHI with the FACI8.

5.2.1.1.5 Family Time and Routine Index (FTRI)

The fifth measure which showed a positive correlation with the FACI8, was the Behaviour subscale of the Family Time and Routine Index (FTRI). The FTRI developed by McCubbin, Thompson and McCubbin (2001) assesses the type of activities and routines families use and maintain (i.e., the Behaviour subscale) and the value they place upon these activities (i.e., the Value subscale) (McCubbin et al., 2001). The research participants of this study indicated a high positive correlation between activities and routines that help the family in spending time together and creating togetherness and adaptation.

In terms of the Resiliency Model of Family Stress, Adjustment and Adaptation, these activities and routines contribute to the family’s range of new and existing resources (BB) and tap into the family type (T) component. The specific activities and routines that a family engages in offer relatively reliable indices of family integration and stability, which contribute to family resiliency (McCubbin, Thompson & McCubbin, 2001). In times of crisis, family routines and time together can help the family create a sense of predictability (McCubbin et al., 1997).

While resilience literature reiterates the importance of family time and routines, literature on families living with a child diagnosed with AD/HD highlights the challenges related to the effective management of AD/HD that lead to changes in the day-to-day life of all family members (Coleman, 2002). The families need to implement changes in their routines to adjust and adapt to the daily medical, behavioural and to some extent, the educational needs of the AD/HD child (Bester, 2006). In order to adjust and adapt, the family consequently needs to adopt new routines and rituals to incorporate the special requirements of the disorder and integrate these with the old routines and rituals of the family. The positive correlation between the FACI8 and the Family Time and Routine Index Behaviour subscale indicates that family time and routines are resources that aid family adjustment and adaptation for this sample. There is a significant high correlation between the FTRI
Behaviour subscale and the FACI8 ($r = 0.86$, $p = 0.00^*$). This high correlation can be interpreted as a marked relationship between the FTRI Behaviour subscale and the FACI8.

While the Behaviour subscale showed a positive correlation with the FACI8, no substantial correlation was obtained for the Value scale. This subscale measures the importance (i.e., value) of each routine in keeping the family strong and healthy. A possible explanation for the fact that there was no significant relationship obtained for the Value subscale could be related to the questionnaires. The FTRI consists of eight subscales and some of the questions contained in these subscales may not have been relevant to the research participants. The majority of research participants’ children fell in the middle child age range (i.e., from 7 to 11 years of age) and some of the questions were related to family times and routines relevant to adolescents. An example of such a statement is, “Teenagers do regular household chores”. The fact that some of these statements were not applicable to some families would have lowered the scores on both the Behaviour and Value subscales and in turn would have affected the magnitude of the relationship for the research participants.

5.2.1.1.6 Family Problem-Solving and Communication (FPSC)

The sixth and final measure which showed a positive correlation with the FACI8, is the Family Problem-Solving and Communication Index (FPSC). Walsh (2003) suggested that communication is the very tool through which families create a shared sense of meaning, develop and orchestrate coping strategies, and maintain harmony and balance. The FPSC, developed by McCubbin et al. (2001), measures two dominant patterns of communication (i.e., positive and negative) which families use in dealing with stressful situations. The measure taps into the problem-solving and coping component (PSC) of the Resiliency Model of Family Stress, Adjustment and Adaptation. The results of the measure are supported by findings of authors such as McCubbin et al. (1997) and Walsh (2002, 2003) who noted that positive communication facilitates the family’s ability to recover from a crisis. On the other hand, forms of negative communication can aggravate a stressful situation and add to the family’s level of vulnerability (McCubbin et al., 1997; Patterson, 2002). The FPSC is divided into two scales that represent the two dominant forms of communication, namely affirming communication and incendiary communication (McCubbin et al., 2001). Affirming communication supports and cultivates a calming environment, while incendiary communication involves communication that exacerbates a conflictual situation such as yelling and screaming (McCubbin et al., 2001).

The literature on AD/HD investigating the interactions of AD/HD children with their mothers indicates substantially greater conflict in their communicative exchanges than is seen in normal mother-child dyads (Barkley, 1990). It was demonstrated by Cunningham and Barkley (1979) that AD/HD children were less compliant, more negative, and less able to sustain compliance to maternal directives than children who did not have AD/HD. In turn, mothers of AD/HD children were more commanding and negative and less responsive to positive or neutral communication from their
children. However, further research indicated that if the child is compliant with medication, the medication enabled the child to sustain compliance to commands and that the mother’s frequency of commands, disapproval and control diminished (Barkley, 1990). A study conducted by Tallmadge and Barkley (1990) suggested that fathers and mothers of AD/HD children differ little in their interactions with their children. However, it was found that boys with AD/HD were more negative and less compliant with their mothers than with their fathers (Tallmadge & Barkley, 1990). This literature therefore indicates predominantly incendiary communication within families living with a child diagnosed with AD/HD, however it appears that the child’s compliance with medication may increase the probability of affirming communication within the family unit.

The results of this study suggest a significant, substantial relationship between family adaptation and family problem-solving and communication in general (as reflected by the total score) \((r = 0.83, p = 0.000^*)\). The strength of this positive correlation can be interpreted as a high correlation indicative of a marked relationship. The relationship between adaptation and the two types of communication also indicate a significant correlation. The results of this measure indicated a high correlation and marked relationship between affirming communication and adaptation \((r = 0.79, p = 0.00^*)\), as well as incendiary communication and adaptation \((r = -0.75, p = 0.00^*)\). From these results it could be concluded that family communication that conveys support and understanding (i.e., affirming communication) as well as decreased communication that exacerbates stressful situations (i.e., incendiary communication) are resilience resources that contribute to the family’s bonadaptation. The inclusion criteria of the present study stipulated that the AD/HD child should be on medication for treatment of their symptoms as prescribed by a pediatrician or child psychiatrist. The families in this study indicated the presence of affirmative communications within the family system which appeared to be consistent with the literature that suggested that if the child is on medication, there is an increased probability that interactions between the parent and child will improve (Barkley, 1990). Furthermore, Silberberg (2001) indicates that communication is considered a strength when the family interacts with each other frequently and predominantly in an open, positive and honest manner.

### 5.2.1.2 Summary of the Correlation Results

In conclusion, all six measures showed significant correlations with the FACI8 for the research participants in the present study. These measures were the Relative and Friend Support Index, the Social Support Index, Family Crisis-Oriented Personal Evaluation Scales, the Family Hardiness Index, the Family Time and Routine Index as well as the Family Problem-Solving Communication (FPSC) Index. Only four subscales namely, the Reframing subscale as well as the Spiritual and religious support subscale of the Family Crisis-Oriented Personal Evaluation Scales; the Control subscale of the Family Hardiness Index; and the Value subscale of the Family Time and Routine Index did not have a significant relationship with the FACI8 which measured the family’s level of adaptation. The
findings of this study consequently support and confirm the significance of several of the ten general (protective and recovery) resiliency factors that are documented in the literature on resilience. The resiliency variables that facilitated family adjustment and adaptation in this study included 1) the importance of support and utilization of members of the immediate family, the extended family and friends; 2) family integration into the community and experiencing the community as a source of support; 3) acquiring social support 4) passive appraisal 5) mobilization; seeking out community resources; 6) the family’s hardiness; redefinition of the crisis situation in terms of meaning; 7) family routines and time spent together; and 8) more affirming and less incendiary communication. Now that the correlations have been discussed and the findings of the correlation analysis have been summarized, the results of the regression analysis are presented and explained.

5.2.1.3 Regression Analysis

A best-subset regression analysis was conducted for the caregivers of the child diagnosed with AD/HD. The motivation behind this procedure was that an independent variable on its own might not have correlated significantly with the dependent variable. However, when combined with other independent variables, this combination might have predicted the dependent variable. A limitation of the regression analysis is the small sample size, which may have impacted upon the results. The results of this regression analysis are shown in Table 2.

Table 2: Regression Analysis for Family Adaptation (FACl8) as the Dependent Variable versus Potential Resiliency Variables (N = 44):

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>N=44</th>
<th>B</th>
<th>p-level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family Crisis-Oriented Personal Evaluation Scales (F-COPES)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passive Appraisal Subscale</td>
<td>0.864</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td><strong>Family Problem-Solving and Communication (FPSC)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Scale Score</td>
<td>0.621</td>
<td>0.000</td>
<td></td>
</tr>
</tbody>
</table>

The identified variables explained 84.25% ($R^2 = 0.842$) of the variance of the FACl8 scores. The following variables are, according to the caregivers, the best predictors for family adaptation (as measured by the FACl8):

1. Passive Appraisal (F-COPES: Passive appraisal subscale score). The family’s ability to accept problematic issues minimizing reactivity.
2. Family communication that is affirming and conveys a clear message of support and care and less communication that would exacerbate stressful situations (i.e., incendiary communication) (FPSC: Total Score).

5.2.2 Qualitative Analysis

5.2.2.1 Thematic Content Analysis

From the 44 research participants (i.e., 22 families) that took part in the study, 38 participants responded to the open-ended question in which they were asked to report the most important factors or strengths which they felt helped their family adjust and adapt after their child was diagnosed with AD/HD. This qualitative data obtained from the biographical questionnaires were analyzed using Tesch's model of content analysis, and a researcher was employed as an independent coder to ensure that the process of analysis was trustworthy. The results from the analysis support existing theories and previous research on resilience (McCubbin et al., 2001; McCubbin et al., 1997). Responses which implied attempts by the family to bounce back were identified. The strengths that the families identified as related to the family's adjustment and adaptation processes are reported in Table 3. Table 3 is followed by a discussion regarding the identified themes.

Table 3: Themes that Emerged from the Content Analysis (N=38)

<table>
<thead>
<tr>
<th>RESOURCES</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Support</td>
<td>36</td>
</tr>
<tr>
<td>• Emotional</td>
<td>(33)</td>
</tr>
<tr>
<td>• Informational</td>
<td>(28)</td>
</tr>
<tr>
<td>Adherence to Treatment Regimen</td>
<td>29</td>
</tr>
<tr>
<td>Information and Knowledge</td>
<td>26</td>
</tr>
<tr>
<td>Supportive Family Unit</td>
<td>22</td>
</tr>
<tr>
<td>Family Time and Routines</td>
<td>22</td>
</tr>
<tr>
<td>The Caregiver’s Acceptance of the Disorder</td>
<td>19</td>
</tr>
<tr>
<td>Communication</td>
<td>17</td>
</tr>
<tr>
<td>• Humour</td>
<td>(2)</td>
</tr>
<tr>
<td>Behavioural Interventions</td>
<td>11</td>
</tr>
<tr>
<td>Parental Mutuality</td>
<td>11</td>
</tr>
<tr>
<td>Spirituality and Religion</td>
<td>9</td>
</tr>
<tr>
<td>• Belief</td>
<td>(6)</td>
</tr>
<tr>
<td>• Behaviour</td>
<td>(3)</td>
</tr>
<tr>
<td>Financial Resources</td>
<td>3</td>
</tr>
<tr>
<td>Couple Activities</td>
<td>2</td>
</tr>
<tr>
<td>Hope</td>
<td>2</td>
</tr>
</tbody>
</table>
5.2.2.1 Social Support

Participants’ answers to the open-ended question indicated that sources of social support (36) were a primary resource that helped families adjust and adapt to life living with a child diagnosed with AD/HD. Research participants also indicated a variety of people that provided support (e.g., grandparents, extended family members, friends, health practitioners, psychologists, school teachers and support groups). The types of social support identified were further divided into two sub themes, namely emotional support (33) and informational support (28). Emotional support refers to the availability of a person with whom one can discuss problems, share feelings and disclose worries when necessary. Informational support is associated with the support provided by health practitioners and includes helping behaviours such as advice, guidance, information about community resources and offering time and skills. Examples of statements were:

- “Patience and emotional support from grandparents” (i.e., emotional support).
- “Grandparents listen to complaints and dramas and help with the care of the children” (i.e., emotional support).
- “Support from friends and extended family members” (i.e., social support).
- “We have a few close friends that are always willing to help and on whom we can depend” (i.e., social support).
- “Information and advice from Dr’s and the recommendations of therapists have really helped our family” (i.e., informational support)
- “Attending support group meetings and talking to other parents with AD/HD children” (i.e., informational support).

Social support is one of the general resiliency factors identified by McCubbin et al. (1997). Social support (BBB) is important to the family since this resource can help the family give meaning to the crisis situation, develop coping strategies, and foster the family’s ability to change (McCubbin et al., 1997). In terms of families that live with a child diagnosed with AD/HD, the literature reflects the importance of the family consulting with informational support systems in particular, such as helping professionals, the educational system as well as support groups in effectively managing the disorder within the family context (Chronis et al., 2006; Pelham et al., 1998). Furthermore, other studies have also indicated that extended family contact and affiliation is a vital source of emotional support for families with AD/HD children (Barkley, 1998). These conclusions are supported by the results of the present study. Social support identified as an important resiliency factor was confirmed by the results of the quantitative analysis of this study as measured by the Social Support Index, the Relative and Friend Support Index as well as the F-COPES (social support and mobilization subscales).
5.2.2.1.2 Adherence to a Treatment Regimen

Adherence to a treatment regime of the child diagnosed with AD/HD was also highlighted as a primary and important adaptive factor for the families in this research study (29). Examples included:

- “Medication has helped a lot!”
- “There has been some improvement in behaviour since our child started taking the medication”.
- “Ritalin has definitely helped to improve his attention and concentration abilities in the school context”.
- “Adhering to the treatment prescribed by the pediatrician”.

Adherence to a treatment regimen as an important variable for adjustment and adaptation is supported by the literature provided on AD/HD. The widespread use and efficacy of stimulant medication in treating AD/HD and managing the disorder’s negative effects are overwhelming (Olfson, Gameroff, Marcus & Jensen, 2003). The use of medication in treating the symptoms of AD/HD has been shown to decrease negative social behaviours, inappropriate peer interactions and negative parent-child interactions (Barkley, 2006). Previous research found that the use of medication increases compliance and improves the quality of interaction between AD/HD children and their parents, teachers and peers (Barkley, 1990). However, the literature further suggests that AD/HD is often associated with a host of family problems and although adhering to a treatment regimen is important and necessary, it is however unlikely that this alone will address the multiple mental health needs and pervasive impairment common in these families (Chronis et al., 2003).

5.2.2.1.3 Information and Knowledge

The next theme that research participants identified as an important variable was the obtaining of information and knowledge related to AD/HD (26). This information was obtained from a variety of sources. Examples of statements were:

- “Obtaining the most recent information and developments in the field of AD/HD, trying to develop an understanding of the disorder”.
- “Learning more about AD/HD to help me better understand my child’s needs”.
- “Having learnt more about the disorder, as well as consulting with helping professionals and support groups has helped me to understand this better and has made me realize that this condition is manageable”.

Research conducted by Heiman (in Bester, 2006) supports the finding of this study which identified the importance of informational support services used by parents. The use of these services contribute to the family’s resilience and consequently aids their adjustment and adaptation to the
special needs of the AD/HD child within the family unit. This finding appears consistent with the literature on resilience which indicates that in the context of family crisis situations where the family’s patterns of functioning may need to change and the family seeks to change their social, psychosocial and economic situations, getting the information and facts is vital to the family’s adaptation processes (McCubbin et al., 1997). Crisis situations demand relevant and truthful information from those social, medical and political agencies and programs that inform and guide families in these difficult times and circumstances. McCubbin et al. (1997) identified truthfulness as a general resilience factor and stated that obtaining truthful information appeared to be vital to the family’s adaptation processes, especially where the family is compelled to change patterns of functioning as well as social, psychosocial and economic situations as is evident in families with AD/HD children. Truthful and accurate information is not only important in the family system, but also to medical, social and psychological intervention programmes that inform and support families in these challenging times (DeCoster, 2001; Lo, 1999).

5.2.2.1.4 Supportive Family Unit

The next theme that research participants identified was that a supportive family unit (including spouse and children) was important to the family’s adaptation (22). Examples of statements included:

- “We are committed to each other in this family and believe that we can manage anything if we stand together and there is a sense of co-operation”.
- “We respect each others feelings and opinions”.
- “Close relationships between family members”.
- “Affection and love for each other is a definite strength”.
- “We enlist each other’s support and co-operation in dealing with the difficulties that we face”.

The resilience literature is replete with evidence that a stable, caring relationship with a parent or other adult is characteristic of children who demonstrate the ability to cope and sometimes thrive in the face of adversity (Silberberg, 2001; Rutter, 1987). The literature suggests that within the family, conditions that may challenge the caregivers’ abilities to provide nurturance and emotional closeness include stress and exhaustion related to overwork, worry about family problems and other mental illnesses (McCubbin et al., 2001). Warm, caring and supportive relationships between family members has been identified as a crucial resilience factor in helping families to adjust and adapt when faced with a crisis and furthermore, enhancements of parent-child bonds are more likely to be associated with increased child competencies (Tebes et al., 2001). The whole family’s involvement is important, since the family unit needs to adjust and adapt to the crisis (McCubbin et al., 2001). When parents support each other, it could create a more secure and nurturing family environment for the child, which is associated with good outcomes in the child’s adaptation to the AD/HD diagnosis.
5.2.2.1.5 Family Time and Routines

Another theme that research participants identified as an important variable was family time and routines (22). The responses to the open-ended question indicated that families considered family time and routines important in establishing a sense of stability and predictability in the family unit. Furthermore, research participants indicated that partaking in fun activities and engaging in an active lifestyle were considered as strengths in unifying their family and in helping them adjust and adapt. Examples of statements were:

- “We make use of a structured routine at home, specific times for homework, play, meals and bedtime”.
- “Even though life feels chaotic at times, we try our best not to forget the little things that count, the bedtime stories, the tucking in at bed time and our prayers together as a family”.
- “An active lifestyle and doing fun activities together such as horse riding, quad-biking etc.”.
- “Actively involved in outdoor activities as a family such as playing sports and camping as well as playing games that strengthens our family bond”.
- “It has helped us to find a balance between managing the structure and routine which is an important part of this disorder and just spending fun, quality time together as a family”.

The literature on resilience suggests that the specific activities and routines that a family engages in offer relatively reliable indices of family integration and stability, which contribute to family resiliency (McCubbin, Thompson and McCubbin, 2001). In times of crisis, family routines and time together can help the family create a sense of predictability (McCubbin et al., 1997). Further research on resilience indicates that family time and routines may have a direct influence on the well-being of the family unit and its members. Families who invest in activities that promote togetherness among family members appear to be beneficiaries or developers of other family strengths such as coherence, bonding, flexibility and hardiness (McCubbin et al., 2001). While resilience literature reiterates the importance of family time and routines, literature on families living with a child diagnosed with AD/HD highlights the challenges related to the effective management of AD/HD that lead to changes in the day-to-day life of all family members (Coleman, 2002). The families need to implement changes in their routines to adjust and adapt to the daily medical, behavioural and to some extent, the educational needs of the AD/HD child (Bester, 2006). In order to adjust and adapt, the family consequently needs to adopt new routines and rituals to incorporate the special requirements of the disorder and integrate these with the old routines and rituals of the family. The results of the qualitative analyses identifying family time and routines and an important resilience factor in helping the family adjust and adapt to crises appears to be consistent with the quantitative findings of this study.
5.2.2.1.6 The Caregiver’s Acceptance of the Disorder

Participants’ answers to the open-ended question indicated that within the boundaries of the immediate family, the parents’ acceptance of the disorder was found to be an important variable that helped families adjust and adapt (19). As part of this acceptance, research participants indicated factors such as accepting that every child is unique and will ultimately have different needs within the family unit. Furthermore, this acceptance reportedly enabled family members to be more positive in caring for the AD/HD child. Examples of participants’ statements included:

- “Acceptance of the diagnosis”.
- “Accepting the diagnosis and acknowledging that each child is unique and has different needs”.
- “Accepting the diagnosis, being realistic in our expectations and remaining positive about the future”.
- “Now that he has been diagnosed we understand that there is a reason for his behaviour and we try to discipline accordingly”.

This finding is consistent with recent research focusing on the strengths in a family caring for a child with special needs which concluded that despite the caregiver’s initial perception of a personal tragedy, the caregivers expressed an optimistic outlook and a realistic view and acceptance of the disability (Bester, 2006). Resilience literature highlights the importance of family members showing each other respect, appreciation, and understanding the individuality and uniqueness of each person within the family unit (Silberberg, 2001). This finding is supportive of the literature which suggests that acceptance is a strength when family members acknowledge, value and tolerate each other’s differences, and when the members allow each other space (Silberberg, 2001). Furthermore, McCubbin et al. (2001) indicated that the family’s paradigms which give meaning to the problem and which shape the family’s development and functioning, interact with the family’s paradigm for providing care and treatment. Thus acceptance and incorporation of the affected member is an underlying goal of the family's efforts to cope with the situation (McCubbin et al., 2001).

5.2.2.1.7 Communication

Research participants also viewed open and honest communication as a strength factor that they employed to solve problems (17). Communication is a strength when the family interacts with each other frequently and predominantly in an open, positive and honest manner (Silberberg, 2001). Some families (2) also mentioned humour as a strength in their communication. Examples of statements included:

- “Communication is key in helping us work through challenges”.
• “Good communication, talking things through with each other”.
• “Regular discussions as a family, especially when establishing new rules”.
• “Honest and open communication helps us resolve problems”.
• “A good sense of humour and to know that my children do not do things on purpose”.
• “A sense of humour helps bring the fun back into our relationships with our children”.

The type of communication described by these research participants is affirming communication which is identified as an important variable within the Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin et al., 2001). It is also a general resiliency factor that was identified by McCubbin, McCubbin, Han and Allen (1997) and was reflected in the results of the quantitative analysis of this study.

5.2.2.1.8 Behavioural Interventions

Implementation of behavioral interventions in the home and school environments was another strength factor identified by the caregivers in this research study (11). Examples of statements included:

• “Using the techniques suggested by the Psychologist has helped with behavioural difficulties”.
• “Consulting with my child’s teacher on a regular basis and implementing cognitive techniques advised by the therapist that aids my child’s learning at school and has alleviated some of our concerns”.
• “We have implemented a behaviour program which has helped to create some structure and routine at home”.
• “A structured home environment and routine of daily tasks is very important”.

The review of literature on AD/HD indicates that the use of medication together with the implementation of behavioural programs is the principal treatment for AD/HD (Chronis, Jones & Raggi, 2006). Multifaceted programs utilizing medication and behaviour change agents such as parents, teachers and peers are seen as imperative to creating meaningful behaviour change and consequently aiding the family’s adjustment and adaptation processes (Chronis, Jones, Raggi, 2006). Furthermore, the AD/HD literature suggests that in dealing effectively with AD/HD the parents, especially the mother becomes the AD/HD expert and acts as the child’s advocate and liaison with the school, health care system and community (Kendall, Hatton, Beckett & Leo, 2003). Research appears to indicate that optimal change occurs through the use of medication and cognitive behavioural interventions (Hinshaw et al., 2000). Research, specifically focusing on children with special needs has highlighted the need for effective intervention programs in helping the family adjust and adapt (Bester, 2006).
5.2.2.1.9 **Parental Mutuality**

Parental mutuality was another strength factor identified by caregivers (11). Examples of statements included:

- “….if we stand together and there is a sense of co-operation”.
- “We enlist each others support and co-operation in facing the difficulties that we face”.
- “Presenting a united front with my wife in dealing with challenges in our family”.
- “Support from my wife and the fact that she is a patient and understanding mother”.
- “The help, comfort and support of my husband”.
- “Working together as parents, sharing the responsibilities”.

This finding contradicts the prevalent literature documenting the difficulties of parenting a child with AD/HD which highlights the negative effects of AD/HD on family life (Hankin, 2002; Johnston, 1996). Research has documented that fathers reported enormous strain of the marital relationship in dealing with a developmental disability like AD/HD in the family (Kendall, Hatton, Beckett & Leo, 2003) and that mothers carry primary responsibility for the exceedingly difficult work of caring for the AD/HD child (Kendall, Hatton, Beckett & Leo, 2003). The finding of this study contradicts the literature on AD/HD as this study indicates that if parental mutuality exists, the burden of care is lifted from the mother and shared between the parents of the child. When caregivers support each other, it creates a more secure and nurturing family environment for the child which is associated with good outcomes for adjustment and adaptation.

5.2.2.1.10 **Spirituality and Religion (Belief and Behaviour)**

Research participants indicated that spirituality and/or religion were strength factors that contributed to adaptation (9). Spirituality in this instance is used as an umbrella term which encompasses religion. The participants’ answers in some cases made specific reference to aspects of religion which were separated into two categories, religious belief (6) and religious behaviour (3).

- “Trusting in God to give us the strength as parents to deal with this challenge” (i.e., religious belief).
- “Belief and faith in God that we can cope with this condition” (i.e., religious belief).
- “Attending church and related activities provides us with the strength and support our family needs” (i.e., religious behaviour).

The researcher was unable to find any religious or spiritual information specifically related to the adjustment and adaptation of families living with a child with AD/HD and the role of this variable in the adaptation process. However, this finding is consistent with the literature provided on resilience which indicates that when catastrophic life events occur, families face the reality that their crisis situation
cannot be explained by reasoning and logic alone (McCubbin & McCubbin, 1986; McCubbin, Dahl & Hunter, 1975). Families might struggle to find meaning when a young child is diagnosed with a mental illness and could search for meaning through their spiritual beliefs and practices (Walsh, 2003).

5.2.2.1.11 Financial Resources

Research participants indicated the importance of financial resources as a strength in helping them to adjust to the disorder (3). Financial stability is a resistance resource (B) that facilitates adjustment according to the Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin et al., 2001). Examples of statements were:

- “Having adequate financial resources to provide for my child’s needs has provided some comfort”.
- “Medical aid is a definite requirement assisting us in managing the disorder. Without it, this would have been an added strain on our family”.
- “We are struggling financially and I feel that this has added to the tension in the house”.

The literature on AD/HD suggested that the majority of fathers described the huge financial commitment involved in addressing their AD/HD child’s needs (Kilcarr, 2007). The need for special services, possibly a special school, counseling, medication and evaluations has the potential of creating a great financial drain on family resources (Kilcarr, 2007). The finding in the present study supports the view that adequate financial resources assist the families’ adjustment and adaptation processes.

5.2.2.1.12 Couple Activities

Two participants identified the importance of the couple spending time together separate from the family unit as a strength in fostering adaptation. These responses are recorded below:

- “To alleviate tension and stress, my husband and I set time aside at least once a week to do something together that we enjoy, like watching a movie”.
- “After the kids go to bed, we make sure that we still make time for each other”.

5.2.2.1.13 Hope

The last variable mentioned as a strength factor of the family was hope (2). The statements were:

- “We hope that in time things will get better as we follow the recommendations of helping professionals”.
- “We address problems with energy and enthusiasm and have a hopeful attitude regarding the future”.

Hope, which refers to wishes or desires that the family feel confident will be fulfilled, is a vital resilience factor in the process of adaptation (McCubbin et al., 1997). Hope is a future-orientated belief that enables the family to see beyond their problem-saturated present. It fuels energy and efforts to rise above adversity. The following section provides a summary of the qualitative results of the present study.

5.2.2.2 Summary of Qualitative Results

The results of the qualitative analysis supported and enriched the quantitative data obtained from the biographical questionnaire and the seven structured questionnaires. The qualitative results also contributed significantly towards assisting the researcher in identifying, exploring and describing those resilience factors which aided the families’ adjustment and adaptation process by means of analyzing and interpreting the information provided by the research participants through the open ended question on the biographical questionnaire. This information is particularly important and significant as it highlights the views and opinions of the family regarding those factors that helped them adjust and adapt. Through the content analysis, 13 themes were identified. The resilience factors that were identified by the research participants reflected those that were related to individual family members, the family as a whole, as well as the community. This is consistent with the findings of Cohler (1987) that linked the emergence of resilience to three interrelated domains namely, the individual, the family and the larger community context (Cohler, 1987).

The themes that were identified through the open ended question indicated that the most important resilience factors included social support, adherence to a treatment regimen, information and knowledge, a supportive family unit (working together as a team), family time and routines, the caregiver’s acceptance of the disorder as well as communication which included the family’s ability to integrate humour in their communicative styles. Other themes that emerged were: behavioural interventions, parental mutuality, spirituality and religion, financial resources, couple activities as well as hope. As the results of the quantitative and qualitative analyses have been presented, the following section provides an integration of the results.

5.3 Integrating Qualitative and Quantitative Results

The value of the open-ended question was that it allowed the researcher to enrich the quantitative data provided through the biographical questionnaire and the seven structured questionnaires. As the results of the quantitative and qualitative data have been presented, two clear observations were made. Firstly, the quantitative data was supported by the verbatim responses of the qualitative data (e.g., support, communication and family time and routines). Secondly, there were themes that emerged in the qualitative data that were not identified by the structured questionnaires as a
significant variable of resilience, despite measures tapping into this theme (e.g., spirituality). Thirdly, the qualitative data also reflected themes specifically related to living with an AD/HD child which was not necessarily tapped by the quantitative measures (e.g., adherence to a treatment regimen and behavioural interventions). In summary, the qualitative data in this study served to support the quantitative data and also provided new themes. The next section provides a conclusion to the chapter.

5.4 Conclusion

The results of this study in relation to the aim of the study were discussed in this chapter. Both quantitative and qualitative methods of analysis were employed, since they suited the aim of the study and provided more description information. The sample size of this study was small and therefore the results of the quantitative measures have to be interpreted with caution. The qualitative information was valuable in that it enriched the data and provided possible future research questions. While the data that emerged from the quantitative and qualitative data analyses supported each other, themes specifically related to living with a child with AD/HD emerged that were not tapped into through the questionnaires. Where possible, the results were linked to literature that was cited in the chapters on resilience and AD/HD. In addition to this, results were applied to the Resiliency Model of Family Stress, Adjustment and Adaptation, which was the conceptual model utilized for the purpose of this study. Now that the results of the study have been outlined, conclusions can be made. The conclusions are based on the results of this study, and the value of the research, the limitations of the study as well as the recommendations for future research are outlined in Chapter Six.
CHAPTER SIX

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

6.1 Introduction

The results of the current study were presented and discussed in Chapter Five. Chapter Six provides conclusions that could be drawn from these findings. This chapter begins with a summary of the main findings of the study, followed by the contributions as well as the limitations of the study. The chapter concludes with recommendations for future research endeavours.

6.2 Conclusions of the Study

In drawing conclusions based on the results of the study, the discussion will be structured according to the aim of the study. The aim of the study as well as the results pertaining to this aim, will be discussed. The aim of this study was to explore and describe how aspects of family resilience are associated with the adjustment and adaptation of a family living with a child diagnosed with Attention Deficit/Hyperactivity Disorder (AD/HD).

According to the Resiliency Model of Family Stress, Adjustment and Adaptation which was used as the theoretical framework in this study (McCubbin & McCubbin, 2001), families are able to bounce back from adversity (i.e., resilience). In this study all six questionnaires that were used to measure resiliency factors that helped families adjust and adapt to a crisis namely, the Relative and Friend Support Index, the Social Support Index, the Family Crisis-Oriented Personal Evaluation Scales, the Family Hardiness Index, the Family Time and Routine Index as well as the Family Problem Solving and Communication Index indicated positive correlations with the FACI8 (which represented the variable, adaptation). The results of the measures suggested that families are able to adjust and adapt after their child had been diagnosed with AD/HD. In the process of adjustment and adaptation the family utilizes a range of resilience factors that contribute to their bonadaptation.

The results from the structured questionnaires indicated that the most important resilience factors that facilitated family adjustment and adaptation in this study included the support and utilization of members of the immediate family, extended family and family friends; family integration into the community and experiencing the community as a source of support; the family’s ability to acquire the social support needed; passive appraisal which refers to the family’s ability to accept problematic issues minimizing reactivity; the ability of the family to seek out and make use of relevant community resources; the family’s sense of control over the outcomes of life by having an active orientation in adjusting to and managing stressful situations; the family’s level of commitment and ability to be innovative and motivated to experience new things; activities and routines that help the family in spending time together creating a sense of togetherness; and family communication that conveys care
and support (i.e., affirming) as well as less incendiary communication that tends to exacerbate stressful situations.

The results of the qualitative analysis supported and enriched the quantitative data obtained from the biographical questionnaire and the seven structured questionnaires. The qualitative results also contributed significantly towards assisting the researcher in identifying, exploring and describing those resilience factors which aided the families’ adjustment and adaptation process by means of analyzing and interpreting the information provided by the research participants through the open ended question on the biographical questionnaire. This information is particularly important and significant as it highlights the views and opinions of the family regarding those factors that helped them adjust and adapt. Through the content analysis, 13 themes were identified. The resilience factors that were identified by the research participants reflected those that were related to individual family members, the family as a whole, as well as the community. This is consistent with the findings of Cohler (1987) that linked the emergence of resilience to three interrelated domains namely, the individual, the family and the larger community context (Cohler, 1987).

The themes that were identified through the open ended question indicated that the most important resilience factors included social support, adherence to a treatment regimen, information and knowledge, a supportive family unit (working together as a team), family time and routines, the caregiver’s acceptance of the disorder as well as communication which included the family’s ability to integrate humour in their communicative styles. Other themes that emerged were: behavioural interventions, parental mutuality, spirituality and religion, financial resources, couple activities as well as hope.

Both the quantitative and qualitative results obtained in this study confirmed the significance and importance of social support (which included emotional, informational and community supports) as one of the most important variables in assisting the family to adjust and adapt to living with a child diagnosed with AD/HD within their family system. Another theme that emerged as important and that was supported by both quantitative and qualitative data was the family’s hardiness, indicative of a supportive family unit. Research participants reported that they were committed to their family unit and that they could face any difficulty if they stood together and fostered a sense of co-operation. Furthermore, communication was another important resilience variable that was supported by both the quantitative and qualitative data. Families viewed communication as a key tool through which their families created a shared sense of meaning, helped them develop and orchestrate coping strategies and also facilitated the maintenance of harmony and balance within the family system. Another common theme identified by both the quantitative and qualitative analyses was family time and routines as an important resilience factor. Families in this study indicated that in times of crises, family routines and time together helped the family create a sense of predictability and promoted togetherness among family members.
Furthermore, there were themes that emerged in the qualitative data such as spirituality and religion that were not identified by the structured questionnaires as a significant variable of resilience despite measures tapping into this theme. The qualitative data also reflected on themes specifically related to living with a child diagnosed with AD/HD such as adherence to a treatment regimen and behavioural interventions which were not necessarily tapped into by the quantitative measures. In summary, the qualitative data in this study served to support the quantitative data and also provided new themes. Now that the conclusions based on the results of the study have been discussed, it is important to discuss the value of the research.

6.3 Value of the Research

There have been numerous studies in South Africa focusing on the treatment and management of children with AD/HD, and the stress and coping strategies of the parents in these families, but there has been limited research to date on the resilience of families living with a child diagnosed with AD/HD. The deficit model in longitudinal studies that highlight the stressors and concerns of parents with a child diagnosed with this disorder is well established. Consequently, it is both important and necessary to explore and gain an understanding of how these families are able to adjust and adapt when faced with a crisis.

In recent times, the human sciences have experienced a noticeable paradigm shift from pathogenesis to salutogenesis; a shift to a perspective of strength emphasizing health, rather than illness (Antonovsky, 1987). When this approach is applied to a family system, it encourages the perception of a family as challenged rather than damaged, and as successful as opposed to deficient (Hawley & De Haan, 1996; Walsh, 1996). The current study contributed to the body of research within the salutogenic paradigm, which focused specifically on the family’s strengths as opposed to their weaknesses. The value of a proactive, health focused orientation should not be underestimated in a developing country such as South Africa, where resources are limited (Aspeling & Greeff, 2004). At a time when there is some concern for the demise of the family unit, it is becoming more important than ever to recognize existing strengths and to understand those processes which enable families to weather change and to rebound as a strengthened unit from life’s challenges. In South Africa, only limited research has been documented which specifically contributes to the understanding of the resiliency process in families, or which identifies those resiliency factors that play an essential recovery role in families faced with stress. The present study therefore aimed to recognize the potential for health and resilience in families thus contributing to the growing body of research on family resilience in the South African context. By using resilience related concepts such as ‘adjusting’ and ‘adapting’, ‘protective and recovery factors’, the reparative potential of the family was highlighted rather than viewing the family system as dysfunctional or damaged.
In addition to this, the current study is the first South African study exploring the adjustment and adaptation processes of families living with a child diagnosed with Attention Deficit/Hyperactivity Disorder and therefore also contributed to the field of health psychology research. Other studies have explored family resilience in the face of crises such as families in which a parent accepted a voluntary retrenchment package (Der Kinderen & Greeff, 2003), families in which a parent has died (Greeff & Human, 2004), divorced families (Greeff & Van der Merwe, 2004), poor single parent families (Solomons & Greeff, 2001) as well as family resilience in response to extra-familial child sexual abuse (Redinger, 2005). Research undertaken at the Nelson Mandela Metropolitan University focused on families with a Type 1 diabetic child (Coetzee, Brown-Baatjies, & Fouche, 2006); Hanekom and Brown-Baatjies (2006) investigated families with autistic children; Haddad, Brown-Baatjies and Howcroft (2007) examined families where a member had been diagnosed with Schizophrenia; and Robinson and Brown-Baatjies (2006) examined step-families. The present study has therefore contributed to the growing body of research literature on resilience in families and served to recognize the potential for health and resilience in families, specifically in those families living with a child diagnosed with AD/HD.

The value of the study to research participants was that it encouraged further understanding of how to cope with the family’s day-to-day life (parents and children) through understanding what resiliency areas could be improved upon. This in effect would allow for better management of the child’s disorder and would in turn facilitate healthier relations, if need be. The results of the study demonstrated that it would be advantageous to enhance those resiliency factors within the family system that may contribute to the parents’ competencies, for the benefit and welfare of their children, as well as for their own well-being and that of their families. As resilience factors are continuously identified by the studies completed in this field, these resiliency factors can be used to inform intervention programmes that support vulnerable families.

The study also contributed to the Clinical Health Psychology discipline by viewing AD/HD as a manageable condition that the family can adjust and adapt to. The literature on AD/HD focuses predominately on the stress and coping strategies of families living with a child with AD/HD and consequently neglects to identify and acknowledge those resiliency factors that aid families to remain healthy and functional despite adverse circumstances. By exploring the resilience factors related to families living with a child with AD/HD, the capacity for families to master adversity was highlighted and the researcher hopes to have contributed by affirming these families’ effective functioning, which in turn could aid and reinforce their resilience. The variables that were identified through this study are valuable in that they could be used as a map to guide prevention and intervention efforts (Walsh, 2002). While this study is valuable to research within a variety of paradigms in psychology, there are also limitations to this study that have to be mentioned. A discussion of these limitations follows.
6.4 Limitations of the Study

This study had many limitations related to the methodology, the measuring instruments and the sample used in this study which should be highlighted. A limitation related to the methodology of the study is the exploratory nature of the study. This type of research implies studying a new and unstudied area of interest in hope of formulating research questions (Neuman, 2003). The concept of family resilience in the South African context has only recently begun to flourish among researchers. However, there were limited South African studies completed in this field which were accessible from which to draw information. Furthermore, the researcher could not find any research done exploring the resiliency factors of families living with an AD/HD child both locally or internationally. As mentioned previously, the predominant literature on AD/HD focused on the management of the disorder as well as the stress and coping strategies of these families with little information regarding the strengths within these family systems. This meant that the researcher referred to many international resources related to the field of family resilience as well as literature on AD/HD. Another limitation of this study was that non-probability purposive sampling was employed. Although the primary advantage of this sampling technique was that it is convenient for the researcher, the results of the study are not representative of the general population of families living with a child with Attention Deficit/ Hyperactivity Disorder. Furthermore, as a large proportion of the sample was obtained from support groups (17 out of the 22 participants), this could have directly impacted on and influenced the results of the study.

Another reason why the findings cannot be generalized is related to the size of the sample. The researcher sent out 51 sets of questionnaires to families who met the inclusion criteria of the study. Despite active attempts by the researcher to increase the response rate of the study, the response rate was below that which was expected as only 26 sets of questionnaires were returned of which 22 met the inclusion criteria of the study. The greatest problem is that the low response rate typically suggests response bias (Shaughnessy et al., 2000). This has serious implications as the people who did not respond might represent a qualitatively different group from those who did respond (Salkind, 2003). This study’s sample presented only a small sector of the diverse population of families living with a child diagnosed with AD/HD. The implications of this, is that the findings based on those who did respond would be different than if the entire group had been considered. As a result, the external validity of the study is affected. Furthermore, the small sample size also contributed to the questionability of the result of the regression analysis as a minimum of 56 families were required to conduct regression analyses and this study only obtained a sample size of 22 participants.

Another limitation of the study was related to the measuring instruments used. There were several questionnaires used in this study which were self-report, structured paper and pencil questionnaires. The use of a self-report questionnaire allowed for the participants’ to remain anonymous. There are certain disadvantages to related to anonymity. Firstly, research participants have less incentive to
respond, some may not understand the questionnaires and the questionnaires may be interpreted differently by different individuals. As participation was voluntary, it is impossible to find out why some families did not respond and thus no information is available regarding the resilience variables in those families. Another possible limitation includes the possibility of response bias. The most common response patterns include acquiescence (the tendency to answer “true”), test-taking defensiveness, social desirability and the participant’s mood when completing the questionnaire. These response patterns are especially concerning when researching sensitive topics.

In order to counteract the low response rate and potential biases, a detailed covering letter accompanied the questionnaires explaining the nature and purpose of the research, the reason the participant was selected, an appeal for co-operation, an assurance of confidentiality and a contact number of the researcher should the participant not have understood any information provided. Furthermore the researcher also conducted regular follow-ups with the families with the aim of increasing the response rate. Despite these attempts, it is speculated that the low response rate could be related to a number of factors. There were several questionnaires that these families had to complete which was time consuming. Furthermore, it was requested that the questionnaires be returned via mail which could also have been viewed as time consuming by participants, even though a stamped, addressed envelope was provided. Another limitation pertaining to this matter is the fact that the researcher was not present while the questionnaires were completed. This could possibly have motivated research participants to complete the questionnaires in a shorter period of time and allowed them to ask questions related to the questionnaires. Furthermore, out of the 26 sets of questionnaires returned to the researcher, 4 sets of questionnaires had to be excluded from the study. Two sets of questionnaires were incomplete, 1 set was returned without completion and the other exceeded the two year time period.

Another limitation to the study could be that the majority of the families in this study (9 families) indicated an adjustment and adaptation period of 2 years. The family resilience literature suggests that adjustment and adaptation involves processes that occur over time (McCubbin, Thompson & McCubbin, 2001; Walsh, 2003). Lowes et al (2004) indicated that the adjustment and adaptation processes take approximately one year and therefore to include a family over the two year period may have skewed the results of the study. A limitation related to the Family Time and Routine Index (FTRI) is the nature of some of the questions. One of the inclusion criteria of the study was to include families living with a child with AD/HD between the ages of 7 and 12 years. The rationale for the age range preference was to homogenize the life cycle stage of the family. Some of the questions on the FTRI however tapped into activities that were related specifically to activities of adolescents and parents, which may not have been applicable to this sample thus impacting the results of this measure. Furthermore these measures have not been standardized for the South African population.
A study is currently underway at the University of Stellenbosch that is investigating the reliability, validity and relevance of these measures for the South African context (Brown-Baatjies, 2006).

Authors like Walsh (2002) have called for longitudinal family resilience research since resilience could be viewed as a process that occurs and changes over time. Although this type of research is recommended, conducting this type of research was not part of the aim of the present study. In line with the aim of the study, a single measurement of the families’ adjustment and adaptation was obtained and the measures were not re-administered. In terms of the analyses of the data, it is important to note that the low response rate had a significant impact of the significance of the results. In addition to this, no causal relationship could be deduced from the results of the study due to the correlational nature of the analyses, even though a relationship between some resilience factors and the family’s adaptation was established. Despite the various limitations of this study, recommendations for future research are offered. A discussion of these recommendations is presented below.

6.5 Recommendations

In light of the low response rate of this study, the following is suggested. Firstly, it is recommended that future researchers make use of a larger and more representative sample so that the results could be made more applicable to larger populations of families living with a child diagnosed with AD/HD. Most of the literature cited in this study originates from international sources. This supports the researcher’s recommendation for future research on families living with a child diagnosed with AD/HD in the South African context.

In order to manage the possibility of a low response rate, it is suggested that families be interviewed or the questionnaires be administered in person where possible. For example, when enlisting the support of schools, an evening could be arranged at the school where interested parents are given an opportunity to complete the questionnaires with the researcher present. This could eliminate any potential confusion or misunderstanding of the items of the questionnaires, it would decrease the time period for the return of questionnaires and it would increase the response rate dramatically. The same could be done at support group meetings. It is also recommended that the families be offered an incentive such as money for their time and co-operation.

Furthermore, as the majority of the participants in the sample were obtained through support groups, it would be interesting to investigate whether the same results were obtained if the study were replicated with a larger, more diverse sample. Another recommendation would be to involve the siblings of children living with AD/HD as research participants since they also have to adjust and adapt to life with the disorder and also face challenges within the family unit. It is also recommended that the male and female caregivers’ scores on the measures be compared to explore and identify differences in the resiliency factors utilized in these families. In light of the feedback received from
some of the research participants, it is recommended that fewer questionnaires be utilized in future studies.

Another recommendation for future research would be to include a longitudinal component. This is suggested since authors such as De Haan, Hawley & Deal (2002) have proposed that resilience is best observed over time. Walsh (2002) has also indicated that resilience is a process, rather than a single event. It is suggested that three measurements of resilience be obtained: (a) at the time of diagnosis, (b) six months after the diagnosis, and (c) 12 months after the diagnosis.

This study could be used as a stepping stone for research related to Clinical Health Psychology. It is suggested that more studies be conducted with a focus on resilience in families that live with pervasive developmental disorders. This could be valuable not only to the families, but also health practitioners that often treat a variety of conditions. This research could highlight possible differences or similarities in strength factors that families utilize in their attempt to adjust and adapt to developmental disorders.

6.6 Conclusion

This study aimed to explore and describe the resiliency factors that facilitated adjustment and adaptation in a family living with a child diagnosed with Attention Deficit/Hyperactivity Disorder. With this aim in mind, the researcher made use of the Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin & McCubbin, 2001) to provide a framework for the interpretation of the results. Results were obtained through a combination of quantitative and qualitative measures. Although it is important to acknowledge the limitations of this study, the contributions made by this study cannot be ignored. The resilience factors that were identified as well as the factors that could contribute to a family’s level of vulnerability offered important information regarding the sample under investigation. The study could also provide guidance for future research on the adjustment and adaptation processes of families living with a child diagnosed with a pervasive developmental disorder.
REFERENCES


*Health and Social Work, 26*(1), 26-37.


disorder with and without comorbid aggression. Development and Psychopathology, 7, 627-647.


Inventories for research and practice (pp. 1-62). Hawaii: Kamehameha Schools.


competence in children, 8(2), 49-74.


APPENDIX A:

COVERING LETTER TO RESEARCH PARTICIPANTS
Dear Mr. & Mrs.

In line with the requirements for a Master’s Degree in Clinical Psychology, it is necessary to complete a research treatise as part of my course work. The title of my treatise is, “Resilience in families living with a child diagnosed with Attention-Deficit/Hyperactivity Disorder”. The aim of my research is to explore and describe the factors that facilitate adjustment and adaptation in families after a member has been diagnosed with Attention-Deficit/ Hyperactivity Disorder. The benefit for you as a participant is to gain further understanding of how to cope with day-to-day life for you and your child, through understanding what ‘resiliency’ areas could be improved upon. This would allow for better management of your child’s disorder and facilitate healthier relations, if need be. To participate in the research, the following criteria should be met:

(a) participants must be part of a family unit where a child has been diagnosed with ADHD by either a paediatrician or psychologist for a minimum of six months and not longer than two years,
(b) the participants must live in the same residence as the dependent, and must be involved in caring for him/her,
(c) the child should be between 7-12 years of age,
(d) the child should be on medication for treatment of the ADHD symptoms as prescribed by a paediatrician,
(e) participants must have a Grade 10 proficiency level in English or Afrikaans in order to fully understand the questionnaires,
(f) participants must be over 18 years of age, and
(g) two members per family on which the child is dependant must participate.

If you decide to participate in this research, you will receive an envelope with a number on it. This number will appear on each questionnaire and will enable the researcher to keep track of the questionnaires to ensure that all your information remains together. In the envelope you will find a
consent form, a biographical questionnaire in addition to seven other brief questionnaires pertaining to your adjustment and adaptation as a member of a family where a child has been diagnosed with Attention-Deficit/Hyperactivity Disorder. The researcher will provide instructions for completing the questionnaires. The questionnaires will take approximately one hour to complete.

You will be asked to complete and sign a consent form and provide your surname and initials. However, your identity and that of your family will at all times be kept confidential, and only the researcher and clinic officer will have access to this information. Please indicate if you would like to receive general feedback by completing the relevant section in the biographical questionnaire. All responses to the questionnaires will be regarded as confidential. For this reason, you are requested to answer the questions as honestly as possible.

Once you have completed all the questionnaires, you will find a stamped, addressed envelope in the original envelope handed to you. You are requested to place these questionnaires in the stamped, addressed envelope provided and mail them to the researcher, or the researcher can be contacted to collect the forms if necessary. My contact number is as follows: 076 859 1882.

Your participation is valued and greatly appreciated.

Yours sincerely,

___________________     __________________
Tania Theron       Prof. Greg Howcroft
Researcher       Supervisor

____________________     ___________________
Ms Ottilia Brown-Baatjies     Prof. Mark Watson
Co-supervisor       Head of Department
APPENDIX B:

CONSENT FORM
### Title of the research project
Resilience in families living with a child diagnosed with Attention-Deficit/Hyperactivity Disorder

### Reference number

### Principal investigator
Ms Tania Theron

### Address
NMMU
Department of Psychology
PO Box 77000
6031

### Contact telephone number
076 859 1882

### A. DECLARATION BY OR ON BEHALF OF PARTICIPANT
(Person legally competent to give consent on behalf of the participant)

<table>
<thead>
<tr>
<th>A.1</th>
<th>I HEREBY CONFIRM AS FOLLOWS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I, the participant, was invited to participate in the above-mentioned research project that is being undertaken by Ms Tania Theron of the Department of Psychology in the Faculty of Health Sciences of the Nelson Mandela Metropolitan University.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Initial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The following aspects have been explained to me, the participant:

### 2. Aim:
The researcher is studying resilience in families who have a child diagnosed with Attention-Deficit/Hyperactivity Disorder. The information will be used to gain an understanding of the factors that contribute to the families' ability to overcome a diagnosis of Attention-Deficit/Hyperactivity Disorder.

### 2.2 Procedures:
I understand that I will be provided with questionnaires that will take approximately one hour to complete and will receive general feedback regarding the results of the study after its completion.

### 2.3 Risks:
Will not remain anonymous to researcher and supervisors.

### 2.4 Possible benefits:
As a result of my participation in this study, more insight can be gained into the factors that make families living with a child diagnosed with Attention-Deficit/Hyperactivity Disorder, resilient. This information can be used in intervention programmes to offer families information and support.

### 2.5 Confidentiality:
My identity will not be revealed in any discussion, description or scientific publications by the investigators.

### 2.6 Access to findings:
A copy of the research will be placed in the library of the Nelson Mandela Metropolitan University and feedback regarding the results and findings of the study will be provided to all participants in the form of generalized feedback.

### 2.7 Voluntary participation/refusal/discontinuation:

<table>
<thead>
<tr>
<th>My participation is voluntary</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>My decision whether or not to participate</td>
<td>TRUE</td>
<td>FALSE</td>
</tr>
</tbody>
</table>

My participation is voluntary and my decision whether or not to participate will in no way affect my present or future care/employment/lifestyle.

The information above was explained to me/the participant by

**Ms Tania Theron**

in **English** and **Afrikaans**

and I am in command of this language/it was satisfactorily translated to me by

I was given the opportunity to ask questions and all these questions were answered satisfactorily.

No pressure was exerted on me to consent to participation and I understand that I may withdraw at any stage without penalization.
A.2  I HEREBY VOLUNTARILY CONSENT TO PARTICIPATE IN THE ABOVE-MENTIONED PROJECT

Signed/confirmed at   on  20

Signature of witness

Full name of witness

B. STATEMENT BY OR ON BEHALF OF INVESTIGATOR(S)

I, Tania Theron declare that
- I have explained the information given in this document to
  (name of participant)
  and/or his/her representative
  (name of representative)
- he/she was encouraged and given ample time to ask me any questions;
- this conversation was conducted in
  English Afrikaans
- and no translator was used
- I have detached Section D and handed it to the participant

Signed/confirmed at   on  20

Signature of interviewer

Signature of witness

Full name of witness
C. DECLARATION BY TRANSLATOR

I,
I.D. number
Qualifications and/or
Current employment

confirm that I
- translated the contents of this document from English into Afrikaans
- also translated the questions posed by (name) as well as the answers given by the investigator/representative; and
- conveyed a factually correct version of what was related to me.

Signed/confirmed at on 20

I hereby declare that all information acquired by me for the purposes of this study will be kept confidential

Signature of witness
Signature or right thumb print of translator

Full name of witness

D. IMPORTANT MESSAGE TO PATIENT/REPRESENTATIVE OF PARTICIPANT

Dear participant/representative of the participant

Thank you for your/the participant’s participation in this study. Should, at any time during the study:

- an emergency arise as a result of the research, or
- you require any further information with regard to the study, or
- the following occur:

Your are unsure about how to complete the questionnaires.
You have lost your questionnaires.

(indicate any circumstances which should be reported to the investigator)

Kindly contact Tania Theron
at telephone number 076 859 1882

(it must be a number where help will be available on a 24 hour basis, if the research project warrants it)
APPENDIX C:

BIOGRAPHICAL QUESTIONNAIRE
BIOGRAPHICAL INFORMATION

All information in this questionnaire will be treated as strictly confidential and your information will be processed anonymously. Please cross the box most appropriate to you, or complete the statement in the space provided.

1. Area of residence…………………………………………………………(town or city or suburb)

2. Relationship of family member (diagnosed with Attention-Deficit/Hyperactivity Disorder) to you………………………………………………………………………………………………………………

3. Age of child diagnosed with Attention-Deficit/Hyperactivity Disorder

7 years | 8 years | 9 years | 10 years | 11 years | 12 years

4. Number of years that the child has been diagnosed with Attention –Deficit Hyperactivity Disorder?

6-11 months | 1 year | 2 years

5. Is the child currently on medication for the treatment and management of the Attention-Deficit/Hyperactive symptoms, and if so, please specify the medication.

........................................................................................................

6. Is there anyone else who lives permanently with you in your home?

No ☐

Yes ☐ Please give details ........................................................................................................

7. What is your home language?  English ☐ Afrikaans ☐

8. Education

What is the highest level of education attained by yourself?

High School ☐ Diploma ☐ Degree ☐ Other ☐
In what Grade is the child diagnosed with Attention-Deficit/Hyperactivity Disorder?

Grade 1 □  Grade 2 □  Grade 3 □  Grade 4 □  Grade 5 □  Grade 6 □  Grade 7 □

9. Are you employed?  Yes □  No □
   If yes, please give job title…………………………………………………………………………………

10. In your own words, what are the most important factors, or strengths, which help your family in dealing with your child (diagnosed with ADHD) and his/her disorder?

........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
11. Would you like to receive general feedback regarding the results of this study? (The feedback will be in the form of a brief report about the general findings of the study).

YES ☐ NO ☐

If 'yes', please provide a mailing address (e.g., street address, post box address or e-mail address) in the space provided below.

........................................................................................................................................
........................................................................................................................................
........................................................................................................................................
........................................................................................................................................

Your co-operation and insight is greatly appreciated.
Thank You