THE SCHOOLING EXPERIENCE OF SIX ADOLESCENT BOYS WHO HAVE BEEN DIAGNOSED WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER (AD/HD)

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Abstract

This multiple, instrumental case study, explored the experience of schooling of six adolescent boys diagnosed with AD/HD. The study utilised social constructionism as the theoretical orientation for examining the participants' (boys, their mothers and their teachers) understandings of the boys' experiences of school. In addition, the study explored the participants' perspectives on the boys' experiences in relation to an explanatory theory of AD/HD, the Dynamic Developmental Theory (DDT), which accounts for both neuro-biological and cognitive bases. Data were collected by means of semi-structured individual and focus group interviews as well as a review of school reports across a two year period. Findings from the study indicated the importance of friendships for the boys as well as the need for teachers to be knowledgeable about AD/HD and teaching strategies that engage and support adolescent learners with AD/HD. The findings also suggested that psycho-stimulant medication in conjunction with an engaging classroom environment and skilled teaching helps adolescent boys with AD/HD to have a positive schooling experience. The study accounted for the perspectives of schooling not only from the boys but from their mothers and their teachers. The study also extended the DDT model of AD/HD to include adolescent behaviours within an educational context. It is expected the findings of the study will be published in educational and psychological journals to enable teachers, parents and other professionals working with children, to understand the learning, social-emotional and behavioural difficulties that are associated with children and adolescents with AD/HD.

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Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

QUT Verified Signature

Signature:

Date: 26 February 2014

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CHAPTER 1

Introduction

Across the past two decades, Australian schools have seen a significant increase in the number of students who have been diagnosed with Attention Deficit/Hyperactivity Disorder (AD/HD) (Kean, 2006; Prosser, Reid, Shute, & Atkinson, 2002). A recent study has suggested that approximately 3% to 5% of Australian children have received a diagnosis of AD/HD (Purdie, Hattie, & Carroll, 2002).

Of particular concern to parents and teachers are associated findings that children and adolescents with AD/HD and AD/HD related behaviours are likely to experience difficulties in establishing and maintaining positive peer relationships (APA, 2000; Biederman, 2005; Houghton, 2006; Kos, Richdale, & Hay, 2006) and are at a greater risk of academic failure (Frazier, Youngstrom, Glutting, & Watkins, 2007; Hoza, Pelham, Waschbusch, Kipp, & Sarno-Owens, 2001; Taylor, O'Donoghue, & Houghton, 2006).

To date, however, limited research has focussed on the social construction of AD/HD (Cooper, 2001) and the effect that attention and behaviour difficulties can have for the individual, the family and society. Chronic academic and social difficulties have the potential for long-term negative impact on the lives of these children and adolescents (Nyden, Myren, & Gillberg, 2008; Safren, Sprich, Cooper-Vince, Knouse, & Lerner, 2010).

Empirical research with regard to AD/HD has focussed on the functioning of children and adolescents primarily from the perspective of teachers and parents (Beckle, 2004; Sax & Kaultz, 2003; West, Taylor, Houghton, & Hudyma, 2005). As will be discussed in the review of literature (Chapter Two), few researchers have examined the experience of schooling of adolescents diagnosed with AD/HD, particularly from the perspective of the students themselves (Bartlett, Rowe, & Shattell, 2010; Exley, 2008; Hughes, 2007b; Kendall, Hatton,

Beckett, & Leo, 2003; Travell & Visser, 2006). The present study has been designed to contribute to the knowledge of AD/HD in the context of school by exploring the experience of schooling of adolescents who have been diagnosed with the disorder.

1.1 Attention Deficit/Hyperactivity Disorder

The behaviours currently associated with AD/HD have been noted for over a century (Barkley, 2006; Lawrence, 2008). However, it was not until 1968 that clinicians developed a diagnostic category to describe an apparent cluster of specific difficulties with attention and behaviour. In order to be diagnosed with AD/HD, a child must meet either the diagnostic criteria of the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed). (APA, 2013) or those of the *International Classification of Diseases* (The World Health Organisation Diagnostic System [ICD]) (WHO, 2010). The DSM-5defines AD/HD "as a persistent pattern of attention and/or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically observed in individuals at a comparable level of development" (p. 85). In contrast, the ICD-10 uses the term Hyperkinetic Disorder to describe a group of disorders characterised by, "early onset; a combination of overactive, poorly modulated behaviour with marked inattention and lack of persistent task involvement; and pervasiveness over situations and persistence over time of these behavioural characteristics" (WHO, 2010). For the purpose of this study, the DSM system will be utilised because it is used more widely by mental health professionals (Andrews, Slade & Peters, 1999).

Additional diagnostic criteria in the DSM-5 (APA, 2013) include a requirement for behavioural symptoms to have been observed across multiple settings (e.g., home and school), to have been present before the age of twelve and to have persisted for more than six months (APA, 2013). In addition, the behaviours need to be judged as maladaptive, significantly impairing the child's social, academic, or occupational functioning (APA,

2013). The DSM-V (APA, 2013) makes a distinction between three sub-types of AD/HD; namely, Attention Deficit/Hyperactivity Disorder-Predominantly Inattentive Type; Attention Deficit/Hyperactivity Disorder-Predominantly Hyperactive-Impulsive Type; and Attention Deficit/Hyperactivity Disorder-Combined Type.

Studies indicate that approximately 3 – 6% of children and adolescents are likely to receive a diagnosis of AD/HD in developed nations (Cooper, 2001), that boys are more commonly diagnosed with AD/HD than girls, (McHoul & Rapley, 2005; Tannock, 1998; Sagvolden, Aase, Zeiner, & Berger, 1998) and that younger children are more commonly diagnosed than their older peers (Skounti, Philalithis, & Galanakis, 2007).

Current research focuses primarily on bio-medical and psychological models of AD/HD (Cooper, 2001; Exley, 2008). The bio-medical model emphasises the importance of rebalancing and normalising behaviour by adjusting brain chemistry using psycho-stimulants (Exley, 2008). In contrast, the psychological model suggests that the behaviours associated with AD/HD are the result of factors beyond the child's control and proposes that the symptoms can be managed through the utilisation of programs and therapy to remove unwanted behaviours (Exley, 2008; Graham, 2008a). Both the bio-medical and psychological models of AD/HD attempt to explain its etiology, definition, diagnosis, treatment and management, but have failed in their attempt to date to explain why the prevalence of AD/HD has increased over the past twenty years (Exley, 2008).

Despite an extensive body of research focussing on AD/HD as a diagnosable disorder, there is growing recognition that AD/HD can also be regarded as a socially constructed phenomenon. Proponents of this view have suggested that the symptoms of AD/HD may refer to a set of behaviours that are not necessarily pathological (Deault, 2010; Hughes, 2007a; Sava, 2000; Visser & Jehan, 2009). Researchers and clinicians who have adopted a

social construct approach to AD/HD view the clusters of behaviours associated with AD/HD as part of the normal continuum of human behaviour, although the behaviours may indeed lie at the extreme end of currently prescribed social norms (Humphrey, 2009; Lee, Schachar, Chen, Ornstein, Barr, & Ickowicz, 2008; Sagvolden, Johansen, Aase, & Russell, 2005).

1.2 Attention Deficit/ Hyperactivity Disorder and the Context of Schooling

Students with attention and behavioural difficulties, who may also have been diagnosed with AD/HD, appear in the classroom with attention and behavioural difficulties because this setting typically requires them to focus, sustain attention and manage hyperactive-impulsive behaviours for considerable periods of time (Kos et al., 2006). To date, research examining the impact of AD/HD on children's education has focused primarily on the impact of the classroom environment (Kos et al., 2006), types of academic difficulties (Frazier et al., 2007; Houghton, 2006), as well as peer relationships, friendships and self-esteem (Biederman, 2005; Houghton, 2006; Piesecco, Wristers, Swank, Silva, & Baker, 2001; Tabassam & Grainger, 2002).

In contrast, fewer studies have focused on students' perspectives on their experience of schooling (Bartlett et al., 2010; Exley, 2008; Hughes, 2007b; Kendall et al., 2003; Travell & Visser, 2006). In order for students with attention and behavioural difficulties (and perhaps also a diagnosis of AD/HD) to function well, emotionally and socially at school, there needs to be a better understanding by teachers, parents and specialist clinicians of just how these adolescents experience their schooling.

1.3 Models of Attention Deficit/Hyperactivity Disorder

Although the behavioural manifestations of AD/HD have been described since the early 1900s (Barkley, 2006; Lawrence, 2008), the causes of this heterogeneous disorder are not clearly understood (Biederman, 2005; Sagvolden et al., 2005; Wåhlstedt, Thorell, &

Bohlin, 2009). At present, there appear to be three major theoretical orientations towards the exploration of AD/HD; namely, cognitive, neuro-biological and genetic (Tannock, 2008).

Cognitive research has suggested that a dysfunctional inhibition system, which leads to a deficit in executive functioning, is central to the behavioural processes or problems associated with AD/HD. Models include: (1) Inhibition as a Conditioning Deficit (Quay, 1977); (2) Inhibition as an Inefficient Inhibitory Control Process (Schachar, Tannock, & Logan, 1993); (3) Response Inhibition as the Primary Deficit (Barkley, 1997); (4) Inhibition as a Deviance Rather than a Deficit (Sonuga-Barke, 2005); and (5) Inhibition as a Dysfunction in Effort/Activation Systems (Sergeant, 2000).

The second area of neurobiological research and theorising, has suggested that cognitive deficits associated with AD/HD occur in the prefrontal cortex of the brain (Cooper, 2001). The role of neurotransmitters, dopamine and noradrenaline are considered to be particularly important in normal prefrontal functioning (Durston & Konrad, 2007). The third major area, genetic research, has indicated that AD/HD is more common in children from families in which relatives have been previously diagnosed with AD/HD (Biederman, Spencer, Wilens, Prince, & Faraone, 2006; Durston & Konrad, 2007; Hynd, Herm, Moeller, & Marshall, 1991).

The contribution of these three theoretical models to the current understanding of AD/HD is discussed in detail in the review of literature (Chapter Two). For the present, however, it is noted that a fourth model, the Dynamic Developmental theory (DDT) of AD/HD (Sagvolden et al., 2005) has been adopted for the present study. In essence, the DDT suggests that children with AD/HD have less time available to associate behaviours with consequences as a result of a hypo-functioning dopamine system. This narrower time-frame

restricts the stimuli controlling these behaviours thereby explaining the variation in behaviour seen in children and adolescents with AD/HD (Aase & Sagvolden, 2005).

Despite this focus on neurotransmission, the DDT can be described as a hybrid model in that it accounts for both neuro-biological and cognitive bases of AD/HD, supports the likelihood of a genetic predisposition to AD/HD, and predicts that socio-cultural factors such as family interaction, parenting styles and societal influences affect the expression of AD/HD related behaviours including inattention, hyperactivity and impulsivity (Sagvolden et al., 2005). The DDT also supports the use of medication and behavioural therapies as treatments for AD/HD and suggests that short-term effects and long-term outcomes can be both adaptive and positive (e.g., eager and creative) as well as maladaptive and negative (e.g., impulsive and adverse to delays). The DDT was chosen as the explanatory model for this study because the DDT is multi-dimensional and thus able to accommodate a social constructionism approach to AD/HD within a natural setting (e.g., school).

1.4 This Researcher's Story

For the past thirty years, this researcher has educated and provided pastoral care to children and adolescents enrolled in a number of secondary schools throughout Australia. Across the past decade in particular, this researcher has observed a steady increase in the number of students in her classroom who have been diagnosed with AD/HD. A review of the students' school files confirmed that many of the children and adolescents were taking prescribed psycho-stimulants such as Ritalin and Concerta.

In 2007, this researcher accepted the position of Head of Learning Support at an independent boys school (Prep to Year 12) in Brisbane, Australia. It was in this learning environment that the researcher was introduced, in her role as Head of Learning Support and

classroom teacher, to a number of boys who were diagnosed with AD/HD and who were taking prescribed psycho-stimulants to manage their difficulties.

The boys were typically described by teachers and parents as poorly organised, lacking concentration, performing poorly in academic tests and written assignments and failing most subjects. Although their behaviours varied from one day to another, the students were often observed to call out in class, were slow to attempt classroom activities, appeared disinterested in learning new tasks and they frequently fidgeted while they were seated. These actions translated into inappropriate and often disruptive behaviours in a classroom setting, which had a negative impact on their self-esteem, that is, their self-worth (Baron & Byrne, 3003) as well as their relationships with teachers and peers.

The behaviours exhibited by the boys were consistent with the diagnostic criteria for AD/HD (APA, 2013) as well as the behaviours observed by researchers who have studied the effect that AD/HD has on a young person's: (1) academic learning and achievement (Frazier et al., 2007; Houghton, 2006; Kos et al., 2006; Travell & Visser, 2006); (2) self-perception and self-esteem (APA, 2000; Piesecco et al., 2001; Tabassam & Grainger, 2002); and (3) and the ability to establish and maintain peer relationships (Biederman, 2005; Houghton, 2006; Kos et al., 2006).

This researcher's concern for the academic and socio-emotional welfare of these students caused her to undertake further graduate studies in order to gain a deeper understanding of the nature and experience of AD/HD. In particular, this researcher wanted to know more about: (1) what kinds of teaching and learning experiences seemed to best meet the academic and social-emotional needs of these students; and (2) what kinds of teaching and learning experiences seemed to inhibit the academic and social-emotional development of these students. Accordingly, the present study was designed to explore the experience of

schooling by six adolescent boys who had been diagnosed with AD/HD. An account of the boys' experience of school will be sought from the boys, their mothers, and their teachers.

1.5 Rationale for the Study

The present study was designed to explore the experience of schooling from the perspective of six adolescent boys diagnosed with AD/HD as well as their mothers and their teachers. To date, the majority of studies concerned with AD/HD among adolescents have utilised quantitative measures (e.g., surveys and questionnaires) and have focussed on the perspectives of others; namely, teachers and parents (Beckle, 2005; Glass & Wegar, 2000; Sax & Kaultz, 2003; West et al., 2005) and not on the perspectives of the adolescents themselves. As will be discussed in the review of literature (Chapter Two), few researchers have examined the experience of schooling of adolescents diagnosed with AD/HD, particularly from the perspective of the students (Bartlett et al., 2010; Exley, 2008; Hughes, 2007b; Kendall et al., 2003; Travell & Visser, 2006), their parents and their teachers. This researcher will address that gap.

1.6 Significance of the Study

The present study will make a significant contribution to the field by providing access to a rich account of the experience of schooling by adolescent boys who have been diagnosed with AD/HD. A particular strength of the study is that the account will include the perspectives of the students themselves, in addition to the perspectives and interpretations of the boys' mothers and their teachers.

Furthermore, this study will make a contribution to the field of education by providing insights into the DDT, the explanatory model of AD/HD to include school based evidence in regard to how adolescent boys function in a school setting from the perspective of the boys as well as from the perspective of their parents and their teachers. The DDT will be understood,

therefore, in a more practical way making it more accessible to professionals in the education sector.

It is expected that the findings of the study will be disseminated in a number of ways (e.g., workshops and professional publications), which will assist students, teachers, parents and other professionals (psychologists, child psychiatrists and paediatricians) to understand the needs of adolescents experiencing difficulties with attention and behaviour.

1.7 Summary of the Research Question

The primary question for this study is, "How do six adolescent boys who have a diagnosis of AD/HD, their primary carer and their teachers, describe the boy's experience of school?"

1.8 Theoretical Conceptual Framework and Methodology

Social constructionism was adopted as the epistemology for this study because such a philosophical approach facilitates an exploration of the participants' perspectives on the schooling experiences of the six boys who have been diagnosed with AD/HD. To explain, Gergen (1985) noted that social constructionism is concerned with "explicating the processes by which people come to describe, explain or otherwise account for the world (including themselves) in which they live" (p. 222).

Social constructionism assumes there is no meaning or truth waiting to be discovered because truth or meaning becomes known as a result of "humans engaging with the world they are interpreting" (Crotty, 1998, p. 43). Accordingly, this study focuses upon developing a rich account of the boys' experience of schooling from the perspectives of the boys themselves as well as from the perspectives of their mothers and teachers.

The theoretical conceptual framework underpinning the methodology for the study came from interpretivism. The central tenet of interpretivism is to understand and explain human experiences (Crotty, 1998), using naturalistic inquiry which emphasises qualitative methods of data analysis. The present study collected qualitative data by means of semi-structured, individual and group interviews. This research was influenced by phenomenography which studies the qualitative experiences of others focussing on the variation in ways of experiencing a phenomenon. The phenomenon in this study is AD/HD.

The DDT was chosen as the explanatory model for the study because it is a multidimensional model that can account for the social construction of AD/HD. Essentially, the DDT is based on the assumption that the characteristic behaviours of AD/HD result from an interaction between predisposition (hypofunctioning dopamine system) and environment; that is, societal style and family culture, which shape the behaviour of a child (Sagvolden et al., 2005).

1.9 Thesis Outline

This thesis is comprised of six chapters. The first chapter provides an introduction to the thesis by providing the background to the study, a brief overview of AD/HD as a diagnosable disorder and as a social construct, and has located the study within an interpretivist philosophy. This chapter also describes the basic tenets of cognitive, biological and genetic models that have been proposed to elucidate the phenomenon of AD/HD; provides the rationale for the study; describes the study; and provides a summary of the research questions upon which the study is based.

In Chapter Two, the literature that has informed the development of the present study will be reviewed. In particular, this chapter will provide an overview of AD/HD and the prevalence of AD/HD as a disorder; an overview of theoretical models that have been

proposed to account for AD/HD; and a discussion of the implications of AD/HD for parents, the children and adolescents themselves and for educators working in schools with students who have been diagnosed with the disorder.

In Chapter Three, the philosophical background for the study is outlined. Following this, the theoretical conceptual framework underpinning this study will be discussed, providing an outline for the chosen methodology, which includes interpretivism using a phenomenographical approach. Information concerning the research design, participants, data collection, procedures and data analyses will be presented.

In Chapter Four, the findings of the study will be considered. Using data collected from the six cases, each of which was comprised of a student, a parent and two teachers, the boys' experience of schooling from all three perspectives will be described. Data were analysed using NVivo software and through this process six themes emerged; namely, (1) Description of Schooling; (2) The Interplay between Teaching and Learning; (3) Self-esteem and AD/HD; (4) Medication and School; (5) Confusion about AD/HD; and (6) Language and Emotions. Using the six emergent themes and the explanatory model of AD/HD, the Dynamic Developmental theory of AD/HD (DDT), the perspectives of the participants especially the boys, were examined.

In Chapter Five, the cross-case findings are discussed in relation to three major factors that emerged from the six themes; namely, Friends, Learning Environment and Knowledge of AD/HD/Medication, previous research and current recommendations for educational practice.

In Chapter Six, the conclusion of the study, the strengths and limitations of the study are identified, as are the implications for future research and recommendations for educational practice. Finally, the contributions of the study are considered.

The thesis will conclude with the appendices, a glossary of terms and a reference list.

CHAPTER 2

Literature Review

2.1 Introduction

The last twenty five years have seen an increase in the number of prescriptions written by medical practitioners particularly paediatricians and psychiatrists for Australian school children and adolescents who have been diagnosed with Attention Deficit/Hyperactivity Disorder (AD/HD) (Berbatis, Sunderland, & Bulsara, 2000). AD/HD is an important phenomenon to study because of the increasing numbers of children and adolescents who have been diagnosed with this disorder and who are taking prescribed psycho-stimulant medication.

This chapter begins with an historical overview of AD/HD, followed by a review of the prevalence of AD/HD as a disorder from global, national and local perspectives. The classification and diagnosis of AD/HD will be discussed as will theoretical models that have been proposed to account for AD/HD as a disorder and as a social construction. The management of AD/HD including medication and psychosocial interventions will then be discussed along with an outline of education in Australia in relation to students with AD/HD. Finally, the schooling experience of students diagnosed with AD/HD from the perspective of their parents as well as studies that have examined the life experiences of children and young adults diagnosed with AD/HD will be discussed and linked to the need for this study.

2.2 History

The history of AD/HD as a construct began in 1902 with the publication of a series of three lectures by British paediatrician, Dr George Still. The lectures described a group of 43 children in his clinical practice whose impulsive and hyperactive behaviours were markedly different from that of other children (Barkley, 2006; Lawrence, 2008). The children described by Still would more than likely meet current criteria for a diagnosis of AD/HD (Barkley,

2006). The children displayed behaviours that affected their ability to sustain attention and regulate their behaviour.

By 1937, American paediatrician, Dr Charles Bradley, began prescribing Benzedrine (racemic amphetamine) on an experimental basis to children with an assortment of behaviour problems ranging from specific educational disabilities to epilepsy (Singh, 2008). The reported effects of this drug included a greater motivation to complete school work and a more docile and good–natured child in more than half of the cases (Singh, 2008).

In 1957, a new term, 'hyperkinetic disorder of childhood' was adopted to describe the group of children previously identified as having an 'emotional disturbance' or 'Minimal Brain Dysfunction' (MBD). This term became commonly used to describe children with a group of AD/HD-related behaviours (Tannock, 1998). By 1962, the term was widely utilised in the USA (Singh, 2008) and amphetamines were used to control components of the dysfunction. As the term 'Minimal Brain Dysfunction' lacked empirical support (Kean, 2006) it was replaced with Attention Deficit Disorder in the DSM-III (1980). The term was replaced with Attention Deficit Disorder (ADD) in a process summarised below.

Table 2.1 provides a summary of the development of AD/HD in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* from 1952 to its current format (APA, 2013). The DSM-5, the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed). (2013) is a manual that lists the (observable) behaviours that a specialist clinician (child psychiatrist and/or paediatrician) uses to ascertain whether a child's behaviour has deviated significantly from that of typically developing same age peers. A diagnosis of AD/HD represents 26% of all referrals in paediatric clinical settings in Australia (Hewson, Anderson, Dinning, Jenner, McKellar, & Weymouth, 1999).

Table 2.1
Summary of the development of AD/HD in the Diagnostic and Statistical Manual of Mental Disorders

Manual	Date	Diagnosis	Sub-types	Symptomology
DSM-I	1952	No reference to a disorder of hyperactivity		
DSM-II	1968	Hyperkinetic Reaction of Childhood		Short attention span, hyperactivity and restlessness.
DSM-III	1980	Attention Deficit Disorder (ADD)	ADD/H – With Hyperactivity	Primarily a disorder of hyperactivity
			ADD/WO without hyperactivity	Primarily a disorder of inattention rather than hyperactivity
DSM-III-R	1987	Undifferentiated Attention Deficit Disorder (UADD)	Uni-dimensional – without any sub-types	
DSM-IV	1994	Attention Deficit/Hyperactivity Disorder (AD/HD)	AD/HD-I AD/HD-H AD/HD-C	Primarily Inattentive Predominantly Hyperactive/Impulsive Combined - Inattentive and Impulsive/Hyperactive
DSM-IV-TR	2000	AD/HD	AD/HD-I * AD/HD-H* AD/HD-C*	Primarily Inattentive Predominantly Hyperactive/Impulsive Combined - Inattentive and Impulsive/Hyperactive
DSM-V	2013	AD/HD	AD/HD-I ** AD/HD-H** AD/HD-C**	Primarily Inattentive Predominantly Hyperactive/Impulsive Combined - Inattentive and Impulsive/Hyperactive

Note: * Diagnosis for individuals who displayed symptoms before 7 years of age
** Diagnosis for individuals who displayed symptoms before 12 years of age with the possibility of symptoms continuing through adolescence and into adulthood (over 17 years)

On the basis of a diagnosis, paediatricians and psychiatrists may prescribe medication and psychologists may offer psycho-social interventions. As shown in Table 2.1, AD/HD has been described somewhat differently (terminology and diagnostic criteria) across the various editions of the DSM published by the American Psychiatric Association.

2.3 Prevalence

While AD/HD has been widely researched across many academic disciplines including education, medicine and psychology, an accurate estimate of the prevalence of the disorder remains elusive despite the use of various (criterion-referenced) measures and that diagnosis relies largely on subjective social judgements of a child's functioning (Castellanos & Tannock, 2002; Singh, 2008).

The disorder is widely seen as a controversial phenomenon due to the varying opinions offered by people (e.g., parents, teachers and professionals) who have observed and noted the perceived difficult behaviours demonstrated by children diagnosed with AD/HD (Kendall et al., 2003). The behaviours associated with the disorder place an enormous burden on Western societies in terms of family stress and financial cost. These behaviours may also lead to greater academic underachievement among the many children who are diagnosed with AD/HD (Biederman, 2005). AD/HD is considered one of the most common mental health disorders of childhood (Mattox & Harder, 2007; Pelham, Gregory, Fabiano, & Massetti, 2005).

From the 1960s, the USA emerged as the leading country in the world where many parents were informed their children met the criteria for a diagnosis of AD/HD and psycho-stimulant medication was prescribed as the most beneficial treatment method (Kean, 2006). Over the next twenty years, the rate of diagnosis in the USA increased substantially (Kean, 2006). By 1999, individuals in the USA were ingesting approximately 85% of the world's

psycho-stimulant methylphenidate, (Singh, 2008). Recent data suggest the prevalence rate of children and adolescents diagnosed with AD/HD in the USA is 7.4% (Lee & Neuharth-Pritchet, 2008).

It is difficult to compare prevalence rates between the USA and European countries due to the different diagnostic measures used to diagnose the disorder and differences in sample sizes among studies (APA, 2000; Faraone, Sergeant, Gillberg, & Biederman, 2003; Power & DuPaul, 1996). A study of prevalence rates of AD/HD in 39 different countries revealed that reported prevalence rates vary widely (2.2% - 17.8%) due to population characteristics, methodological features, ethnic and cultural differences and the diagnostic criteria involved (Skounti et al., 2006). A gap between the empirical evidence of AD/HD and its diagnosis, further contributes to the difficulty of obtaining accurate rates of diagnosis (Lawrence, 2008). AD/HD is one of the most commonly diagnosed childhood disorders in Australia (Prosser & Reid, 2009; Valentine, Zubrick & Sly, 1996). Prevalence in Australia has also seen a steady increase in recent years (Purdie et al., 2002), as evidenced in Table 2.2.

Table 2.2
Top ten countries consumption of psycho-stimulant drugs (Amphetamine, Dexamphetamine and Methylphenidate) in defined daily doses per thousand inhabitants per day. (Kean, 2006)

Country	1999	2001	2003
United States	9.25	9.37	11.44
Iceland	1.21	3.13	5.98
Canada	3.18	0.74	5.04
United Kingdom	0.75	1.15	3.97
Australia	2.28	2.43	3.1
Norway	0.45	0.85	2.26
Switzerland	0.76	2.82	2.23
New Zealand	1.38	1.43	1.49
Netherlands	0.91	1.11	1.36
Belgium	0.61	0.59	1.14

From 1984 to 2000, there was an average increase of 26% in the use of the psycho-stimulants dexamphetamine and methylphenidate (Berbatis et al., 2000). Patterns of consumption of psycho-stimulants differ considerably across regions (states or territory) and this is likely due to differences in information recorded by the relevant state or territory health authorities (Valentine et al., 1996), or that in each Australian state, a small number of paediatricians or psychiatrists likely make up a large proportion of new prescriptions (Prosser & Reid, 2009).

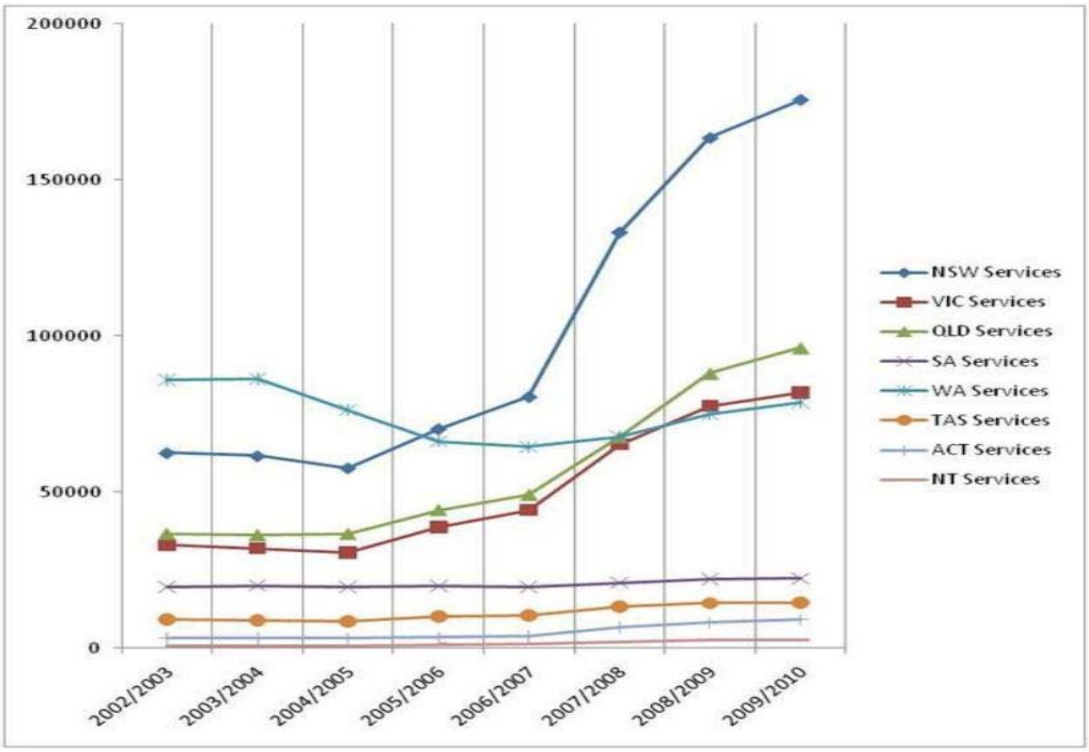


Figure 2.1. Medicare PBS prescriptions dispensed for stimulant medication, states and territories, 2002-03 to 2009-10

In summary, the Pharmaceutical Benefits Scheme (PBS) highlight a national increase in stimulant prescriptions by 92 per cent (250 851 to 480 930) between 2002-03 and 2009-10. In particular, a steady rise was noted in Victoria, NSW, Queensland, the Northern Territory and the Australian Capital Territory, while smaller increases were evident in Tasmania and South Australia. In regard to Western Australia prescriptions fell from 85 926, in 2002-03, to

64 431, in 2006-07, before increasing again to 78 707, in 2009-10. A spike in prescriptions in all states and territories occurred from 2004-05, which was thought to be due to Methylphenidate (MPH) becoming available through PBS.

2.4 Classification and Diagnosis of Attention Deficit/Hyperactivity Disorder

Specialist clinicians worldwide use either the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed). (APA, 2013) or the *International Classification of Diseases* – (The World Health Organisation Diagnostic System [ICD]) (WHO, 2010) to diagnose AD/HD. The DSM-5 refers to behaviours which include impulsivity, hyperactivity or inattention as Attention Deficit/Hyperactivity Disorder (APA, 2013) while the OCD-10 refers to a more narrowly defined syndrome, Hyperkinetic Disorder (HKD) (Lee et al., 2008). The DSM-5 and the ICD-10 specifies the type and number of symptoms that are required to diagnose AD/HD or HKD (Lee et al., 2008).

Williams, Wright and Partridge (1999) have stated that both diagnostic systems have become increasingly similar over the years and requiring the symptoms of AD/HD to be: (1) pervasive; that is, symptoms must occur in two or more settings (e.g., home and school); (2) present before the age of seven; (3) persist for more than six months; (4) be out of keeping with developmental level; (5) be maladaptive; and (6) significantly impair social, academic, or occupational functioning.

Although both manuals have operationalised the inattentive, hyperactive and impulsive criteria in a similar way (Taylor, 1998), they also have specific differences. These differences are summarised in the following table:

Table 2.3
DSM-5 and ICD-10 differences. (APA, 2013, p. 85-93; Soyoung et al., 2008, p. 70-78)

DSM-5 (AD/HD)	ICD-10 (Hyperkinetic Disorder)
Pervasiveness is defined as significant impairment in social, academic or occupational functioning in multiple settings (e.g., at school [or work] and at home).	A more rigorous criterion for pervasiveness and the disorder to be evident in two independent situations (e.g., home and school).
Evidence of inattention and/or hyperactivity-impulsivity is required for diagnosis. If both dimensions exceed the threshold, AD/HD combined type is made.	There is a single disorder defined by symptoms of inattention and/or hyperactivity-impulsivity.
Allows a diagnosis to be made when the presentation only involves inattentive behaviours and when only hyperactive and impulsive symptoms occur.	
Permits multiple co-morbid diagnoses with few exceptions. Includes no exclusion criteria for people with autism spectrum disorder.	Discourages the use of multiple diagnoses apart from Hyperkinetic Conduct Disorder. If other disorders are present, the preference is to diagnose the other disorder.

Variation in diagnosis, differences in pervasiveness and co-morbidity disparity likely account for world rate variation in AD/HD (Soyoung et al., 2008). According to the DSM-IV-TR, AD/HD occurs in 3% - 7% of school-aged children (APA, 2000) whereas the ICD-10 reports that AD/HD occurs in 0.5% of the child population (Taylor, 1998). Some Western countries prefer to use one manual over another, which also contributes to the variation in prevalence rates.

This study will refer to AD/HD in relation to the DSM diagnostic system because the DSM manual is more widely used by Australian clinicians than the ICD-10. The diagnostic criteria for AD/HD from the DSM-IV-TR (APA, 2000) and information pertaining to the DSM-5 (APA, 2013) can be found in Appendix A.

2.5 Australian Guidelines for a Diagnosis of Attention Deficit/Hyperactivity Disorder

The Australian Guidelines on Attention Deficit/Hyperactivity Disorder (AG AD/HD) were developed by The Royal Australian College of Physicians (NHMRC, 2009) as a guide for the diagnosis of AD/HD by paediatricians and psychiatrists. While it is not mandatory to follow the guidelines, a comprehensive assessment using empirically and rationally derived AD/HD rating scales, interviews with teachers and caregivers, behavioural observations and a psychosocial assessment is recommended by the college. By combining information across a number of procedures, a more accurate diagnosis can be provided. As equally important as a diagnosis, is the development of the treatment plan because it documents whether a child or adolescent requires psycho-stimulant medication, psycho-social therapy, a combination of both or access to special services (Pelham et al., 2005).

The AG AD/HD (NHMRC, 2009) requires a child to meet the diagnostic criteria specified in the DSM-IV-TR (APA, 2000) (APA, 2013). The DSM-IV-TR as noted on page 15 makes a distinction between those children who are:

- primarily inattentive (AD/HD-I), that is, focussing attention rather than sustaining attention;
- predominantly hyperactive and impulsive (AD/HD-H/I), but have relatively few problems paying attention;
- included in a combined category (AD/HD-C), who are both inattentive and impulsive/hyperactive.

The DSM-5 criteria for AD/HD are used by a paediatricians and psychiatrists to determine whether a child demonstrates six symptoms of *inattention* (AD/HD-I) over a six month period when compared to a child who is within the normal child development range and/or six symptoms of *hyperactivity/impulsivity* (AD/HD-H/I) also persisting for a minimum

of six months and also considered inconsistent when compared with normal development (APA, 2013). If both the inattentive and/or hyperactivity-impulsivity dimensions exceed the threshold, a diagnosis of a combined type of AD/HD (AD/HD-C) can be made (APA, 2013). Older adolescents and adults from the age of 17 years must present with five symptoms.

2.6 Diagnostic Challenges

The DSM diagnostic criteria were developed and are determined by a task force and working group of highly qualified medical personnel (APA, 2000). The diagnostic criteria are presented as global ratings (Taylor, 1998) using words such as 'often has'; 'often does'; 'often fails'; 'is often' to describe the behaviours associated with AD/HD and are assessed by direct observation or behavioural interview (APA, 2000; Taylor, 1998). In cases where direct observation across a number of settings is not possible, the clinician can only interpret behavioural interview accounts and make subjective judgements about a child's functioning (Taylor, 1998).

Although criteria include a statement that AD/HD behaviours must persist for a minimum of six months, there is little research supporting this time frame (Wright, Sheldon, & Wright, 2009). Further limitations of the DSM manual are that the section on AD/HD does not offer a diagnostic course of action to determine the presence of the symptoms, nor does it account for the development of the symptoms in a child (Cantwell & Baker, 1991).

The DSM-5 (APA, 2013) identifies the sub-types of AD/HD as sharing qualitatively identical deficits in attention, differing in the presence of hyperactive–impulsive symptoms. The possibility that the AD/HD-Inattentive sub-type is a distinct and unrelated disorder has received some attention (Harrington & Waldman, 2010; Milich, Balentine, & Lynam, 2001). The type of inattention proposed in the Inattentive sub-type of AD/HD includes symptoms associated with social withdrawal (Lahey, Schaughency, Strauss, & Frame, 1984), slower

cognition, slower information processing and a day-dreaming type demeanour (Harrington & Waldman, 2010; Lahey & Carlson, 1992). Inattention is also associated with significant school failure (Barkley, 1997; Beckle, 2004; Gathercole & Pickering, 2000; Hoza et al., 2001).

AD/HD-Combined and AD/HD-Inattentive categories share the common diagnostic criteria of inattentiveness. For the child with the Inattentive sub-type, however, inattentiveness is defined as 'sluggish', 'hypoactive' and 'daydreaming'. For the child with AD/HD-Combined sub-type, inattentiveness is described as the opposite: 'hyperactive', 'disinhibited' and 'distractible' (Milich et al., 2001). In summary, Milich et al. (2001) have explained that, "it is difficult to believe that they are a variation of the same disorder as they fall at opposite ends of a continuum – disinhibited versus inhibited, overactive versus hypoactive, externalising versus internalising and energetic versus sluggish" (p. 480). Children with AD/HD-Inattentive diagnosis, despite they possess average intellect, often fall academically and socially behind from their same-aged peers due to the effort required to maintain attention in academic and social contexts.

Woo and Rey's (2005) study of the validity of the DSM-IV sub-types suggest that a diagnosis of the Combined sub-type of AD/HD may be more reliable than the Inattentive and Hyperactive/Impulsive sub-types of AD/HD. Despite the number of studies that have been produced since the publication of the DSM-IV, there is limited data supporting the validity of the Inattentive and Hyperactive/Impulsive sub-types of AD/HD (Woo & Rey, 2005).

2.7 Models of Attention Deficit/Hyperactivity Disorder

Since the George Stills' lectures in 1902, the conceptualisation of AD/HD has experienced several shifts; from a deficit of 'moral control', through to 'minimal brain dysfunction', a deficit of attention, to behaviours affecting attention, hyperactivity and/ or

impulsivity (Tannock, 1998). A number of overlapping models have been proposed to account for the phenomenon of AD/HD.

This section of the review of literature will provide an account of three major areas of research to date; namely, cognitive, neurobiological and genetic models of AD/HD. The section will conclude with a summary of AD/HD as conceptualised from a social (family, school and culture) context. Finally, the model of AD/HD chosen to support the design of the present study will be described.

2.7.1 Cognitive Models

Cognitive models of AD/HD describe poor behavioural inhibition as a core deficit (Tannock, 1998), claiming that the inability to stop or delay a behavioural response is fundamental to the diagnosis of AD/HD (Barkley, 1997; Schachar et al., 1993). Cognitive models vary, however, in how cognitive processes are considered to operate at the core of the disorder (Sergeant, Geurts, Huijbregts, Scheres, & Oosterlaan, 2003). The distinctions between the five major cognitive models of AD/HD are summarised below beginning with a model of AD/HD which regards inhibition as a conditioning deficit.

2.7.1.1 Inhibition as a Conditioning Deficit

This first model of AD/HD suggests or claims that the disorder is a disinhibitory deficit whereby children have an imbalance between two opposing neuro-psychological systems: an under-responsive Behavioural Inhibition System (BIS) and an overactive Behavioural Activation System (BAS) (Sergeant et al., 2003; Tannock, 1998). The BAS responds to conditioned stimuli for reward or the prevention of punishment while the BIS controls passive avoidance, thus enabling the child to avoid punishment in conditions where punishment or non-reward may occur (Quay, 1997). Children with AD/HD are believed to be less likely to respond to conditioned stimuli such as cues and signals; that is, children with

AD/HD are less capable of preventing an action despite knowing that punishment or a non-reward is likely (Quay, 1997). Inhibitory problems in AD/HD are seen therefore to be a result of a conditioning deficit (Tannock, 1998).

2.7.1.2 Inhibition as an Inefficient Inhibitory Control Process

In the second cognitive model, Schachar et al. (1993) suggested that children who have a diagnosis of AD/HD experience impulsivity in situations that require the stopping of an action. Inhibitory control is part of the executive function of the cognition system that determines the various processes required to complete a task (Tannock, 1998). Children who are not impulsive will experience little difficulty in inhibiting an action but those children who are impulsive will experience a higher likelihood that a response will be executed rather than withheld (Schachar et al., 1993; Tannock, 1998).

A model of inhibitory control of action makes a distinction between inhibitory control as a cognitive construct and impulsiveness as a behavioural construct (Schachar et al., 1993). Schachar et al. (1993) suggest that impulsivity refers to behaviour that can occur in a variety of situations, whereas a deficit in inhibitory control results in a greater possibility that an action or response is unable to be controlled and therefore will be executed.

2.7.1.3 Response Inhibition as the Primary Deficit

In the third cognitive model of AD/HD, Barkley (1997) proposes that AD/HD is the result of a deficit involving behavioural inhibition stating:

> Behavioural inhibition refers to three interrelated processes: (1) inhibition of the initial prepotent response to an event; (2) stopping of an ongoing response, which thereby permits a delay in the decision to respond; and (3) the protection of this period of delay and the self-directed responses that occur within it from disruption by competing events and responses (interference control). (p. 957)

Within the Inhibition as a Primary Deficit model of AD/HD, inhibition leads to an inability to effectively store and process information. This in turn affects the working memory, delaying analysis and synthesis of internal information required to generate a particular behaviour in response to a new event (Barry & Kelly, 2006). Children who have a diagnosis of AD/HD are regarded as less able to amass or organise the internal cues required to rule their behaviour.

Barkley (1997) claim that inhibition leads to secondary impairments in neuro-psychological abilities or executive functions (EF). Executive functions include: (1) working memory; (2) self-regulation; (3) self-talk; and (4) reconstitution (Tannock, 1998). A deficit in EF contributes to poor socialisation and academic achievement (Biederman, 2005). AD/HD is regarded as a "disorder of inadequate response inhibition, a problem of performance (not skills) and of inconsistency (not inability)" (Goldstein & Naglieri, 2008, p. 861).

2.7.1.4 Inhibition as a Deviance Rather than a Deficit

In the fourth cognitive model, children with AD/HD are often unwilling to delay their need for gratification (Sergeant et al., 2003). The need for gratification is due to a hypersensitivity and difficulty in waiting for motivationally important outcomes (Sonuga-Barke, 2005). Delay aversion is a developmental consequence by an impulsive child to engage effectively with delay-rich environments (Sonuga-Barke, 2005). The child reacts by choosing impulsive behaviour, (i.e., choosing between immediate and delayed reward) thus avoiding delay.

While the Delay Aversion model has suggested there is a relationship between delay aversion and AD/HD symptoms in clinical and non-clinical settings, research has been limited (Wahlstedt et al., 2009) and a relationship between delay aversion and academic functioning is yet to be established (Thorell, 2007).

2.7.1.5 Inhibition as a Dysfunction in Effort/Activation System

Finally, the fifth cognitive model; namely, Sergeant's Cognitive-energetic model of AD/HD proposes that inhibition is not the only deficit in children with AD/HD but that problems in regulating effort, arousal and activation (poor state regulation) underlie poor executive functioning (Wahlstedt et al., 2009). Poor state regulation is dependent on the energetic state of the child (Sergeant, 2000).

Sergeant's model is grounded within an information processing framework. Information processing, according to the model, is determined by both process (computational) and state factors (such as effort, arousal and activation) (Sergeant, 2000). Computational mechanisms of attention are referred to as, "encoding, search, decision and motor organisation" (Sergeant, 2000, p.8). The model also focuses on energetic state and includes effort (the energy required to complete a task), arousal (to put into motion) and activation (stimulant physiological activity) (Sergeant, 2000). The model includes a management mechanism, which is allied with planning, monitoring, detection of errors and their correction (Sergeant, 2000). This level is associated with the concept of executive functions. Sergeant (2000) agreed that response inhibition is part of the executive functions but speculated that the inhibition deficit in AD/HD is due to the state of the subject and the distribution of energy to a task.

2.7.1.6 Summary of Cognitive Models of AD/HD

The five cognitive models discussed presume an underlying neuro-biological basis in the disorder AD/HD. They also presume that behavioural inhibition is linked to the frontal lobes of the brain (Tannock, 1998). The frontal lobes house a variety of higher order functions including the executive functions. The models vary, however, in specifying which region within the prefrontal lobes AD/HD originates. Figure 2.2 illustrates the region of the human brain, the pre-frontal area, where it is thought the difficulties with AD/HD originate.

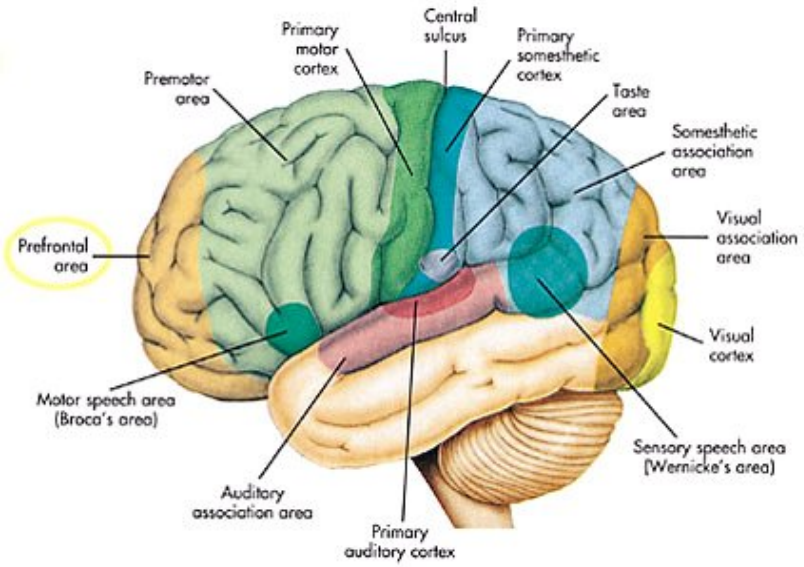


Figure 2.2. The human brain identifying the AD/HD site circled.

The five cognitive models previously discussed clearly illustrate the advances that have occurred in cognitive research in relation to AD/HD. The cognitive models primarily address the hyperactive/impulsive or combined sub-types of AD/HD and are not assumed to apply to the predominantly Inattentive sub-type of AD/HD as classified in the DSM-5(Castelanos & Tannock, 2002; Sagvolden et al., 2005; Tannock 1998). As has been stated previously, there have been questions as to whether the Inattentive sub-type AD/HD is a variant or a different disorder (Harrington & Waldman, 2010; Milich, et al., 2001; Tannock, 1998).

The school setting often requires children to sit passively, remain seated for long periods of time and listen to the teacher intently, to follow rules and procedures, and be motivated to learn, wait patiently for teacher assistance and to work and learn independently (Prosser, 2008). For students who have a diagnosis of AD/HD, the ability to manage their experience of schooling can be challenged by poor executive functioning and behavioural inhibition.

The following section describes recent advances in neuro-biological research.

2.7.2 Neuro-biological Models of AD/HD

The introduction of neuro-imaging tools has enhanced neuro-biological research by enabling a comparison of the brain activity of children who have been diagnosed with AD/HD with the brain activity of typically developing children (Visser & Jehan, 2009). Technological tools include Computerised Tomography (CT) scans, Magnetic Resonance Imaging (MRI), and Position Emission Tomography (PET) (Cooper, 2001; Visser & Jehan, 2009). CT scans provide an X-ray of the brain showing slices of the brain from various angles. PET scans examine brain function, mapping activity within the brain over time (Weiten, 2001). MRI scans provide structural and functional information through the use of magnetic fields, radio waves and computerised enhancement (Weiten, 2001).

In the next section, two neuro-biological models of AD/HD will be discussed beginning with the model that proposes a neuro-anatomical cause of AD/HD. Secondly, a model which is based on a neuro-chemical perspective will be discussed.

2.7.2.1 Neuro-anatomy

Neuro-anatomical studies suggest that a distributed circuit including the right prefrontal cortex, part of the cerebellum, at least two clusters of the basal ganglia (nerve cells deep inside the brain), the caudate nucleus and the globus pallidus are responsible for AD/HD like symptoms (Castellanos, 1997; Castellanos & Tannock, 2002). These areas of the brain, which are typically smaller in children who have been diagnosed with AD/HD (Castellanos, 1997), are thought to be associated with attention. Findings across studies, however, have been highly inconsistent (Solanto, 2002). Accordingly, the neuro-anatomical model of AD/HD requires further investigation.

2.7.2.2 Neuro-chemistry

An account of AD/HD from a neuro-chemical perspective focuses on the role of neurotransmitters that connect the neuronal circuits underlying attention. Research to date has been based on the premise that under-functioning neuro-pathways within the central nervous system and an insufficiency of certain brain chemicals are linked to AD/HD (Johansen, Aase, Meyer, & Sagvolden, 2002). The neurotransmitters or catecholamines also control motivation and motor behaviour including activity level, restlessness and responsivity. These circuits are frequently deficient in children and adolescents with AD/HD (Hynd et al., 1991). Although different neuro-anatomical systems are involved in these behaviours, the same neurotransmitters control these functions.

Two other neurotransmitters, dopamine and noradrenaline, are considered to be particularly important in the brain's functioning of the prefrontal cortex (Durston & Konrad, 2007). Suggestions have been offered to indicate that AD/HD may result from a hypo-functioning of neurotransmitter circuits, particularly those that operate in the prefrontal cortex of the brain (Castellanos & Tannock, 2002).

All children who have a diagnosis of AD/HD, however, do not have symptoms that reflect underlying neuro-biological dysfunction (Hynd et al., 1991). Accordingly, neuro-biological models of AD/HD require further refinement. Ongoing improvements in neuro-imaging techniques may assist researchers to develop more accurate neuro-biological models of AD/HD (Grantham, 1999).

2.7.3 Genetic Models

A third important area of exploration into AD/HD has been provided by genetic research. Family, twin and adoption studies research suggest that biological factors appear to

be a consistent factor associated with the diagnosis of AD/HD (Biederman et al., 2006, Castellanos & Tannock, 2002; Durston & Konrad, 2007; Grantham, 1999; Hynd et al., 1991), that is, there is a tendency for AD/HD to run in families in cases where at least one parent has been previously diagnosed (Mattox & Harder, 2007). Grantham's (1999) study of identical and fraternal twins also concluded that genetics was likely involved in the etiology of AD/HD because shared symptoms were more common in identical than fraternal twins (Quinn, 1997). However, research has not confirmed conclusively that there is a genetic linkage or if there is one particular gene responsible for AD/HD (Williams et al., 1999). While there is little dispute regarding the high degree of heritability of AD/HD, findings suggest that the genetic underpinnings are complex, with many genes exerting small effects (Faraone, 2008).

2.7.4 The Social Construction of AD/HD

While considerable research has focussed on AD/HD as a bio-medical construct (Advokat, 2009; Breggin, 1999; Cooper, 2001; Stroch, Frankenberger, Cornell-Swanson, Wood, & Pahl, 2008; Thorell & Dahlstrom 2009; Zachor, Roberts, Hodgens, Isaacs, & Merrick, 2006), recent research has widened to explore AD/HD as a social construct (Cooper, 2001; Colley, 2010; Deault, 2010; Wheeler, 2010). A bio-medical approach to AD/HD encourages paediatricians and psychiatrists to make the distinction between 'normal' and 'abnormal' behaviour, recommending psycho-stimulant medication as an effective treatment (Exley, 2008). The social construction of AD/HD proposes that AD/HD has been reified into a bio-medical concept and is not a true mental disorder (Visser & Jehan, 2009) because the symptoms of AD/HD are behavioural and can only be evaluated on the basis of subjective observation and not on the basis of objective medical assessment.

Neuroscientist, Elkhonon Goldberg, in his book titled *The Executive Brain* (2001) explains:

> If one were to run a 'disease of the decade' contest, attention deficit disorder (ADD) and attention deficit/hyperactivity disorder (AD/HD) would be amongst the plausible contenders. At the close of the twentieth century and the beginning of the twenty-first, the diagnosis is made generously and casually, often with little understanding of the underlying mechanisms and sometimes with none at all.
>
> (Goldberg, 2001)

Goldberg's explanation of the phenomenon of AD/HD is consistent with the social construction of AD/HD in that there is more to the diagnosis (i.e., underlying mechanisms) than the observation of socially unacceptable behaviours.

According to Carey (1998), the behaviours associated with AD/HD are not clearly distinguishable from normal variations in a child or adolescent's behaviour resulting from their basic temperament. Similar differences in brain functioning have been observed in healthy children and adolescents without a diagnosis of AD/HD and have been regarded as normal temperamental variation (Sava, 2000). Carey (1998) has suggested that environmental influences as well as a behavioural predisposition need to be taken into consideration when making a diagnosis of AD/HD because dissonant environmental influences from the family and school can exacerbate normal behavioural variations resulting in the type of behaviours associated with AD/HD. From the social construction perspective, therefore, AD/HD is regarded as a social (family and school) and cultural construct whereby 'disorders in society [have created] disorders in children' (Graham 2008b, p. 66).

Examining AD/HD from the perspective of a social construct challenges families (parents and siblings) in the way they interact and develop relationships with each other (Cooper, 2001). Wheeler (2010) has claimed that the changes in traditional home structures has contributed to children's increasing behavioural difficulties because the composition of the family, parenting styles, stress within family members, marital disharmony, parent-child

relationships, and personality types within a family all influence the way a child learns to behave (Cooper, 2001). The psycho-social support within the family is an important factor in the construction of AD/HD (Williams et al., 1999) because the social learning that occurs is critical to the ways in which a child develops the cognitive and social abilities to negotiate their world (Cooper, 2001).

Changes within Western culture may also influence the mental well-being of children with AD/HD and their families (Timmi & Taylor, 2004). Cultural influences include changes in morals and family values, an increase in the number of working mothers, increasing disparity between parents' notions of discipline, increasingly limited access to extended family members such as grandparents (Timmi & Taylor, 2004), increasing financial challenges due to family breakdown, and a growing incidence of substance abuse (Colley, 2010).

From the perspective of schooling, children who experience problems in conforming to expected school behaviours are those who most frequently experience school problems such as poor relationships with peers (Biederman, 2005; Houghton, 2006; Kos et al., 2006) and academic underachievement (Frazier et al., 2007; Houghton, 2006; Hoza et al., 2001; Kos et al., 2006; Taylor et al., 2006). Problem behaviours can be exaggerated in school environments because of the high value placed on compliance, sedentary tasks and the expectation to be focussed on a task for a considerable length of time (Cooper, 2001).

The view of AD/HD as a social construct suggests that there has been a steady rise in the diagnosis of AD/HD, not because AD/HD is a biologically based disorder but because it results from changes in the modern Western lifestyle (Colley, 2010). Broad social influences such as family, school and culture indirectly contribute to the complex phenomenon of AD/HD. A child may encounter adversities such as an unsupportive family and an inflexible

school environment which can directly and indirectly influence unwanted behaviours. From the perspective of a social construct, the behaviours associated with AD/HD are the result of normal variations in a child or adolescent's behaviour as a result of discordant interactions with their environment. As such, the bio-medical perspective of AD/HD is regarded as uncertain (Carey, 1998).

2.7 5 The Dynamic Developmental Theory of AD/HD

The Dynamic Developmental theory of AD/HD was formulated in an attempt to integrate what is now known about AD/HD from cognitive, neuro-biological, genetic and social perspectives. A number of researchers have indicated that the Dynamic Developmental model is comprehensive and may well support further scientific advances in relation to understanding the phenomenon of AD/HD (Aase & Sagvolden, 2006; Barry & Kelly, 2006; Johnson, Wiersema & Kunsti, 2009).

The Dynamic Developmental theory (DDT) of AD/HD proposed by Sagvolden et al. (2005), suggests that there are two main cognitive processes underlying AD/HD. These include changed reinforcement of novel behaviour and deficient extinction of previously reinforced behaviour (Sagvolden et al., 2005). Reinforcement and extinction, the main behavioural selection mechanisms, are altered in individuals with AD/HD resulting in increased behaviour variability (Aase, Meyer & Sagvolden, 2006). These researchers predicted that reinforcement and extinction could, for the most part, be associated with a hypo-functioning mesolimbic dopamine system (Johansen et al., 2002). Accordingly, reinforcement and extinction may operate constantly to reprogram neuronal connections by strengthening those connections associated with reinforced behaviour, while concurrently weakening neuronal connections associated with non-reinforced behaviour (Aase & Sagvolden, 2006).

The DDT advocates that medication has a normalising effect on dopamine, thereby reducing the characteristic behaviours associated with AD/HD (Sagvolden et al., 2005). Sagvolden and his colleagues proposed that medication lengthens the delay-of-reinforcement gradient thereby reducing the characteristic behaviours associated with AD/HD (Sagvolden et al., 2005). The DDT also suggests that through the long term use of medication, reinforcement and extinction processes normalise, thereby improving attention and reducing hyperactivity (Sagvolden et al., 2005).

Reinforcement as a process operates within a limited time frame from the initial behaviour to the perceived consequence as a result of that behaviour (Aase & Sagvolden, 2006). Children with AD/HD have less time available to associate behaviours with consequences as a result of a hypo-functioning dopamine system. This narrower time-frame restricts the stimuli controlling these behaviours and is theoretically described as shorter and steeper delay-of reinforcement (Aase & Sagvolden, 2006). As such, it explains some of the attention problems seen in children and adolescents with AD/HD because learning predictable behavioural sequences is more challenging for them (Sagvolden et al., 2005). The shortening of time also preferentially selects short sequences of behaviour giving rise to a greater variation in behaviour including impulsivity, unsustainable attention and a hampered self-control (Aase & Sagvolden, 2005).

The DDT includes a consideration of genetic inheritability, while also identifying a reciprocal interplay between the affected child and his/her social environment. The theory highlights the need for schools to create an optimal learning environment through structured classrooms with teachers who use clear instructions and offer students with AD/HD frequent reinforcers (Sagvolden et al., 2005). The theory also states that parents who have a child with

AD/HD require exceptional parenting skills, ensuring they are firm and consistent (Sagvolden et al., 2005).

The DDT is based on clinical observation as well as empirical animal studies with rats and pigeons. Although DDT provides a detailed description of the link between genetics, the environment, neuro and cognitive factors, development towards a full causal model of AD/HD is still within the initial stage. Coghill, Nigg, Rothenberger, Sonuga-Barke, and Tannock (2005), explain that while there is evidence to support the assumptions made at each level of analysis, further research is needed for findings to be empirically supported. Thus, while the deficits proposed by Sagvolden et al. (2005) account for some AD/HD-type symptoms, they do not do so in all cases because of the heterogeneity of AD/HD and the variability among children who have been diagnosed.

Figure 2.3 outlines the DDT, illustrating adaptive as well as maladaptive behavioural outcomes of the core deficits in interaction with medication, parenting, and societal styles. A plus sign (+) within an arrow means a beneficial interaction or influence, whereas a minus sign (-) denotes an unfavourable interaction influence. Parenting, societal styles and behavioural outcomes are regarded as vectors, not as discrete categories, in order to stress the dynamic and developmental aspects of AD/HD behaviour.

The DDT provides a framework for the study because it is a holistic model, integrating biological, behavioural and social factors. The theory also takes into account child development and is consistent with a social constructionist perspective of AD/HD. In addition, it accounts for the symptoms of attention, impulsivity and hyperactivity which form the diagnostic criteria for a diagnosis of AD/HD in the DSM-5. Finally, the DDT acknowledges the importance of understanding neural mechanisms of reinforcement and

learning (Tripp & Wickens, 2008) and is a well-articulated and well-described scientific framework (Johnson et al., 2009).

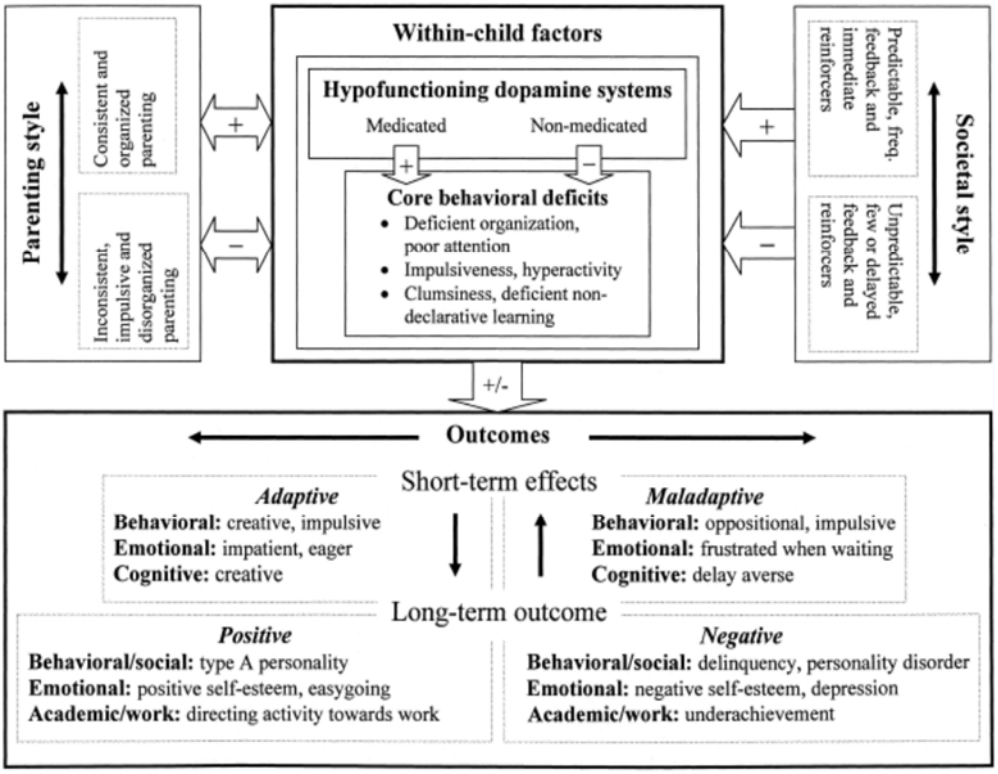


Figure 2.3. A dynamic developmental theory of attention deficit/hyperactivity disorder (AD/HD), (Sagvolden et al., 2005, p. 400).

2.8 Treatments for Attention Deficit/Hyperactivity Disorder

Research has identified a range of interventions to manage AD/HD (Hoagwood, Kellcher, Fell, & Comer, 2000; Phares, 2003; Pelham, Wheeler, & Chronis, 1997). Treatments for children who are diagnosed with AD/HD include psycho-stimulant medication, psycho-social interventions, and multi-modal treatments. Psycho-stimulant medication as a treatment for AD/HD will be discussed initially, followed by a description of psycho-social treatments and multi-modal interventions.

2.8.1 Psycho-stimulant Medication

Psycho-stimulants have been used on an increasing basis since the 1970s (Barkley 2006). Psycho-stimulant medication is widely regarded as the most effective method for managing symptoms of AD/HD (Fallissard, Coghill, Rothenberger, & Lorenzo, 2010; Taylor et al., 2006; Thorell & Dahlström, 2009; Sagvolden et al., 2005; Travell & Visser, 2006; Visser & Jehan, 2009; Wood, Crager, Delap, & Heiskell, 2007; Wright et al., 2009). According to Reid, Maag and Vasa (1994), an advantage of medication is that it is able to offer a 'no-one is at fault' diagnosis, freeing child, parent and society from blame for disruptive type behaviours. However, the 'no one at fault' synopsis has contributed to increases in the use of psycho-stimulant medication (Graham, 2008b).

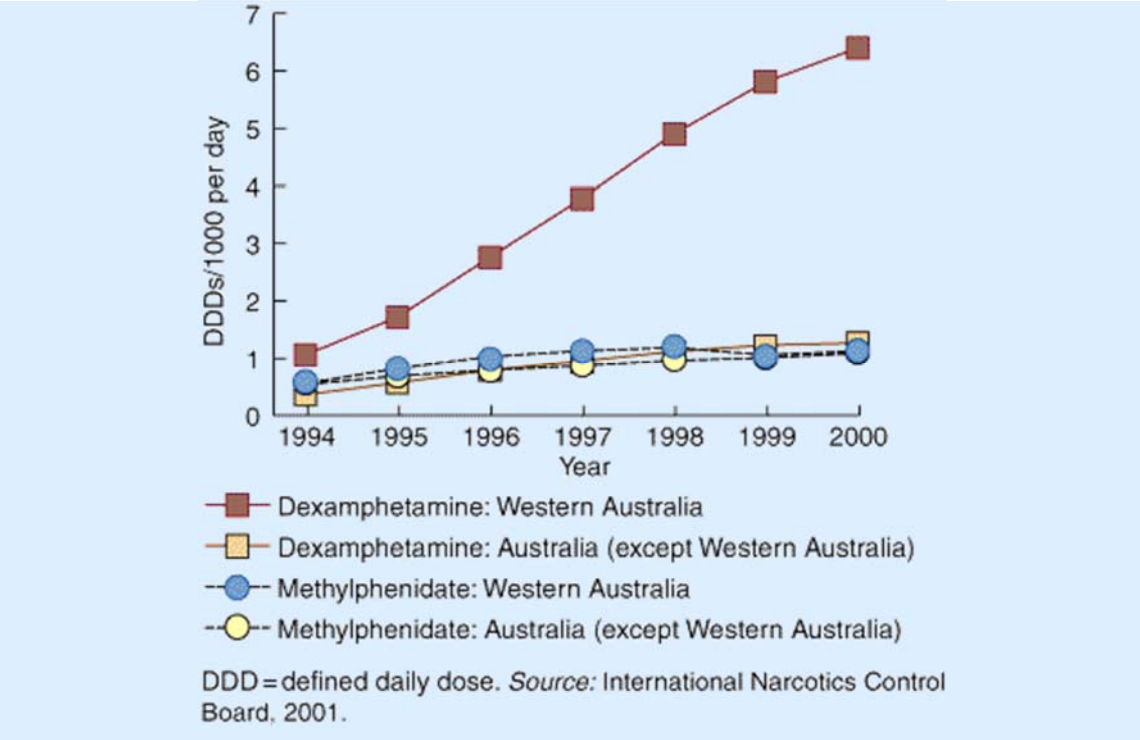


Figure 2.4. Standard total licit consumption of psycho-stimulants in Australia, 1994 – 2000. (Berbatis, Sunderland & Bulsara, 2002)

One study into psycho-stimulant use in Australia revealed that during the period of 1994 – 2004, methylphenidate (MPH) and dexamphetamine (DEX) consumption rose by 26% per year (Berbatis et al., 2000) as indicated in Figure 2.4.

Through their specialist clinician, Australian parents have a choice of Pharmaceutical Benefits Scheme (PBS) listed drugs for managing their children's symptoms of AD/HD. Psycho-stimulants include methylphenidate (MPH) in immediate-release (IR) (Ritalin 10 and Attenta) and extended-release (ER) formulations (Ritalin LA, Concerta); dexamphetamine sulphate (DEX); and atomoxetine (ATX) (Strattera) (NHMRC, 2009). MPH (IR) formulations have a short shelf-life and 2 – 3 doses are usually required per day. The (ER) formulations need only 1 dose per day. Ritalin LA was listed for the first time on the PBS in 2008 for children and adolescents (6 – 18 years of age) who require continuous coverage for eight hours.

Concerta became listed on the PBS in 2007 as an alternative for children and adolescents (6 – 18 years of age) who required continuous coverage for over 12 hours (NHMRC, 2009). Strattera was also added to the PBS in 2007. DEX can only be used in Australia in IR form. MPH and DEX are S8 classed medications meaning that state regulations apply.

The preferred psycho-stimulant drugs for treatment of symptoms of AD/HD in Australia are the centrally acting psycho-stimulant drugs MPH and DEX (Berbatis et al., 2000). These drugs both increase the release of synaptic catecholamines, although by different mechanisms (Castellanos & Tannock, 2002). The transporters responsible for the reuptake of dopamine and noradrenaline by their respective transporters are blocked by methylphenidate (Castellanos & Tannock, 2002). Amphetamines also have a stabilising effect on dopamine and noradrenaline transporters. Most children respond to MPH and DEX with a rapid decrease in behavioural symptoms that usually begins 30 minutes after ingestion and peaks 60 – 90 minutes after administration of the drug (Berbatis et al., 2000; Castellanos & Tannock, 2002).

MPH and DEX medications alter the availability of dopamine and noradrenaline in regions of the brain involved with behaviour inhibition, impulsivity and attention. How this occurs, however, is still not understood (Graham, 2008b). Low doses of psycho-stimulant drugs affect the functioning of the various neurological loops that have substantial dopamine innervations (Sagvolden et al., 2005). As a result, the beneficial effect of psycho-stimulants may be mediated by a rise, mainly in the tonic level of dopamine activity, thereby improving reinforcement and extinction on a behavioural level (Sagvolden et al., 2005). It seems plausible that psycho-stimulant medication would be an effective mode of treatment because it is designed to slow the neurotransmitters that affect the behaviours associated with AD/HD, thus reducing impulsivity and hyperactivity.

For all medications, clinicians need to consider the risk of side-effects compared to overall benefits. For children who respond positively to medication for AD/HD, the side-effects mean that dosage must carefully be monitored (Graham, 2008b). Breggin (1999) summarised the side effects of psycho-stimulant medication stating:

> These drugs produce a continuum central nervous system (CNS) toxicity that begins with increased energy, hyper-alertness, and over-focusing on rote activities. It progresses toward obsessive/compulsive or perseverative activities, insomnia, agitation, hypomania, and sometimes seizures. They sometimes result in apathy, social withdrawal, emotional depression and docility. Psycho-stimulants also cause physical withdrawal, including rebound and dependence. They inhibit growth and produce various cerebral dysfunctions some of which can become irreversible (p. 4)

Breggin's claim is based on double-blind placebo controlled trials associated with methamphetamine MPH (Ritalin) and M-AMPH (Desoxyn, Gradumet), and DEX (Dexedrine and Adderall). While some of these psycho-stimulant medications are used in Australia, others such as Adderall are not permitted. Research into the side-effects of psycho-stimulant medication for the treatment of AD/HD (Advokat, 2009; Stroch et al., 2008; Wright et al.,

2009; Zachor et al., 2006) concluded that although significant weight loss occurs within the first few months of treatment, it is not statistically significant and normalises with the onset of puberty (Spencer, Biederman, Harding, O'Donnell, Faraone, & Wilens, 1996; Zachor et al., 2006).

In regard to academic improvement, Breggin (1999) has stated that many researchers agree that there is no demonstrated improvement as a result of medication. His claim is supported by Gualtieri and Johnson (2008), who completed a cross-sectional study of AD/HD patients treated with three different AD/HD drugs. They found that while medication is effective for behavioural components of the disorder, cognitive performance is not enhanced by treatment. A more recent study by Advokat (2009) recognised that although many studies attest to the benefits of medication for classroom manageability, attention and academic productivity, academic achievement *per se* did not increase significantly.

In his study comparing the schooling experience of South Australian and American secondary students diagnosed with AD/HD, Prosser (2008) found psycho-stimulants had a beneficial effect during the primary years of schooling but as children entered secondary school, the positive benefits of medication waned. In particular, as students approached senior secondary schooling, learning activities became more content driven and abstract and the effect of medication on enhancing higher order thinking skills was limited (Prosser, 2008).

2.8.2 Psycho-social Interventions

Psycho-social interventions offer a non-medication alternative to supporting individuals with difficulties associated with AD/HD. Psycho-social therapies include behaviour modification, Cognitive Behavioural Therapy (CBT), social skills training, and multi-modal interventions. Psycho-social interventions need to be tailored to the individual

because children diagnosed with AD/HD vary widely in relation to presenting behaviours as well as cognitive and psycho-social abilities (NHMRC, 2009). In the next section, behavioural modifications, CBT, social skills training and multi-modal interventions will be discussed.

2.8.2.1 Behavioural Modifications

Behavioural interventions have been more successful in improving behaviour in children with AD/HD when they are in treatment settings where boundaries are in place. This may be because there is further consistency in the delivery of the interventions when children are in environments such as school or at home (Abikoff, 2009). Behaviour therapy is based on the principle of reward and absence of reward to reduce problematic behaviours and increase desired behaviours (Grantham, 1999; Purdie et al., 2002; Stroch et al., 2008). Rewards could be of a social nature, such as praise for positive behaviour and in concrete forms such as extra recreational time. More complex rewards can be achieved through the earning of 'tokens'. Discipline strategies include verbal reprimands or 'time-out' for behaviour that is deemed inappropriate.

Research findings into the positive effects of these treatments have been inconsistent due to the variations in type of setting (clinic or community) and the psycho-social intervention (Abikoff, 2009). Interpreting the results of intervention studies is difficult for a number of reasons including; varied settings (clinic or community), variation in the length of the intervention period, and intensity and differences of measures.

2.8.2.2 Cognitive Behavioural Therapy

Cognitive Behavioural Therapy (CBT) works on the principle of removing negative or unwanted thoughts or beliefs (Williams et al., 1999). CBT is described as a cognitive

model of psychology, whereby negative thinking has a major role in the development and maintenance of maladaptive behaviour (Ramsay & Rostain, 2006; Rostain & Ramsay, 2006). CBT focuses on replacing unwanted thoughts with more positive emotions and behaviours. While AD/HD is not a disorder with underlying deficits based on unwanted thoughts, it is a disorder that influences self-esteem (Shaw-Zirt, Popali-Lehane, Chaplin, & Bergman, 2005; Tannock, 1998). The premise of CBT is to provide a therapeutic framework to help individuals to develop skills to manage the behaviours associated with AD/HD (Rostain & Ramsay, 2006). Interventions include strategies to improve self-esteem, coping techniques and goal setting activities.

CBT is particularly beneficial if implemented in combination with psycho-stimulant medication (Rostain & Ramsay 2006). While research has been minimal, Rostain and Ramsay's study (2006) revealed that the use of stimulant medication for treating the core behavioural symptoms of AD/HD in conjunction with a psycho-social approach to address the negative thoughts and provide coping strategies, resulted in positive outcomes in terms of improvement in self-esteem and the redirecting of the behaviours associated with AD/HD.

2.8.2.3 Social Skills' Training

Children with AD/HD can experience difficulty developing and maintaining friendships (Hoza, Waschbusch, Pelham, Molina & Milich, 2000; Normand, Scheider, Lee, Maisonneuve, Kuehn & Robaey, 2011). As a consequence, social skills training using techniques from cognitive and behavioural approaches can be beneficial in small group situations (Williams et al., 1999). Training targets the development of social knowledge and the learning of appropriate behaviours for specific social situations (DuPaul & Weyandt, 2006). Interventions designed to assist young people with AD/HD to address peer relationships, however, must be applied over an adequate time frame to ensure a positive

outcome (DuPaul & Weyandt, 2006). While improvement in the ability to converse socially, to problem solve and manage anger has been found, improvements tend to wane after therapy sessions cease (DuPaul & Weyandt, 2006).

2.8.2.4 Multi-modal Interventions

A range of approaches are utilised for managing the difficulties associated with AD/HD including medication, specialised diets, biofeedback, allergy treatments, and traditional and play therapy (Miranda, Jarque, & Tarraga, 2006). Of these approaches, empirical studies support medication, behavioural modification and a combination of medication and behavioural modification, the latter of which is referred to as a multi-modal intervention (DuPaul & Weyandt, 2006; Miranda et al., 2006; Rostain & Ramsay, 2006).

More specifically, multi-modal interventions utilise medication in combination with psycho-social approaches such as counselling and behaviour management to treat AD/HD. Multi-modal interventions are particularly beneficial within the school setting for students with AD/HD who are required to develop skills in planning and control, as well as to reach their academic goals. While is it relatively easy to manage behaviour by medical means through the use of long acting psycho-stimulants, behaviour management by means of behavioural intervention is more difficult to attain and maintain. Collaboration among students, their parents, their teachers and their clinicians is generally required in order for consistent improvement to occur.

Despite limited research specifically addressing the efficacy of multi-modal treatments, the Australian National Guidelines on Attention Deficit/Hyperactivity Disorder (NHMRC, 2009) recommend multi-modal interventions as the preferred treatment to manage the behaviour difficulties evident in children and adolescents with AD/HD.

2.8.2.5 Summary of Psycho-social Interventions

AD/HD is now thought to be a multifaceted disorder with symptoms that can impair a child's functioning especially within a school environment. While there are many treatments for AD/HD, the most widely supported are the use of psycho-stimulant medication or a combination of psycho-stimulant medication and behavioural interventions that focus on unwanted behaviours or thought processes (Exley, 2008; DuPaul & Weyandt, 2006; Rostain & Ramsay, 2006).

2.9 Education and Attention Deficit/Hyperactivity Disorder

Classrooms can be challenging environments for many children and adolescents with AD/HD because their behaviours are often antithetical to expected classroom behaviours (Power, Tresco & Cassano, 2009; Kos et al., 2006; Murphy, 2005). At school, many students who are diagnosed with AD/HD experience difficulty accessing the curriculum due to their inattentive, hyperactive and/or impulsive behaviours, which in turn, can affect their academic performance and long term achievement (Hoffman & DuPaul, 2000; Houghton, 2006; Power et al., 2009; Rush & Harrison, 2008).

In the next section, a discussion of policies in Australia that relate to the education of students with AD/HD will be presented, followed by a consideration of the educational needs of children who have been diagnosed with AD/HD.

2.9.1 Policy in Australia

Among the number of professionals involved with children and adolescents who have been diagnosed with AD/HD, it is those people employed as classroom and support teachers who have major responsibility for their schooling. The Federal Disability Discrimination Act of 1992 (DDA) states that any child in Australia with a disability has the right to an education

in any private or public institution (DDA Guide, 1992). The DDA, however, does not identify AD/HD as a disability (Prosser et al., 2002). (See Appendix C).

The Australian Guidelines on AD/HD (NHMRC, 2009) also describe an important role of teachers and support personnel in the management of children with AD/HD at school (See Appendix B). Yet AD/HD is currently not recognised as a disability requiring targeted funding to support the education of children and adolescents who have been diagnosed with the disorder.

The federal government only provides funding for states and territories to provide additional educational support for children with a recognised disability (e.g., intellectual impairment, speech language impairment, and Autism). Within the independent schools sector, these funds are supplied through a not-for-profit organisation called Independent Schools of Queensland (ISQ). ISQ determines which children are to be given additional support and funding.

Thus, although Queensland uses its "equal opportunity legislation" as a basis to formulate special education policy (Prosser et al., 2002), funding is provided to all students on the basis of educational need and not on the basis of diagnosis. For example, a child with cerebral palsy will only be identified as having a physical impairment (PI) if the child needs support in order to function effectively in school. The diagnosis does not drive the funding/support. For children who have been diagnosed with AD/HD, it is the responsibility of individual schools to support them from general school funding.

2.9.2 Schooling and Students with AD/HD

Schools provide the setting where the cultural, spiritual, physical and emotional needs of young people are nurtured and encouraged (Eccles et al., 1993). Schools offer cultural,

physical and academic opportunities for children and encourage the children in their care to reach their full potential (Adams, 2008). For most children in Australian schools, the goal to succeed at school is attainable and realistic. For many children who are diagnosed with AD/HD, however, current schooling practices marginalise them because many teachers find it challenging to effectively manage behaviours that are impulsive, hyperactive and inattentive (Prosser, 2008).

DSM-5criteria used for diagnosing AD/HD describes behaviours that largely preclude success. These include:

- often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities;
- often does not seem to listen when spoken to directly;
- often does not follow through on instructions and fails to finish school work, chores, or duties in the workplace (not due to oppositional behaviour or failure to understand instructions;
- often has difficulty organising 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.

(APA, 2013)

The independent school in which this study was conducted provides support for students whose progress is affected by AD/HD related difficulties on an individual basis. Interventions

by classroom teachers include: time out when required; extra time to complete examinations and assignments; and an individualised token reward system. Classroom teachers limit verbal instructions and note taking. Students are encouraged to participate in the more practice-based subjects that do not require them to be seated and sedentary for long periods of time. Support is also offered through modifications to the curriculum (e.g., adjustments made to assessment tasks, and limited homework activities), teacher-aide assistance and collaboration with specialist learning support teachers. In addition, the sizes of classes in which students with AD/HD are enrolled are often kept smaller than classes without students with AD/HD.

2.9.3 Teachers' Knowledge of AD/HD

Teachers have a significant role in the social, emotional, cognitive and academic development for the students they teach including young people who are diagnosed with AD/HD (Sherman, Rasmussen, & Baydala, 2008; Vereb & DiPerna, 2004). While most teachers have some knowledge about AD/HD, research indicates that their belief and understanding of AD/HD are not necessarily accurate or comprehensive (Guerra & Brown, 2012; Kos et al., 2006; Martinussen, Tannock, Chaban, McInnes & Ferguson, 2006; Sciutto, Terjesen, & Bender-Frank, 2000; Sherman et al., 2008; West et al., 2005). Knowledge gaps and erroneous beliefs limit teachers' understanding of the nature and causes of AD/HD, as well as appropriate management methods for students who are experiencing difficulties related to AD/HD (Scuitto et al., 2000). In particular, the research has identified teachers' misconceptions, teachers' limited knowledge and teachers' misunderstanding of psycho-stimulant medication (Arcia, Sanchez-LaCay, & Fernandez, 2000; Vereb & Diperna, 2004). Research has also indicated that teachers are most likely to be first to suggest to parents that their child see a specialist clinician to investigate whether the unwanted behaviours require investigation (Sax & Kautz, 2003)

Due to their limited knowledge of AD/HD, some teachers can experience difficulty in managing the behaviours exhibited by some children who have a diagnosis of AD/HD (Houghton, 2006). A teacher's ability to react to situations when children are demonstrating inappropriate classroom behaviours and managing these behaviours effectively, can influence how these children view themselves in relation to their academic achievement, their acceptance by peers and their social outcomes (Sherman et al., 2008).

The knowledge teachers have in recognising some of the symptoms associated with AD/HD determine the specific behaviour management strategies that are most appropriate for children and adolescents who experience impulsivity, hyperactivity and/or inattention (Curtis, Pisecco, Hamilton & Moore, 2006). Kos (2004) identified that positive reinforcement was the most frequent strategy used by primary school teachers to manage AD/HD behaviours and that purposefully ignoring the impulsive, hyperactive and inattentive type behaviours was the least common strategy. Kos (2004) also indicated that positive reinforcement was not typically used with sufficient frequency to change or alter the behaviour of a child who has a diagnosis of AD/HD.

The classroom can be a challenging environment for children who have been diagnosed with AD/HD. Therefore, it is important that teachers have a thorough knowledge of AD/HD to ensure that the academic and social needs of all young people who have the disorder are met (Kos et al., 2006). It is imperative that teachers are able to provide effective behavioural supports to maximise academic success not only for students who have a diagnosis of AD/HD, but for all children in the classroom (Arcia et al., 2000).

2.10 Schooling and Attention Deficit/Hyperactivity Disorder

Although it is not always clear why problems occur, children diagnosed with AD/HD and their families can face real challenges with respect to school (Kendall et al., 2003;

Travell & Visser, 2006). Consideration is given in this study to the schooling experiences of AD/HD from both the parent's and children's perspectives.

2.10.1 The Parent Experience

The concern for any parent whose child demonstrates inattentiveness, hyperactivity and/or impulsivity is to decide whether or not to seek the opinion of a specialist clinician as to whether the unwanted behaviours warrant intervention (Travell & Visser, 2006). Tension can develop between a parent's wish for their child's success in school and the child's ability to achieve that success. Parents have described mixed emotions about their experiences of the diagnostic process (Travell & Visser, 2006). Taylor et al. (2006) found that many parents process a diagnosis of AD/HD by initially focussing on their child's symptomology. After this, it is not uncommon for parents to develop cynicism towards society's views of AD/HD. Parents are often faced with making the decision as to whether or not they will fill their child's prescription for psycho-stimulant medication as a way to manage their child's behaviours. If the decision is to use medication, parents are then required to deal with associated problems in relation to their child taking medication at school, along with the perceived side-effects associated with psycho-stimulant medication (Clay, Farris, McCarthy, Kelly & Howarth, 2008).

Taylor et al. (2006) found that decisions about whether to use prescribed medications among families in Western Australia were based largely on families following community social mores, their familiarity with current media reports and their understanding of current research. As already noted, information about AD/HD and its management is prolific but often confusing. Accordingly, parents may be unsure about whether or not to utilise the medication that has been prescribed for their child.

Johnson and Read (2002) have identified some of the stressors of living with a child who has a diagnosis of AD/HD. They found that parents of children with AD/HD receive repeated telephone calls from schools describing the misbehaviour of their child, causing them to feel they have to justify their child's behaviour to teachers and other parents. The parents can also feel isolated socially and on occasions must miss work to attend doctor appointments (Johnson & Read, 2002). Some parents also worry that their child might sustain an injury at school due to their often unmanageable behaviours (Johnston & Read, 2002). Typically, mothers are more vulnerable, because most negotiations between home and school are carried out by the mother (Carpenter & Austin, 2008).

What is an important factor for both mothers and fathers (Carpenter & Austin, 2008) is their child's happiness and success at school. Parents worry about school failure, their child's relationships with peers and teachers, the ability of the school to provide support and needed resources, and the inclusiveness of the school environment (Carpenter & Austin, 2008).

2.10.2 The Student Perspective

Few studies have researched the experience of AD/HD from the voice or the perspective of the child who has been diagnosed with the disorder (Bartlett et al., 2010; Exley, 2008; Hughes, 2007b; Kendall et al., 2003; Singh, Kendall, Taylor, Mears, Hollis, Batty & Keenan, 2010; Travell & Visser, 2006). In order to explore the myths and realities of AD/HD, it is important to listen to the voices of children and adolescents (Kendall et al., 2003). Most young people, whose opinion has been sought regarding the cause of AD/HD, have stated that it is a neuro-biological problem (Travell & Visser, 2006). They see themselves as being different with the symptoms of inattention, hyperactivity and/or impulsivity interfering with their social and academic achievements (Kendall et al., 2003). In

addition to feeling different, many young people perceive that they have experienced fewer positive events in their lives (Bartlett et al., 2010).

Of concern to young people, are feelings of being bullied by peers for taking medication, the confusion of being told they will 'grow out' of AD/HD and concern for the future knowing they have a diagnosis of AD/HD (Travell & Visser, 2006). Further concerns include interference with academic tasks that impedes schooling achievements (Kendall et al., 2003) and for some young people, few or no friendships with their peers (Heiman, 2005; Hoza et al., 2000; Normand et al., 2010; Power et al., 2009; Shaw-Zirt et al., 2005; Tannock, 1998; Taylor & Houghton, 2008).

In regard to medication, young people are generally optimistic about taking medication because of the perceived positive benefits such as improved concentration and focus in school (Knipp, 2006; Singh et al., 2010). However, young people are also anxious about the perceived negative effects of medication including side-effects (Knipp, 2006; Thorell & Dahlström, 2009) and the need to take tablets daily (Singh et al., 2010).

Recent studies conducted by Bartlett et al. (2010), Exley (2008), Hughes (2007b), Kendall et al. (2003), and Travell and Visser (2006) have examined the experience of schooling of adolescents diagnosed with AD/HD particularly from the perspective of the students themselves. A summary of the above mentioned studies is presented in Table 2.4.

There are several reasons why it is important to hear the voices of young people who have a diagnosis of AD/HD. As noted by Kendall et al. (2003), the problems faced by young people with a diagnosis of AD/HD are real and not imagined. Travell and Visser (2006) suggest that by talking with children who have the disorder, more beneficial management methods can be implemented. By hearing from the children themselves, researchers will have

a better understanding of childhood behaviour (Exley, 2008) and of the dilemmas and difficulties faced by children with AD/HD (Travell & Visser (2006).

Hughes (2007b) suggests that by listening to what young people have to say about their experience of AD/HD, appropriate interventions can be designed that will better assist young people to cope with AD/HD, especially during schooling. Finally, Bartlett et al. (2010) confirms the importance of support from parents and teachers who care and are knowledgeable about the needs of children diagnosed with AD/HD.

In summary, the findings of these studies confirm the necessity for professionals, parents and the children who are diagnosed with AD/HD to listen to each other and learn from what is heard. Listening to the concerns of young people who have a diagnosis of AD/HD as well as those of their parents, will enable students, parents and school staff to work together to ensure that children and adolescents receive needed supports at school, at home and in the community.

2.11 Student Voice

An important goal of schools in the twenty first century is to provide Australia's future citizens with a compelling, engaging curriculum and opportunities to make a positive contribution to the school community. Students flavour the classroom environment in their own particular, collective way by bringing to school their culture(s), thereby offering their values, beliefs and assumptions which are based on their 'outside the school' and their 'inside the school' beliefs (Leitch & Mitchell, 2007). 'Student voice' is the engagement of a student and the outcome of their learning with the realization of an assurance that student issues within the learning environment are addressed (Manefield, Collins, Moore, Mahar, & Warne, 2007).

Table 2.4

Summary of studies examining perspectives on AD/HD

Author/s	Participants	Age/Level	AD/HD	Medication	Measure	Aim	Social Context	Results
Bartlett et al. (2010)	16	College	Yes	Unknown	Interview	To identify people and strategies of most assistance during childhood.	Unknown	Most helpful were parents and teachers. The strategies were: caring behavior and active teaching/learning strategies.
Exley (2008)	2 children 1 teacher	Early years	Yes	Unknown	Semi-structured interview	To explore children and teacher's perspectives on social relations within informal play environments	Bio-social	The teacher confirmed that the boys' predictions reflected their lived experience as students labeled with AD/HD.
Hughes (2007b)	14 cases	Child, Parent Teacher	Yes	Unknown	Interview	To explore the reality of living with AD/HD	Bio-social	AD/HD is a bio-psychosocial condition, which is influenced by environmental factors regardless of medication.
Kendall et al. (2003)	39		Yes	Unknown	Semi-structured interview	To explore whether AD/HD is a myth or a behavior disorder	Biological and Cultural	Controversy over AD/HD as a modern illness. Causing real problems for the child and his/her family. Children are aware they have problems related to AD/HD and it is not being imagined.
Travell & Visser (2006)	17 cases	Adolescent Parent	Yes	Yes	Semi-structured interview	To explore views, experiences and perceptions of young people with AD/HD and their parents	Biological, Social, Cultural, and Psychological	The phenomenon of AD/HD is complex and a diagnosis is a result of a number of circumstances and events.

Recent research has suggested that schooling of the twenty first century can be improved through involving young people in a true partnership with their teachers to ensure that they have a say in what happens to them while they are at school and to ensure they can become meaningfully involved in their own learning and in the school environment (Thompson & Gunter, 2006). Examples of student voice include involvement in school and community development, providing feedback on teaching and learning within a school and peer-tutoring (Thompson & Gunter, 2006). Student voice includes young people having an opportunity to share their opinion in policy making through working with adults to improve current teaching, curriculum and student-teacher relationships (Cook-Sather, 2007). The end result is a change in school policy promoting the betterment of the schooling experience for all young people.

Listening to students talk about their experiences at school and, in particular, to what they say about their educational needs can provide educators with guidance to design a more engaging curriculum (Cook-Sather, 2007). Students likewise have a right to be engaged in a classroom and for this to occur, there needs to be a positive classroom environment where the teacher knows them as an individual (Cook-Sather, 2007).

Young people who find success at school are involved in consultation and conversation with their teachers and school administrators, while young people who are disengaged by the schooling experience are least likely to raise their voices (Manefield et al. 2007). Central to this study, is to listen to the voices of six adolescent boys who have been diagnosed with AD/HD, in order to hear what they have to say about their schooling experience.

2.12 Summary and Implications

This chapter provided a review of the literature and current research focussed on AD/HD. The varied nature of AD/HD as well as the significant challenges that associated behaviours can pose has resulted in a considerable body of literature focussed on the disorder. AD/HD can be conceptualised across cognitive, bio-medical and socio-cultural domains. What remains unclear, however, is schooling experience of children and adolescents with a diagnosis of AD/HD from their perspective, the perspective of their primary carer, and from the perspective of their teachers.

The aim of this study is to explore the experience of schooling of six adolescent boys diagnosed with AD/HD. The study was guided by the overarching question:

- How do six adolescent boys who have a diagnosis of AD/HD, their primary carer and their teachers, describe the boy's experience of school?

The following chapter will identify the methodology employed to investigate the study. A summary of the chosen methodology is provided in Appendix E.

CHAPTER 3

Method

3.1 Introduction

The study is designed to develop a deeper understanding of the experience of schooling of six adolescent boys who have been diagnosed with AD/HD. In the previous chapter, the history, prevalence, classification and diagnosis, models of AD/HD, the management of AD/HD, and education in regard to children and adolescents with AD/HD were considered. In this chapter, the method employed in the study will be reviewed. Before describing the specific methodology, however, the theoretical framework upon which the study has been based will be described. After a consideration of the theoretical framework, information concerning the proposed design, participants, data collection, procedure, data analysis and ethics will be presented.

3.2 Theoretical Conceptual Framework

This study adopted social constructionism as the theoretical framework for exploring the experience of schooling of six adolescent boys who have been diagnosed with AD/HD. Social constructionism is a "biologically based epistemology that was founded in the European traditions of Kant (1929), Vaihinger (1924), Schopenhauer (1907), and Piaget (1954) and resulted from an 'individuals own cognitive processes" (Guterman & Rudes, 2008, p. 137).

Within social constructionism "all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context" (Crotty, 1998, p. 42). Constructionists suggest that meaning is constructed through human experiences (Crotty, 1998) and as such, there is a focus on how understandings are built within a social perspective (Triplett, 2007).

In simple terms, social constructionism inquiry emphasises the tool of language, thought, and culture (Danforth & Navarro, 2001) to explain the processes by which people come to describe the world and themselves (Gergen, 1985). Social constructionism's intention is to challenge a large part of the traditional view of the world and through this confrontation, constructionist thinking leads to the controversy that man alone, is responsible for his own thinking, knowledge and ultimately for what he does (Walzlawick, 1984). In other words knowledge is gained through a person's life experiences. As such, the use of language, thought and culture is a critical component of social constructionism.

Within the social construction framework exists an alternate philosophical tradition; interpretivism. Interpretivism adopts a naturalistic slant, focussing on experiences and actions of human beings, where fieldwork usually takes place in a natural location (Williamson, 2006). In essence, interpretivism endeavours to interpret human and social reality (Crotty, 1998). This study was guided by an interpretivist paradigm, which is well-suited to an educational research study exploring the experience of schooling of adolescent boys with AD/HD.

Interpretive inquiry requires a rich and deep understanding of the social nature studied (Thomas, 2011). Therefore, "interpretivists advocate a transactional and subjectivist stance that maintains that reality is socially constructed and, therefore the dynamic interaction between researcher and participant is central to capturing and describing the 'lived experience' of the participant" (Ponterotto, 2005, p. 129).

Interpretivism facilitates exploration beneath the periphery to expose the intentions behind human action (Young, 2009). This study explored the experience of schooling of six adolescent boys with AD/HD, to gain a better understanding of their experience of AD/HD. An integral component of the interpretivism framework is the interaction between researcher

and participants. The study fits comfortably within this research framework because it involves the development of relationships between the researcher, the six adolescent boys who have a diagnosis of AD/HD, their parent carer and their teachers.

This research has also been influenced by phenomenography. Phenomenographers study the qualitative experiences of others (Marton & Booth, 1997). The focus of phenomenographical research is the variation in ways of experiencing the phenomenon. Usually these experiences are explored through interviews. One of the clear goals of phenomenography is to see the world from the perspective of the interviewee with the emphasis on his/her experiences. These experiences are seen as mental processes and can be perceived, conceptualised, understood and apprehended (Ashworth & Lucas, 1998). Studies that involve relationships between the researcher and the participants in relation to a particular phenomenon, rely on data that the researcher collects through immersion in the field.

Accordingly, Marton and Booth (1994) suggested phenomenography is not a research method itself but is likened to "an approach to – identifying, formulating, and tackling certain sorts of research questions, a specialisation that is particularly aimed at questions of relevance to learning and understanding in an educational setting" (p. 111). Hence, phenomenography was a suitable approach to this study because it focuses on individual, personal perceptions and accounts of a diagnosis of AD/HD, within a schooling context.

To develop a clearer understanding of the experience of schooling of students who have been diagnosed with AD/HD, a phenomenographic approach was utilised in the study to garner the boy's experience of schooling. Phenomenography was an appropriate approach because it enabled the researcher to analyse human experience (Lin, Huang, & Hung, 2009). By adopting a phenomenographical approach, this study examined how the schooling

experience of AD/HD was reflected, discussed and described by young people experiencing AD/HD, by the parents/carers of the young people who have AD/HD and by the teachers who are working with young people diagnosed with AD/HD.

3.3 Design

The study will utilise a multiple case study within an interpretative, qualitative research design to enable the exploration of the experiences of schooling of six adolescent boys who have been diagnosed with AD/HD and who presently may or may not be taking medication prescribed on the basis of their identified mental disorder. The purpose of case study research is to assist in developing an understanding of intricate social phenomena (Yin, 2003a), to trade breadth of coverage for depth of understanding and to gather potential explanations of a phenomenon. Case study is often used with interpretative inquiry (Thomas, 2011).

A case study can be defined as an "empirical inquiry that investigates a contemporary problem within its real-life context. Understanding the problem and its solution requires integrating a myriad of mutually dependent variables or pieces of evidence that are likely to be gathered at least partially by personal observation" (Scholz & Tietje, 2002, p. 9). Within the definition of a case study, is its particular purpose. In this study, the researcher's purpose is to better understand the schooling experience of young people who are diagnosed with AD/HD. Therefore, this current study could be described as an instrumental case study with an exploratory inquiry. "Exploratory case studies help to gain insight into the structure of a phenomenon in order to develop hypotheses, models, or theories" (Scholz & Tietje, 2002, p. 11).

As a form of research approach, a multiple case study is the chosen method for data collection because it is used frequently to improve the knowledge of various groups,

organisations and individuals that make up our society. With a multiple case study, the focus is on the phenomenon of which the case is an example (Thomas, 2011). The focus in this study is not the experience of having a diagnosis of AD/HD but rather differences and similarities in the schooling experiences between one participant and another. The key to this multiple case study is to gain a deeper understanding and to explore further the phenomenon of AD/HD, by comparing the participant's experience of AD/HD within a schooling experience context.

A qualitative design is chosen for this study because it is an effective means of gathering data of how people experience their world (Kendall et al., 2003) and of understanding their everyday lives. Qualitative research seeks to understand human nature through perceptions and interpretations. Developing qualitative data, will allow the researcher to gain a deeper understanding of the experiences of students diagnosed with AD/HD.

The study consisted of six cases, with each case including one adolescent boy who has a diagnosis of AD/HD, a parent and two of the boy's teachers. Individual, semi-structured interviews with the six adolescent boys who had been diagnosed with AD/HD, their primary parent/carer and their teacher's; a focus group interview with the boys; and a document review of their school reports across a two year period, will be used to collect data in regard to how children with a diagnosis of AD/HD perceive their experience of schooling.

The primary question for this study is, "How do adolescent boys who have a diagnosis of AD/HD, their primary carers and their teachers, describe the boy's experience of school?"

3.4 Participants

There were three groups of participants in the study; a group of six boys, a group of six mothers and a group of twelve teachers (6 cases with 4 participants in each case). The first

participant group, a convenience sample, were all Caucasian boys diagnosed with AD/HD who were between 15-16 years old and attending an independent boys' school in Queensland. Information pertaining to the six boy participants is summarised under the pseudonyms in Table 3.1. Initially, there were four Year 9 adolescent boys involved in the study, along with a parent carer and two each of the boys' teachers. However, as the project developed, the study increased to six adolescent boys, a parent carer and two of the boys' teachers (a total of 24 participants). By increasing the number of participants, the number of interviews increased, thus providing more data. This in turn resulted in a richer study.

Table 3.1
Student Pseudonym, Name, Year level, Time and Month Interviews Occurred

Student Name	Year Level	Month Interviewed
Harry	9	December 2011
Liam	11	February 2012
Noel	11	February 2012
Zeb	11	March 2012
Joe	12	March 2012
Aaron	11	March 2012

The second group interviewed in the study was a primary carer from each family. Each primary carer participated in an individual, semi-structured interview with the researcher, which was tape-recorded. In each case, the primary carer was the mother of the boy participant.

The third group interviewed in the study were two of each of the boy's teachers (12 teachers in total). They participated in an individual, semi-structured interview with the researcher. Of the twelve teachers interviewed, eight teachers were male and four teachers were female. The teachers' age ranged from 28 years to 56 years (M = 41.67). Teaching experience ranged from 6 years to 32 years (M = 16.25). Two teachers had special education

qualifications, two teachers had received a Master of Education, nine teachers had studied a Bachelor of Education and one teacher had received an Arts Degree. Demographic information pertaining to the teachers is summarised under the pseudonyms in Table 3.2.

All teachers had previous experience teaching children who had been diagnosed with AD/HD, but no teacher had received professional development about AD/HD over the past twelve months. One teacher had participated in professional development about AD/HD (2 hours). No teacher was a parent of a child who had been diagnosed with AD/HD. Each of the teachers completed a questionnaire in regard to their knowledge and understanding of AD/HD (see Appendix H). Teachers rated their understanding of AD/HD between 2 and 6 (*1 not very well to 7 very well*) (M = 3.75) and their interest in AD/HD between 3 and 7 (*1 not very well to 7 very well*) (M = 4.8). Teachers rated their confidence in teaching children who had been diagnosed with AD/HD between 2 and 7 (*1 not very well to 7 very well*) (M = 4.25).

Table 3.2
Teachers, Subjects Taught and Teaching Experience

Teachers	Subject/s	Teaching Experience in Years	Qualifications
Ms James	Mathematics/Science	6	B.Ed
Mr Smith	English/SOSE	6	BA (Hons)
Mr Wills	English/Drama	6	B.Ed
Ms Ingles	Drama	7	B.Ed
Mr Milton	Mathematics	11	B.Ed
Mr Hamilton	SOSE	15	M.Ed
Mr Black	Science	16	M.Ed
Mr Cable	English/SOSE/Mathematics	17	B.Ed
Mr Hill	Mathematics	25	B.Ed
Mr Stone	Mathematics	26	B.Ed
Ms Waters	English	28	B.Ed
Ms Tombs	Mathematics	32	B.Ed

3.5 Data Collection

In addition to collecting basic demographic information about the three groups of participants (as mentioned in section 3.4 Participants), three sets of methods for collecting data were utilised in the study. These included: (1) semi-structured interviews with all three participant groups; (2) a focus group interview with the students; and (3) a review of documents pertaining to the education of the students.

To develop relationships (trusting and respectful) with the participants and gather rich accounts, it was important that the participants had permission to not answer questions they found too sensitive and/or disruptive to the data collection process. It was essential that the researcher was an active listener without injecting her personal opinions or feelings. Open dialogue was encouraged to gain understanding of the experiences, perceptions, and feelings of the various members of each case (students, parents and teachers).

Initially, individual, semi-structured, in-depth interviews with the six boys, their mothers and their teachers were conducted with the researcher. Interviews are the basis to numerous realities (Stake, 1995) and are one of the main data collection methods used in qualitative research. In this study, the researcher used individual, semi-structured, in-depth interviews to provide the structure for a number of issues covered and to allow conversation between interviewer and participants to flow. Semi-structured, in-depth interviews allowed the researcher to develop a deeper connection with the participants and enabled a deeper understanding of the lived school experience of a diagnosis of AD/HD to emerge.

The purpose of semi-structured, in-depth interviews offered the opportunity for the participants to provide a detailed account of the reality of their schooling experience and a diagnosis of AD/HD and to communicate their experiences and feelings freely. Each student's experience of schooling was the focus of the individual, semi-structured, in-depth

interviews with the boys' mother and the boys' teacher perspective, providing an alternate view of the schooling experience of the six adolescent boys.

After the individual interviews were conducted, the researcher chaired a focus group interview with the six adolescent boys. The role of the researcher changes in the context of a focus group, functioning more as a moderator than as an interviewer (Stake, 1995). The purpose of the focus group was to monitor and record group interactions and promote discussions in order to access information that might not be yielded with an individual interview. The schooling experiences of individuals in the focus group prompted richer remembrance and discussion. A focus group interview provided data that enabled the interviewer to make a comparison of the data collection from the focus group interview and individual interviews and to validate the importance of student voice in the study. The priority in the focus group interview was to encourage the participants to tell their stories about their experiences of school and having a diagnosis AD/HD.

Lastly, the data collection included academic school reports over a two year period. Reading and interpreting the school documents offered a different perspective to collecting data from interviews. The school reports data allowed the researcher to compare academic results in the core subjects of English, Mathematics, Science and Studies of Society and the Environment. An examination of the school reports provided information regarding the academic progress of the participants as well as another opportunity to examine the boys' experience of schooling. Documents are appropriate tools to use in case studies because they provide a link to the schooling experience that cannot be directly observed by the researcher (Stake, 1995). The data pertaining to the each of the boys' school reports are presented as a table within each case study master theme: The Description of Schooling.

3.6 Procedure and Timeline

In relation to the boy participants, when the researcher began the interview process, one boy participant had been expelled and a second boy had left the school citing issues with teachers. Therefore, the researcher sought volunteers beyond Year 9. Students from Year 9, 10 and 11 were invited to participate in the study. The six boys chosen were also asked to participate in a focus group interview. Organising the participants for a focus group interview was challenging. At the beginning phases of the focus group interview, dates were established but it seemed that at least one boy would be absent from school on the day that was initially chosen. Liam and Aaron did not attend school on Monday and Wednesday due to work placement commitments. The focus group interview was scheduled three times before it finally took place. While all endeavours were made to invite Harry, he was unable to be contacted, having left the school at the end of the previous year.

In reference to the focus group interview, Noel dominated the conversation between the five boys. Unless the researcher directed questions to a particular boy, Noel would always answer first. Initially, the interview proceeded slowly with only Noel willing to talk. After ten minutes the boys became more comfortable and after fifteen minutes, they were talking freely. The focus group interview lasted approximately 37 minutes.

In regard to the organisation of the semi-structured interviews with the mothers, initially they were contacted by telephone to schedule a convenient time for the interview to take place. Three interviews were conducted in the researcher's office and two interviews were conducted in the parents' homes. One parent did not participate in an individual, semi-structured interview because she was unable to be contacted. Therefore, only five mothers were interviewed.

The teachers were recruited after a staff meeting the researcher hosted in November 2011 to inform them about the study. The teachers were interviewed in the researcher's office. Of the twelve teachers interviewed, only the responses of eight have been incorporated into the results. Four of the teachers either spoke in generalities or offered no specific comments about individual participants.

The collection of data occurred (during term time) between end 2011 and mid-2012. Stage One of the study involved three phases:

Phase One: obtaining school permission, ethical approval and informed written school consent from the participants which occurred prior to the interview phase of the study.

Phase Two: the individual interviews with each boy, his mother and two of his teachers occurred and took approximately one hour each, however, this time frame varied. The individual interviews were conducted face-to-face in a private meeting room at the boy's school and were recorded. All interviews were transcribed by the researcher and copies of the parent and teacher transcripts sent to the relevant parents and teachers for verification.

Phase Three: the focus group interview with the five boys met on only one occasion. The focus group meeting was tape-recorded and transcribed by the researcher. The focus group interview with the six boys took approximately forty minutes.

The document review occurred concurrently with the individual interviews and focus group interview. The researcher had access to documents in the form of written school reports as she is a teacher employed at the school which the boys attend. Permission was sought from the school administration team and parents prior to access of the documents.

The table below (Table 3.3) provides a summary of the overview of the data collection design:

Table 3.3
Summary of the four stages of case study research

Four Stages of Research	Stage 1 Data Collection (Phase One, Two and Three)	Stage 2 Preliminary Analysis	Stage 3 Second Level of Coding	Stage 4 Refining Second Level of Coding
Research steps	Interviews Document Report	Initial data collection	Emerging categories	Master themes
Methods	Individual Interviews Focus Group Interview Document Reports	Low Level Coding	Analysis of data and ongoing re-examination of data to confirm and disconfirm evidence	Interpret results
Participants	6 adolescent boys with AD/HD – individual and focus group interview 6 mothers 12 teachers – individual interviews	None	None	None
Site	Secondary school in which the boys attend	Off site	Off site	Off site
Duration	Individual Interviews - approximately 1 hour Focus Group Interview – approximately 45 minutes			
Approx. Timeline	December 2011	January – March 2012	March – April 2012	April – May 2012

3.7 Data Analysis

The data for the study included transcriptions of the semi-structured individual interviews and the focus group interview, as well as the documents collected for review. The three classes of text (semi-structured interview transcripts, focus group transcript and documents) were organised, coded and analysed by the researcher using NVivo software. The software supported the researcher to collate related materials that represented a theme, idea or a specific person. In summary, the software arranged information into a report which included charts, tables, graphs and reports. Initially specific words, phrases and sentences were coded. Coding then moved the data into key areas. Possible major themes started to emerge and from here the analysis of the data began (Stage Two).

As this study is an interpretive inquiry, the researcher analysed the data collected using a constant comparison method (Thomas, 2011). With this method of analysis, the researcher went through the data several times (a distillation process), comparing each of the emerging themes (Stage Three).

Overriding the process of constant comparison, was the materialisation of sub-themes that helped to better capture the essence of the data and formed the basis of the analysis. Themes were listed using the transcripts from the individual interviews and focus group interview, thereby identifying the sub-themes (See Appendix K). The sub-themes were grouped together to enable the master themes to be identified (Stage Four), allowing the thematic cross-case analysis to evolve and the findings to develop.

An interpretive/phenomenographical method of research inquiry is chosen for this study because it allows for the qualitative analysis of the phenomenon of AD/HD based on individual's personal experience. The interpretive/phenomenographical approach provided the opportunity to explore the participant's experiences of AD/HD and to be heard from their perspective. An interpretive/phenomenographical approach is the method of choice because it

is concerned with capturing and describing the 'lived experience' of the participants and allowed for the variation in ways of experiencing the phenomenon of AD/HD.

Interview questions to the participants included:

To students:

- What is it like to have AD/HD?
- followed by
- Tell me about what school is like for you?
- Further investigation into the phenomenon of AD/HD included the following questions:
- Tell me how your teachers help you with your schooling.
- How do your friends support you with your schooling?

It was important to listen carefully to each interview response to allow the full meaning of each of the participant's stories to emerge.

3.8 Ethics

Before the study commenced, ethical approval was obtained from QUT's Human Research Ethics Committee (UHREC). In addition, informed written consent was obtained from the mothers and the teachers who were willing to participate in the study. Informed written consent was obtained from the students who agreed to participate in the study, following a discussion of the project. The students needed to know that they could withdraw from the study at any time without penalty.

Low risk application was reviewed by QUT's Faculty Research Ethics Advisor and confirmed as meeting the requirements of the National Statement on Ethical Conduct in Human Research (See Appendix L). Formal ethical approval was required to ensure that all the participants in the study would remain anonymous and their identity protected. All participants' responses were coded and numbered and all names used in the project were

pseudonyms. The interest of this dissertation lay in exploring the schooling experiences of the participants and as such it was important that every effort was taken to ensure the process enabled the participants to more accurately describe their experience of AD/HD.

3.9 Conclusion

In this chapter, the method for the study is presented. The theoretical framework for the study was informed by social constructionism, based on an interpretivist philosophy and using a phenomenographical approach. The method employed was a multiple-case study which analysed qualitative data using individual, semi-structured interviews, a focus group interview and document reports. From the data collection, an account of the schooling experience of boys who have been diagnosed with AD/HD was analysed. The results of the study provided rich information about the experience of schooling of six boys diagnosed with AD/HD.

CHAPTER 4

Case Study Results

4.1 Introduction

The present study is designed to gain a deeper understanding of the experience of schooling of six adolescent boys diagnosed with AD/HD. Specifically, this multiple, instrumental case study addressed the question: "How do adolescent boys who have a diagnosis of AD/HD, their primary carers, and their teachers describe the boys' experience of school?"

This study consisted of six cases, each of which was comprised of a student, a parent and two teachers. The boys, their mothers and teachers each described the boys' experience of schooling from their own perspectives. Data included: (1) transcripts of individual, semi-structured interviews with all three participant groups (students, parents and teachers); (2) transcripts of the focus group interview with the group of five students; and (3) notes written upon a review of documents pertaining to the education of each of the six students.

The data were analysed using NVivo software and in the process six themes clearly emerged; namely: (1) Description of Schooling; (2) The Interplay between Teaching and Learning; (3) Self-esteem and AD/HD; (4) Medication and School; (5) Confusion about AD/HD; and (6) Language and Emotions. The six themes, sub-themes, and sources of the findings are summarised in Table 4.1.

Table 4.1
Themes, Theme Sub-themes, Sources of Data and Relationship to the Dynamic Developmental Theory of AD/HD

Themes	Sub-themes	Sources of Data	Informed by The DDT
1. Description of Schooling	a) Teaching and Learning Experiences	Students	Yes. The DDT suggests children with AD/HD experience a short and steep delay-of-reinforcement. Therefore, reinforcement should be immediate to be effective. If it is not, impulsiveness and hyperactivity may result influencing classroom behaviour and impacting on friendships. DDT states the optimal learning environment includes structure and clear instructions (Sagvolden et al., 2005).
	b) Classroom behaviour	Parents/Teachers	
	c) The importance of friends	Students/Parents/ Teachers	
2. Interplay between Teaching and Learning	a) Helpful teachers	Students/Parents	Yes. The positive and successful adult with AD/HD may have had insightful teachers. The DDT identifies a reciprocal interplay between the affected child and his/her environment (Sagvolden et al., 2005).
	b) Non-helpful teachers	Students/Parents	
	c) Support	Students/Parents/Teachers	
	d) Teaching styles	Students/Parents/Teachers	
3. Self-esteem and AD/HD	a) Effect on self-esteem	Students	Yes. The social behaviour of a child with AD/HD is impacted by the prevailing 'culture', for example, upbringing and genetic disposition. The school may help a child to adjust to the school requirements by providing positive experiences, thus assisting in a positive self-esteem (Sagvolden et al., 2005).
	b) Feeling different	Students/Parents	
4. Medication and School	a) Pros and cons of medication	Students/Parents	Yes. Low dosages of amphetamines are beneficial (Sagvolden et al., 2005).
	b) The journey of medication	Parents	
5. Confusion about AD/HD	a) Misunderstanding	Teachers	No. There is no mention of teachers' misunderstanding or knowledge of AD/HD.
	b) Knowledge of AD/HD	Teachers	
	c) Impact on learning	Teachers	
6. Language and Emotions	a) Teachers' language about	Teachers	No. The DDT does not identify the emotions experienced by parents or language used by teachers in describing their confusion about AD/HD.
	b) AD/HD	Parents	
	Parents' journeys'		

Before describing the findings in relation to these six themes and their sub-themes in detail, consideration will be given to the overall findings of the study in relation to the Dynamic Developmental Theory (DDT) of AD/HD. As noted in previous chapters, the DDT is the explanatory model of AD/HD that was utilised to guide this study. The DDT, as stated previously, is a hybrid model accounting for neuro-biological, cognitive, genetic and social developmental processes in relation to AD/HD behaviours that include inattention, hyperactivity and impulsivity (Sagvolden et al., 2005).

Accordingly, the first section of this chapter (4.2) will focus on a discussion of the overall findings in relation to DDT. This is done in order to clearly establish the links between the themes and DDT, setting the framework for the analysis and the interpretation of the data. Next, the six cases involved in the study will be described (4.3), followed by a consideration of the specific findings for each case study (4.4 to 4.9). The chapter will conclude with a summary conclusion (4.10).

4.2 Findings in Relation to The Dynamic Developmental Theory of AD/HD

Findings within four of the six master themes (namely, Themes 1, 2, 3 and 4) are consistent with the explanatory process described by The Dynamic Developmental Theory (DDT) of AD/HD (Sagvolden et al., 2005). Accordingly, findings in relation to these four themes will be discussed before consideration is given to the findings within Themes 5 and 6, which as will be described later, are extraneous to the focus of DDT.

4.2.1 Theme 1: Description of Schooling

Theme 1: Description of Schooling pertains to each of the boys' experience of schooling from early childhood to present day. Theme 1 contained three sub-themes; namely: 1a: 'teaching and learning experiences', 1b: 'classroom behaviour' and 1c: 'importance of

friends'. In Sub-theme 1a: 'teaching and learning experiences', the data indicated that the boys found school to be challenging because of difficulties concentrating and their inability to sustain self-control in class. It was noted that the boys would call out, fidget, talk out of turn, become distracted easily and not think before speaking. Both teachers and parents frequently mentioned the boys' disruptive behaviours, their incapacity to focus and their often inappropriate comments in a classroom situation.

These observations are consistent with DDT's explanation that children with AD/HD possess insufficient internal reinforcement and extinction processes (reinforcement and extinction are the main selection mechanisms of behaviour) and as such have less time available to associate behaviours with consequences as a result of a hypo-functioning (i.e., diminished) dopamine system (Aase & Sagvolden, 2005). A short and steep delay-of-reinforcement may result in a narrower time-frame between associating antecedent stimuli and behaviour (Aase & Sagvolden, 2005). For children with AD/HD, socially desirable behaviour is not reinforced in time because the efficacy of the reinforcer is smaller than for children without AD/HD (Johnson et al., 2009). The consequence is a delay in the learning of behavioural sequences and the acquisition of only short behavioural sequences, resulting in deficient development of verbally governed behaviour and self-control (Aase & Sagvolden, 2005).

With regards Sub-theme 1b: 'classroom behaviour', the boys indicated they often did not consider the possible consequences of their actions because they tended to react spontaneously. This resulted in them making inappropriate comments or participating in low levels of on-task behaviour. The boys reported that their inappropriate language and behaviour had a negative impact on their ability to remain focussed and to concentrate in class. The boys' teachers also identified how limited self-control had a negative influence on the boys' learning and retention of knowledge.

These observations regarding the impact of impulsivity and limited self-control on learning are consistent with DDT in that individuals with AD/HD reportedly have less time available to associate behaviours with consequences (Sagvolden et al., 2005). Children with AD/HD have limited capacity to monitor and control the way they behave and as such frequently display impulsive behaviours (Aase & Sagvolden, 2005).

Finally, in relation to Sub-theme 1c: 'importance of friends', as evidenced through interviews with the parents, the teachers and the students, forming and maintaining friendships, while very important, was particularly difficult for each boy at primary school. As the boys approached secondary school, however, making and maintaining friendships became easier and it was noted that it was also very important for each boy to have friends. The boys did not perceive they were different to boys who did not have AD/HD.

Forming and maintaining friends is consistent with the DDT's account of the social development pertaining to children with AD/HD. Developmental delays can occur in students with AD/HD in several areas of daily life including the ability to anticipate behaviour for a given situation (Aase & Sagvolden, 2006). In these situations, children with AD/HD may not have developed the pragmatic language skills to guide behaviour in specific social situations such as forming and maintaining friendships, in the context of a classroom, or in a social situation (Sagvolden et al., 2005).

4.2.2 Theme 2: The Interplay between Teaching and Learning

Theme 2: The Interplay between Teaching and Learning relates to the role of teachers in the teaching/learning process and includes four sub-themes; namely: 2a: 'helpful teachers', 2b: 'non-helpful teachers', 2c: 'support' and 2d: 'teaching styles'. In sub-theme 2a: 'helpful teachers', the data indicated that teachers were regarded as helpful when they took an interest

in the boys' education and welfare, by engaging in humour to maintain interest in the learning process and if they genuinely appeared to 'like' each of the boys.

The observations by the boys in regard to what constitutes a helpful teacher aligns with DDT in that the theory states that if a reciprocal interplay exists between a student and his/her environment (in this case the school) and if the interplay has positive benefits, this will continue into adult life (Sagvolden et al., 2005).

With respect to Sub-theme 2b: 'non-helpful teachers', the boys would complete minimal or no work in a classroom situation for teachers whom they described as boring, who ignored them, would not help them if they asked or whom they perceived could not teach. According to DDT, students with AD/HD need to have teachers who offer clear instructions and structure thereby enhancing their capacity to become positive and successful adults (Sagvolden et al., 2005).

In regard to Sub-theme 2c: 'support', the students, parents and teachers considered several ways to assist students with AD/HD. The boys indicated teachers who were understanding and knowledgeable about AD/HD and who gave small but frequent breaks during a lesson were supportive. The parents stated more flexibility within the daily operation of the school (timetable, extended breaks, support staff) would be beneficial, while the teachers suggested professional development would improve their knowledge and understanding of AD/HD which would in turn, better equip them to help students with AD/HD in the classroom environment.

Lastly, concerning Sub-theme 2d: 'teaching styles', the boys' found that teachers who had established firm boundaries, who had a thorough knowledge of their teaching area and who enjoyed camaraderie with the class group, were important considerations. The parents indicated teachers should possess an adequate knowledge of AD/HD and use that knowledge

in their daily teaching, while the teachers highlighted a structured classroom environment with clear and consistent boundaries as a major consideration.

An optimal learning environment is considered an important factor by the DDT. A structured setting with teachers who use clear instructions and frequent reinforcers to establish stimulus control and verbally governed behaviour may assist a child or adolescent with AD/HD to meet school expectations (Sagvolden et al., 2005).

4.2.3 Theme 3: Self-esteem and AD/HD

Theme 3: Self-esteem and AD/HD relates to how the teaching/learning environment affects the boys' experience of schooling and includes two sub-themes, namely: 3a: 'effect on self-esteem' and 3b: 'feeling different'. In Sub-theme 3a: 'effect on self-esteem', the data indicated that primary school teachers generally impacted negatively on the boys' self-esteem, while secondary teachers affected the boys' self-esteem if they ignored, embarrassed, or made the boys feel 'dumb'. It was noted that in secondary school, the boys developed a positive work ethic if they liked a subject, and this had a positive impact on their self-esteem. A teacher who knew, liked and encouraged a student was important to each of the boys. The parents generally indicated their son's experience of school impacted negatively on their self-esteem.

The observations made by the boys and parents in regards to self-esteem and schooling are consistent with DDT in that children with AD/HD can exhibit issues with self-esteem if the learning environment (school) does not cater to their individual needs (Sagvolden et al., 2005).

In Sub-theme 3b: 'feeling different', these observations are further emphasised where the data identified the need for the boys to 'belong' in school, that is, to be socially accepted

by peers and teachers. The boys indicated that primary school was challenging in the sense they found it difficult to make and maintain friends thereby making them feel 'different' to other students. However, once the boys progressed to secondary school they were more readily capable and able to establish and manage friendships.

While DDT does not specifically identify why children with AD/HD experience feelings of isolation due to feeling different to other children, the theory suggests that social learning in the home influences the way a child behaves, which in turn affects their cognitive and social abilities to enable them to navigate their world (Sagvolden et al., 2005).

4.2.4 Theme 4: Medication and School

Theme 4: Medication and School pertains to the positive and negative effects of medication on the boys' experience of schooling and secondly, the journey for parents in regards to the decision to use medication to manage their son's unwanted behaviours at school and at home. Theme 4: Medication and School included two subthemes; namely, 4a: 'pros and cons of medication' and 4b: 'the journey of medication'. In Sub-theme 4a: 'pros and cons of medication', the data confirmed medication improved the boys' capacity to concentrate, focus and to think before acting out in a classroom situation, however, medication did not improve the boys' learning processes.

The DDT is consistent with the findings from the study in regards to medication and schooling in that the use of medication in small doses is a therapeutic form of treatment for students with AD/HD (Sagvolden et al., 2005).

In Sub-theme 4b: 'the journey of medication', the results indicated that each boy was diagnosed with AD/HD during their first years of formal schooling (Prep or Year 1). The data also highlighted the ordeal parents experienced in choosing the psycho-stimulant best suited

to assisting their son to control unwanted behaviours and lastly (through the parent lens) the stigma the boys perceived in relation to their experience of having to take medication at school.

The data in relation to Sub-theme 4b: 'the parent journey of medication' is consistent with the DDT which indicates that exceptional parenting skills are required to raise a child with AD/HD and that an optimal upbringing is essential for children with AD/HD so they are reared in a consistent and organised environment (Sagvolden et al., 2005).

4.2.5 Theme 5: Confusion about AD/HD and Theme 6: Language and Emotions

Although findings in relation to Themes 1, 2, 3 and 4 as discussed above are all consistent with DDT, findings in relation to Theme 5: Confusion about AD/HD and Theme 6: Language and Emotions are not consistent with the DDT. As stated at the beginning of Chapter 4 (Introduction 4.1), the Dynamic Developmental Theory (DDT) of AD/HD hypothesised by Sagvolden and his colleagues (Sagvolden et al., 2005) proposes that altered reinforcement and extinction processes, primarily associated with a hypofunctioning mesolimbic dopaminergic system, affect learning processes thus resulting in the behaviours characteristic of AD/HD (Sagvolden et al., 2005). The theoretical model and its underlying mechanisms have been tested primarily in relation to clinical assessment of children and animals (rats) (Aase et al., 2006; Zhang-James, Middleton, Sagvolden & Faraone, 2012). On the basis of findings from these studies, Sagvolden and his colleagues have described the conditions that are optimal for individuals with AD/HD from the perspectives of families and society (Sagvolden et al., 2005 pp. 417 – 419).

To date, however, DDT does not appear to have been tested in relation to community samples of children and adolescents and, as a consequence, Sagvolden and his colleagues have directed limited attention to the specific functioning of children within a school

environment. For example, Sagvolden et al. (2005) cite the work of Hoffman and DuPaul (2000) and Wolf (1998), noting that although these programs are built on the principles described by DDT, empirical evidence for the effects of the program on behavioural functioning has yet to be established.

Accordingly, this study makes an important contribution to the field in two ways. First, using the participants from a community-based sample (6 adolescent boys in a secondary school setting), the findings of the study provide support for DDT model. Second, in exploring adolescent boys' experience of schooling from the perspective of the boys, their mothers and their teachers, the study expands upon the focus of DDT to include considerations of Confusion about AD/HD (Theme 5) and the Language and Emotions (Theme 6) that arise in relation to AD/HD.

Findings in relation to Confusion about AD/HD (Theme 5) and Language and Emotions (Theme 6), which go beyond the confines of DDT to enrich our understanding of the phenomenon of AD/HD in relation to adolescent boys and their experience of schooling, will be discussed in the sections that follow pertaining to each of the six cases (Sections 4.4 to 4.9) and again in Chapter 5 in relation to cross-case findings. Before considering each case, however, it is important to describe the participants who contributed their perspectives to each of the six cases.

4.3 Findings in Relation to the Six Cases

The present study examined the boys' experience of schooling in relation to six cases, each of which was comprised of a boy, his mother, and two of his teachers. A summary of the participants in each case is presented in Table 4.2.

Table 4.2
The Cases, Participant Groups and Participants

Cases	Participant Group	Participants
1	Student	Harry
	Parent	Harry's Mother
	Teachers	Ms Waters & Mr Hill
2	Student	Liam
	Parent	(Did Not Participate)
	Teachers	Mr Black & Mr Hamilton
3	Student	Noel
	Parent	Noel's Mother
	Teachers	Mr Smith & Mr Wills
4	Student	Zeb
	Parent	Zeb's Mother
	Teachers	Mr Smith & Mr Wills
5	Student	Joe
	Parent	Joe's Mother
	Teachers	Mr Stone & Mr Hamilton
6	Student	Aaron
	Parent	Aaron's Mother
	Teachers	Mr Milton & Mr Wills

4.4 Case Study 1: Harry, Harry's Mother and Two Teachers

The individual, semi-structured interview with Harry took place in December 2011 as he neared his completion of Year 9. He was 14 years of age and had been at the school for two years. Harry was born in South Africa and had lived there until his family migrated to Australia in 2009. Although initially nervous, Harry spoke well and answered all the questions asked of him. His mother and two each of his teachers, Ms Waters and Mr Hill, participated in an individual, semi-structured interview within one week of Harry's interview. At times, these teachers spoke about teaching other students with AD/HD. Where this occurred, data points pertaining to generalities about AD/HD have been included in Chapter

5: Cross-case Results and Discussion. As stated previously, Harry did not participate in the focus group interview.

4.4.1 Theme 1: Description of Schooling

The features of Theme 1: Description of Schooling is supported by the data points from Harry, Harry's mother and teachers, Ms Waters and Mr Hill, within Sub-themes; 1a: 'teaching and learning experiences', 1b: 'classroom behaviour' and lastly, 1c: 'the importance of friends'.

4.4.1.1 Sub-theme 1a: Teaching and Learning Experiences

To gain an insight into Harry's perspective on his schooling, he was asked what school was like for him. He indicated that his experience of school had changed as he transitioned from primary to secondary school. In primary school he recalled that it was difficult to focus and in particular, it was hard to focus in English. Harry reported, "I did not pay attention to what people said and I was always off doing my own thing. You could say I was selfish, not respecting other people around me." Describing his inattention in class during primary school, Harry highlighted common behaviours observed in children with AD/HD (Houghton, 2006). Harry knew he needed to pay attention in class and believed that as he became older, it would be easier for him to concentrate. He noted, "As I grow older, I believe my AD/HD will decrease and I will increase my power to focus and pay attention." Harry's belief that he was able to concentrate for longer as he grew older is consistent with Prosser (2008) who found that as children with AD/HD matured, they were able to focus and to concentrate for longer in the classroom.

As Harry matured he was able to better adapt to the instructional demands of the classroom and to anticipate appropriate behaviour, so in essence he assumed he was 'growing

out of' AD/HD. He reflected, "I now have the ability to concentrate longer, focus on what I am doing and thinking about a specific thing I am doing."

Harry suggested that school could be more interesting if teachers used humour and if they paused the lesson for a few minutes to allow him some time to consume a snack. Harry needed a brief concrete distraction to allow himself to shift and regain focus. Harry's favourite subjects were Mathematics and Science because he said, "I feel I really understand what I am doing there. The knowledge that I have in these subjects, I mean I understand them a lot better." Harry may have also enjoyed Mathematics because his teacher, Mr Hill, used humour as a teaching strategy. Using humour provided the support Harry needed to improve his focus and attention. Harry's confidence in these subjects is evident by his grades (see Table 4.3). Harry's least favourite subjects were SOSE and English because of his limited interest in these subjects which exacerbated his difficulties in sustaining attention. Consequently, his performance in these subjects was inconsistent. Harry's academic report over two years is summarised in the following table:

Table 4.3
A Summary of Harry's School Report from 2010 – 2011

	Year	English	Mathematics (Adv)	Science	SOSE
Semester 1: 2010	8	B-	B+	B	C
Semester 2: 2010	8	B-	B-	B	B-
Semester 1: 2011	9	C+	B-	B+	B
Semester 2: 2011	9	C+	B-	B+	A-

Harry recognised that a relationship existed between stronger results at school and a positive relationship with his teachers. He held most of his teachers in high regard stating that they were considerate towards him.

4.4.1.2 Sub-theme 1b: Classroom Behaviour

Harry's mother indicated that her son's educational difficulties first came to her attention during her son's primary school years. She stated:

> His language skills are not that good. He could not spell and he still cannot spell very well. I did not know how to help him so we did a lot of reading. At the end of Year 7 we moved to Australia.

Secondary school was easier for Harry according to his mother as: "He did quite well academically."

The two teachers (Ms Waters and Mr Hill) indicated that Harry appeared to be an academic student but his inability to concentrate had hampered his progress. To begin with, Ms Waters commented:

> Harry is bright and does want to try but is so distracted in the classroom and as such the output of the work he does in the classroom is not up to standard. The overriding issue is not being able to focus on the task, not being able to concentrate and not being able to sit still.

Harry's struggle to focus highlights the difficulties and inadequacies so many young people with AD/HD experience on a daily basis (Kos et al., 2006).

When Mr Hills noticed Harry's behaviour difficulties in the classroom he noted that while Harry had a good work ethic, impulsivity overrode his ability to concentrate and focus. Mr Hill stated that Harry was:

> Time consuming in terms of the need to respond to questions or continually wanting to ask questions or wanting to make comment whether appropriate or inappropriate and the inability to wait until it is time to make a response or a comment.

If Harry was confident with a particular task, he indicated that he was able to focus and concentrate. This was because Harry perceived he had a strong understanding of

mathematical concepts and because Mr Hill used humour as a classroom strategy. However, Mr Hill's comments about Harry's behaviour are contradictory to Harry's account, thus highlighting how teacher and student see classroom behaviour differently.

4.4.1.3 Sub-theme 1c: The Importance of Friends

Important features of Harry's schooling described by Harry were his friendships with his peers. While he considered his friends 'lazy', their perceived laziness inspired him to do well at school. Harry explained this by stating:

> My friends are a bit lazy on a personal level but I can always go to my friends when I am stuck with a problem. They do encourage me to do better because I cannot imagine being like them: lazy.

While Harry's description of his friends is ambiguous and unclear, his awareness of his friends' idleness in the classroom was bothersome for him and as such helped him to stay on task and direct his concentration to his class work.

Harry was convinced his friends no longer assumed he had AD/HD, but even so he was reluctant to tell anyone he had AD/HD unless they specifically asked. It seemed that Harry did not want to appear dissimilar to other boys, especially he said during his primary schooling. He indicated, "It bothered me more when I was younger because I thought I had a disability compared to other students." His desire not to appear to be different highlighted his assumption that he had 'grown out' of AD/HD and was 'like' other boys.

As a distraction from the routine of school, during the lunch break Harry and his friends often spoke about their hobbies. He said we: "Normally talk about stuff we are interested in. We are really calm. We don't do any or much physical activity just mainly sitting in our little group." It appears that his positive relationship with his mates and his

demonstrative behaviours (impulsivity and hyperactivity) in the classroom may have gone unnoticed by peers or maybe they were accepting of Harry, despite his attention difficulties.

Harry's mother indicated he had three good friends at school with whom he also socialised with outside school hours. The three boys would frequent Harry's house and engage in video games or ride their skateboard around the local area. She did not discuss whether AD/HD had impacted negatively on her son's ability to make and manage friendships at school but she recalled occasions when the school had telephoned her about conflicts that had occurred between Harry and his peers at lunch-time. As she recalled, "He has had a few accidents at school. More recently he was involved in a fight with another boy. His mouth was bruised and he had a loose tooth." Harry's difficulties with self-control and impulsivity in the playground eventually led to a two day suspension from school. Harry's mother was upset by the actions taken by the school, as was Harry. She declared Harry, "Wondered whether he was a criminal. He was very upset by this incident." It is understandable if Harry may have felt disillusioned with school on this occasion.

Ms Waters confirmed Harry and other boys with AD/HD demonstrated inconsistent behaviour in the playground. As she recalled, "Out of the classroom, socially these kids have problems too. They just seem to have trouble relating to other kids. They can't keep their hands to themselves or saying the right thing. Just being normal." The opposing views by Ms Waters, Harry and Harry's mother in regard to Harry's perceived interactions with his peers in the playground highlight how the construct of AD/HD is influenced in terms of peoples' individual experiences (Crotty, 1998) and how the perception of friendships varied. While friendships were important for Harry's experience of school, it appeared he had a different view of how he regarded his peers in comparison to his teachers and to his mother.

Harry's teachers predominantly spoke in generalities in regard to the ability for boys to form and maintain friendships and their ability to work in a group. Therefore a discussion about the ability for boys with AD/HD to work in groups is outlined in the cross-case analysis in Chapter 5: 5.2.3 Teachers' Perspectives on Friends.

4.4.2 Theme 2: Interplay between Teaching and Learning

The categories in Theme 2: Interplay between Teaching and Learning include the sub-themes; 2a: 'helpful teachers', 2b: 'non-helpful teachers' and 2c: 'support', are considered by Harry and his mother. The findings in Sub-theme: 2c: 'teaching styles' are supported by the data retrieved through the individual semi-structured interviews with Harry, Harry's mother and teachers, Ms Waters and Mr Hill.

4.4.2.1 Sub-theme 2a: Helpful Teachers

Harry was thankful that he had teachers who were considerate of his life-long pattern of poor attention, poor organisation and impulsiveness because these difficulties had impacted on his learning. For Harry, the type of teacher that he preferred was a teacher with patience, who had a positive attitude towards boys with AD/HD and who knew him well on a personal level. He stated, "If I don't know something I know I can always go to a teacher and I will get advice or something." It was important for Harry to have teachers who he knew cared about him. A therapeutic classroom environment and positive interactions with teachers would have helped him to control his poor attention, poor organisation, and impulsivity (Sagvolden et al., 2005).

Harry willingly sought academic help from his teachers: "I have one teacher in particular who helps me with my spelling which really helps me out. She teaches me how to spell words and pronounce words better." If teachers are explicit in their teaching Harry

explained, “I will get a new understanding if I ask the teacher.” He declared, “Every teacher does this for me.” The relationships he developed with the teachers he liked and who were helpful to him shaped his experience of school.

Harry’s mother defined a helpful teacher as a person who had offered Harry extra assistance in the classroom. She indicated Ms Waters was a helpful teacher. She noted:

> He received extra support from the English teacher who would give him extra time to complete tasks and who would assist him in the lunch time. She helped him to improve and gave him confidence in his writing. He came to really enjoy oral presentations. His reading improved too. Having assignments explained thoroughly assisted him to better understand what was required from him.

Helpful teachers improve the self-confidence of young people with AD/HD (Sherman et al., 2008) and according to Harry’s mother, Ms Waters empowered Harry to strive for academic excellence.

4.4.2.2 Sub-theme 2b: Non-helpful Teachers

A non-helpful teacher according to Harry was someone who demonstrated limited patience with him. He reflected:

> They don’t pay attention when I ask them a question. I get the feeling I am not wanted which impacts my ability to focus or study. Certain things they say hurt me. I pick that up and it makes me feel uncomfortable.

Certain teachers impacted on his self-esteem and his ability to focus or not focus on what he was learning and may have added to his feelings of disappointment and discouragement when they ignored his effort to seek help.

Harry did not talk often about his schooling with his mother so she spoke generally about non-helpful teachers: “I think that some teachers cope better with these type of children

and other teachers do not cope well." Harry's mother evidenced a lack of consistency in some of Harry's teachers through the stories he had told her about some of his teachers. She offered the following advice to teachers:

> AD/HD kids need to have certain guidelines specified by the teacher so that these kids understand expectations. Teachers need to be more consistent. If they say they are going to check homework, they need to ensure that they do this. Otherwise children know the teacher is not consistent and will not necessarily do the work. Teachers should be patient and not yell and have consequences for poor work and not doing homework.

Her comments suggest that some of Harry's teachers may not have had the patience, empathy and persistence that Harry liked his teachers to possess.

For Harry and his mother, their comments highlight the importance for the need that educators need to be sufficiently prepared, to ensure Harry's schooling was a positive experience (Guerra & Brown, 2012). Their description of unhelpful teachers captured the nuances of what school was like, on occasions, for Harry.

4.4.2.3 Sub-theme 2c: Support

Harry indicated that some of his teachers could be more supportive. He noted:

> If they personally go to a student and have a personal talk to them and tell them they can do better and that they have the ability to succeed. There needs to be a certain amount of pressure put on a student so they do their best. Without that pressure a student will become lazy or sloppy and unreliable actually.

Perhaps Harry saw an open, positive and communicative relationship with teachers as an important aspect of his schooling.

The school administration team could have been more supportive of Harry, according to his mother:

> The school admin needs to be more aware of what kind of children AD/HD children are and to be aware of their needs, how their body works and their emotions. They are different. They need to have more insight into these children in their behaviour, their way of thinking.

She added:

> Teachers need to give them breaks after ten minutes rather than make them sit for forty minutes without a break. They need to be treated as an individual and not boxed. However, just because they are different is not an excuse for not behaving.

It appears her suggestions may lie with Harry's inability to follow classroom rules.

The classroom environment can provide varying modes of support for children with AD/HD (Rush & Harrison, 2008) and according to Harry's mother, the school should have provided teacher aide assistance to help Harry to stay on task and to assist him with his class work. She admitted:

> A teacher does not have time to support everyone in the class. To prevent those falling behind, a teacher aide can help these children catch up. A teacher who has AD/HD children in the class needs extra support to help them.

Ms Waters was unsure how she could better support students like Harry: "I don't know what the answers are for these kids." She pondered, "Awareness is a big thing. Ensuring their subjects are chosen carefully. Ensuring their teachers are chosen carefully." She then commented on how parents could support their child with AD/HD:

> Someone needs to calm them down at the beginning of every day. They have good and bad days. That is parents really and they need to work out what the triggers are so they can be sent to school calm so we can start the day calm.

Her comment about parent responsibility suggests she may have a limited understanding of the reality of living with children with AD/HD (Kos et al., 2006).

Ms Waters then suggested how teachers could be supportive of students with AD/HD. She declared:

> Our main role as a teacher is to help these boys rein in their inability to function. Whether it has been either a fist fight or hurting another kid somehow, getting upset about something or feeling some injustice has been done, or whether they are at the wrong place at the wrong time, teachers need to try to get these boys to learn from each situation but I do not think they are able to.

However, Ms Waters did not offer specific classroom strategies to assist boys with AD/HD.

4.4.2.4 Sub-theme 2d: Teaching Styles

Harry preferred teachers who were firm and authoritarian in their teaching style. He said, "Boys like me can be lazy as. We need something or someone watching over us so we don't do anything stupid." As stated previously, Harry liked teachers who used humour in their lessons: "So I am willing to learn or focus on the topic." By listening to Harry, the type of teaching style helpful to boys with AD/HD included a structured classroom, clear instructions and frequent reinforcers (e.g., humour).

Rather than to highlight a particular teaching style best suited to Harry, Harry's mother focussed on the importance of teachers generally. As she saw it, "Teachers need to be aware that these young people have needs. It is difficult for teachers who have a big class to distinguish between those who have AD/HD and those who do not." Therefore, it was important for her that all students in a classroom environment have clear and firm guidelines from the classroom teacher.

Mr Hill described himself as a strict, firm teacher. In regard to teaching boys with AD/HD he stated:

> I think it is very important to be firm and have distinct guidelines. All boys like structure but these boys need to know exactly where the boundaries are and what the expectations are. Generally speaking, most of them will come to the party, not all obviously. Some struggle with whatever you try to put in place for them even if it is to their benefit, but most of them, I have found, are fine and do like to have distinct boundaries.

Mr Hill's comments are consistent with Hoffman and DuPaul (2000) whose study found that optimal learning for children with AD/HD occurs in structured classrooms.

Ms Water's perception of her own teaching style centred on the procedures that she used to engage students. She said:

> I spend a lot of time pulling them back on task, making them aware of the fact that I am watching them not concentrating. Getting them back on task, just calling their name, making eye contact, breaking up what it is I am teaching them into doable sections like, 'I just want you to write this one sentence now and let me know when you have finished doing that'.

The teaching characteristics identified by Harry, Harry's mother and his two teachers, highlight the teaching style that is advantageous to learning for children and adolescents with AD/HD (clear and consistent expectations, firm boundaries and frequent reinforcers) (Sagvolden et al., 2005). Such factors will assist in maintaining attention, reducing distractions and improving self-control in a classroom environment.

4.4.3 Theme 3: Self-esteem and AD/HD

The findings from Theme 3: Self-esteem and AD/HD will be explored within Sub-themes 3a) 'effect on self-esteem' by Harry and Harry's mother; and 3b) 'feeling different' by Harry.

4.4.3.1 Sub-theme 3a): Effect on Self-esteem

Many young people with AD/HD live with feelings of discouragement and disenchantment (Murphy, 2005). Recalling his primary schooling, Harry remembered he was self-conscious about having AD/HD. For him, "It bothered me more when I was younger because I thought I had a disability compared to other students. I really didn't feel comfortable about talking about it to other people because I had self-esteem issues." Having these feelings could have impacted on Harry's ability to sustain attention, resist distraction and limit his self-control in class activities. While Harry stated that most of his current teachers were helpful to his learning, one teacher had recently impacted on his self-esteem. The teacher had made comments to him that had 'hurt his feelings'.

Harry's mother speculated that her son possibly had low self-esteem as she perceived Harry had at times experienced feelings of demoralisation and disillusionment at school. A diagnosis of AD/HD had impacted on Harry's self-esteem she said, because of his difficulty to interpret, accept and meet the expectations required in the classroom. In particular she indicated, "School rules were hard for him to manage and it shouldn't have been." She highlighted the need for teachers to support boys with AD/HD emotionally. She said:

> As they grow up we may think they are fine but they are not. They realise that they are different to other kids. If you are AD/HD you will always be AD/HD. It does not matter how old you are. Teachers need to be aware that these young people have needs.

Of importance to his learning, according to Harry's mother, were teachers who were supportive of his educational limitations.

4.4.3.2 Sub-theme 3b): Feeling Different

Some young people with AD/HD feel different from their peers (Travell & Visser, 2006), however, Harry indicated he did not feel different to other young people. Friends did not treat him differently because he assumed that his friends thought he no longer had AD/HD: "Most of my friends don't think I have AD/HD anymore." It appears that as Harry made the transition from primary to secondary school he believed he was 'growing out' of AD/HD so he believed he was similar to other boys.

Harry and his mothers' stories about Harry's self-esteem reveal a complex situation. It seems Harry's mother implicated the school for his self-esteem issues citing the school could do more to help her son, but for Harry it was unsupportive teachers who affected his self-esteem. Harry was confident he was growing out of AD/HD but according to his mother Harry would always have AD/HD. The variation between Harry and his mother's perceptions about AD/HD provides a unique feature to Harry's story about his experience of schooling.

4.4.4 Theme 4: Medication and School

The features of Theme 4: Medication and School will be reported within Sub-themes: 5a) 'pros and cons of medication' using data points from Harry and Harry's mother. Sub-theme: 5b) 'the journey of medication' will follow using information offered from the individual interview with Harry's mother.

4.4.4.1 Sub-theme 4a): Pros and Cons of Medication

Harry began to take prescribed medication for AD/HD in Year 3. To 'not to appear different' to other boys at school, he stopped taking the medication at the end of Year 6: "I learnt to settle down a bit and calm down." It is not uncommon for children to cease taking medication as they approach secondary school because of their perceived improvement in

concentration and focus (Prosser, 2008). While medication is seen as effective in improving concentration, focus and has therapeutic benefits for young people with AD/HD (Sagvolden et al., 2005) for Harry, the positive effects of medication in relation to his impulsivity and hyperactivity were secondary to his self-esteem.

As his classroom teacher in Year 4, Harry's mother observed the positive effects of medication as Harry showed improvement with focus and concentration. However, by Year 7 Harry had stopped taking medication for AD/HD and following this, his mother noticed a change in her son's behaviour. She explained, "His attention span again became shorter but classes were small and that helped." Harry's mother had found Ritalin helpful as the medication had facilitated Harry's concentration and attention. Through its normalizing effect on dopamine levels within the mesocortical and nigrostriatal branches within the brain, (Sagvolden et al., 2005), Ritalin probably had improved Harry's concentration and focus.

Harry's mother supported Harry's desire to stop taking prescribed medication despite the possibility that Harry's schooling could be compromised. What was important for Harry (and his mother) was that his sense of self-worth was not impacted by his perceived sense of appearing to be different to other boys or feeling 'like a freak' if he continued taking medication.

4.4.4.2 Sub-theme 4b): The Journey of Medication

Harry and his family began their journey in regard to the decision to take medication when he was in preschool. His mother was concerned about his academic progress in comparison to her older son when he was at the same age and when she had also compared Harry to other children she had taught who were similar in age. She concluded, "He was developmentally behind. He was slower than the other children. He was physically behind other children. He was exhausted early in the mornings. He really could not concentrate." She

added, "He was behind in drawing; he could not draw. His attention span was very short even when we played with blocks and other similar toys. He was not interested in building blocks." At the end of Year 2, Harry continued to have academic shortcomings compared to the other children in his class. Harry and his mother visited a paediatrician prior to Harry starting Year 3 and the doctor diagnosed him with AD/HD. Ritalin was used to manage Harry's difficulties in sustained attention, resistance to distraction, behavioural impulsivity and to regulate his activity level.

Despite the side-effects (lethargy and a limited appetite), Harry continued to take medication throughout Year 3. However, the side effects became more obvious. Harry's mother observed, "He became very quiet but he did not eat at all and became skinnier and skinnier." As his class teacher in Year 4, she observed him closely and monitored any noticed changes in his demeanour. She stated, "He was very quiet and just sat there. He did nothing. If I asked him a question, he would just say, 'yes'. His personality changed."

The side-effects of AD/HD medication can include apathy, social withdrawal and docility (Breggin, 1999) and it seemed that Harry experienced similar effects when taking medication. Harry's mother noted:

> School finished for him at 1.30pm. When I got him home, I could not do anything with him as he was so tired and exhausted. We took him back to the paediatrician who changed his medication to a slow release stimulant (Concerta). That was fine.

Harry continued to take prescribed medication to manage AD/HD until the end of Year 6, when he stopped taking Ritalin. It was noted by his mother that the following year Harry achieved relatively strong academic results at school. Without medication the change in Harry's physical development was obvious. According to his mother, "He started growing and grew very quickly." It has been three years since Harry has taken medication for AD/HD and despite the perceived benefits of taking medication, discontinuing with psycho-stimulants

appeared to be for the betterment of Harry's self-esteem and physical development. Harry's mother reflected, "He is doing okay at school without Ritalin but I still think he could have achieved better at school had he stayed on the Ritalin."

4.4.5 Theme 5: Confusion about AD/HD

The points from Theme 5: Confusion about AD/HD will be presented within Sub-themes; 5a: 'misunderstanding', 5b) 'knowledge of AD/HD' and 5c) 'impact of learning', using the data points from Ms Waters and Mr Hill.

4.4.5.1 Sub-theme 5a): Misunderstanding

When asked what she knew and understood about AD/HD, Ms Water's admitted 'probably not a lot'. Her response is typical of many teachers, according to Martinussen et al. (2006) and Kos et al. (2006), whose studies found that teachers have a misunderstanding and limited knowledge about AD/HD. As a teacher with 28 years of experience, Ms Waters claimed AD/HD is a 'Hyperactive Disorder' associated with drinking red cordial. She likened AD/HD to Asperger's Syndrome pointing out, "They pinned it to the Asperger's Spectrum or the Autism Spectrum" furthermore stating, "I have done some in-service on teaching children with learning disorders of various sorts such as Auditory Processing Disorder and AD/HD is probably part of that."

Mr Hill's understanding of AD/HD reflected his perception that the boys with AD/HD often entered his classroom with challenging behaviours (Arcia et al., 2000; Biederman, 2005; Hoffman & DuPaul, 2000; Hughes, 2007a). The boys' behaviours included:

> Their demeanour, a change in their behaviour, their manner, their unwillingness sometimes to make an effort to learn; their whole feel. Some days some particular students come into class with a totally different demeanour about them. They are more willing to sit and try and make an effort, whereas some days they come into

> class and they are totally switched off and disengaged and not interested in learning at all. It makes it difficult for me to keep them on track and at the same time teach the remainder of the class.

While Mr Hill had described the behaviours typical of boys with AD/HD in his classroom, his ability to meet the challenges associated with these types of behaviours highlight the importance for teachers to be adequately trained to better manage children with AD/HD.

4.4.5.2 Sub-theme 5b): Knowledge of ADHD

Two ideas emerged from Ms Waters' perceived knowledge of AD/HD. First, she believed AD/HD affected children in different ways due to the 'varieties' or 'ranges' of the disorder. Second, as she stated previously, "It used to be called ADD but now they are saying a lot of these children are more Asperger's than AD/HD." She admitted, "I don't know what they are up to." Her belief and knowledge about AD/HD was not accurate or wide-ranging which is common among teachers (Kos et al., 2006, Sciutto et al., 2000, Sherman et al., 2008 and West et al., 2005). Her limited knowledge and understanding about AD/HD made it apparent that teachers could be better informed about AD/HD (Wheeler et al., 2008).

About his knowledge of AD/HD, Mr Hill indicated he 'realistically knew very little' stating:

> I appreciate there are some issues for the students in terms of their behaviour and their ability to learn just from experiencing certain students that you have pointed out that I teach. As far as what it actually involves or the various traits or different types of AD/HD, I have absolutely no idea but should be up-skilled in if we are expected to teach them.

Furthermore, he reported, "Until they are actually diagnosed, it must be very hard because they do not actually understand what they are displaying and what they are actually doing is different."

4.4.5.3 Sub-theme 5c): Impact on Learning

Gaps in Ms Water's knowledge of AD/HD were evident by her need for children with AD/HD to have 'a specific tailored plan' that could help them in their schooling but she appeared to be unsure about the kinds of strategies that would be beneficial. As Ms Waters saw it, "You can't just say the AD/HD boy therefore has to sit in the front row or therefore you have to make eye contact with him." Teachers' limited knowledge in regards AD/HD can lead to uninformed decisions about behaviour management strategies and educational interventions (Donnah, Anderson & Noble, 2012; Sciutto et al., 2000).

Mr Hill was also not sure which classroom strategies he could use to help Harry with his schooling. He admitted, "I have no real idea of how I should be teaching. "I don't know if I use any specific interventions for students who have AD/HD. I don't think I am doing anything specifically towards those students." Mr Hill perceived that he did not use specific behaviour management or teaching strategies to teach Harry Mathematics. However, Harry's favourite subjects were Mathematics and Science because Harry perceived he had a 'good understanding' of those subjects. Without knowing it, Mr Hill provided Harry with the help he required to achieve some success in Mathematics. Harry stated, "Teachers help me with stuff I do not understand. If I don't know something I know I can always go to a teacher and I will get advice or something which increases my will to learn something new."

4.4.6 Theme 6: Language and Emotions

There were no findings by Ms Waters and Mr Hill in relation to Sub-theme: 6a) 'teacher's language about AD/HD', therefore the findings by Harry's mother will be considered only in Sub-theme: 6b) 'parents' journeys'.

4.4.6.1 Sub-theme 6b): Parents' Journeys'

As stated previously, Harry stopped taking Ritalin at the end of Year 6. While Harry's mother agreed that Harry could stop taking medication for his AD/HD symptoms, she questioned whether Harry should have taken medication in the first place. Parents are faced with the decision to place their child on medication and they worry about making the right medication alternatives (Taylor et al., 2006). Harry's mother was unable to rationalise to Harry the positive benefits of medication (improved focus and concentration) over the negative feelings he perceived he experienced when taking prescribed medicine (a freak). Despite assuring Harry she recalled, "He became very upset." Harry's mother warned Harry that if he did not continue to take medication he would have to work so much harder at school. However, as she reflected, "Harry wanted to try his schooling without any medication."

Listening to Harry, his mother and his teachers provided an insightful story into the reality of living with AD/HD and furthermore, highlighted the importance about hearing what Harry, his family and his teachers had to say about Harry's experience of schooling.

4.5 Case Study 2: Liam and Two Teachers

The individual, semi-structured interview with Liam took place in February 2012, as he entered Year 11. He was 16 years of age and had been at the school for six years. As stated previously, the researcher was unsuccessful in securing an interview with Liam's mother. Two each of his teachers, Mr Black and Mr Hamilton participated in the individual, semi-structured interview and Liam also participated in the focus group interview.

4.5.1 Theme 1: Description of Schooling

Theme 1: Description of Schooling will be presented under Sub-theme: 1a) 'experience of school,' 1b) 'classroom behaviour' and 1c) 'the importance of friends', using

the data points from the individual semi-structured interview with Liam and the two teachers: Mr Hamilton and Mr Black.

4.5.1.1 Sub-theme 1a): Teaching and Learning Experiences

To begin to understand Liam's experience of school he said he felt 'normal' when he compared himself to his school peers. He noted, "I feel normal but I know I act differently to other people." He was aware that his perception of 'normal' was different to that of his peers. When he took medication he then felt 'normal', that is, he assumed he was similar in behaviour to other boys. If Liam forgot to take his medication: "I act really weird when I don't take my pills." Liam was mindful that his classroom behaviour (hyperactivity, inattentiveness and impulsivity) became more exaggerated when he had not taken medication. For Liam, medication had positive benefits.

Liam said that school was 'really weird' for him before he was diagnosed with AD/HD. He explained, "School started to become normal for me once I started taking my pills in Year 5 or 6." A lack of self-control and appropriate behaviour can have an impact on interactions with classmates and teachers (Miranda et al., 2010) and while Liam did not go into detail about why school was 'weird', he may have been aware that his behaviour impacted on his schooling when he did not take medication. As Liam reflected on school he said, "Once medicated I became more controlled at school. I could take things in and it was much easier to learn. I didn't fidget but could sit still and learn. It helped my learning a lot as my grades probably went up." Liam admitted, "I find learning hard sometimes." From these comments, school may have been challenging for him.

Liam offered several ways that school could be made more interesting for him. He really enjoyed the practical (hands on) type subjects offered at the school and he said he would have gained even greater benefit from his educational experiences if he could spend

more time in the practical subjects and if the lessons in the more rigorous subjects like Mathematics and English were shorter. Liam, like Harry, also suggested a break during lessons would be helpful as a gap: "Would help me to calm down because I get really bored in classes that are not practical. I get tired because I am bored so a five minute break would wake me up and make the school day easier." It seems Liam's inability to concentrate and focus affected his ability to adjust to the school's expectations in the classroom and that he became frustrated if he was bored.

Liam's favourite subjects were Industrial Technology and Design (ITD), Agriculture and Horticulture, and Automotive because of the practical focus of these subjects. Liam also liked the teachers who taught these subjects because they were 'good and funny." Liam had specific criteria which he said helped him to do well at school: subjects he liked because they were hands-on and teachers who used humour.

Liam's least favourite subject was Mathematics because the topics he was taught were not hands-on and therefore the subject became boring and unenjoyable. Liam's academic report over two years is summarised in the following table:

Table 4.4
A summary of Liam's school report from 2010 – 2011

	Year	English	Mathematics (Ord)	Science	SOSE
Semester 1: 2010	9	B-	B	B-	B+
Semester 2: 2010	9	C+	C+	B-	B+
Semester 1: 2011	10	C	B-	C	B
Semester 2: 2011	10	C+	B-	C-	B+

Liam indicated that for the teachers he liked he was willing to work diligently in class but for the teachers he did not like, he completed minimal class work. His erratic work ethic and poor work choices which were based on whether or not he liked a teacher, may have led to consequences which compromised his learning opportunities.

4.5.1.2 Sub-theme 1b): Classroom Behaviour

As stated previously, Liam described his behaviour prior to taking prescribed medication for AD/HD as, "Weird for me. I acted silly in classes." However, once he began medication he explained, "I became more controlled at school. I could take things in and it was much easier to learn. I didn't fidget but could sit still and learn." Liam indicated that he felt that boys who did not have AD/HD learned faster than him.

Mr Hamilton, Liam's SOSE teacher identified specific features of Liam's behaviour in his class. He observed:

> You will notice he is working and on task but then he will stop and you will see the head sway from side to side for something different to do. He will be aloof and the response that he gives can be a combination of one of two things: He is drifting and he is not very interested in what is going on or he is shy and not really sure of where he is at and then as a consequence he does not want to give a response. In terms of the way he works, it is very clear he is seeking time to indulge his condition rather than being on task. When I say indulge his condition, it is not overindulgence, because he is really trying to manage his condition, and he manages it very well.

Mr Hamilton's comments about Liam's observed classroom behaviour were similar to behaviours observed by Mr Black, that is, poor attention and focus. It could be easy for teachers to misinterpret Liam's behaviour as laziness, self-centredness and immaturity when in fact his behaviour was typical of many students with AD/HD.

4.5.1.3 Sub-theme 1c): The Importance of Friends

Liam indicated that his friends did not help him with his schooling and they did not help him with his assignments. He stated that his friends were inclined to copy his silly behaviour when he was not medicated: "They act silly at the same time I do. They follow what I am doing." Liam said it was easy to make friends in secondary school and that it was

not difficult to maintain his friendships. However, he added that it was important to fit in at school: “You have to fit in otherwise you get teased and everything because you don’t have friends.” It was important for Liam to ensure that his interactions with his classmates were positive.

In contrast to Liam’s perception about friendships, Mr Hamilton described Liam, “As a loner in the classroom,” and was unsure how he made and maintained friendships. Specifically, when Mr Hamilton asked Liam to work in a group situation: “Liam was withdrawn and sat back and let everybody do the work.” Children with AD/HD engage in inattentive behaviour to avoid the demands of class work (Hoffman & DuPaul, 2000) and it seems that Liam had developed this strategy as the learning processes became too challenging for him. Mr Hamilton and Liam had different perspectives in regard to what constituted friendships. While Liam indicated that friends were important, Mr Hamilton perceived that Liam placed his friendships at risk in some classroom situations when he was unwilling and unmotivated to complete his part of a group task.

Similarly, Mr Black believed boys with AD/HD experienced difficulty maintaining friendships: “I don’t perceive them as having many friends. A lot of times it is the perception issue and not the behaviour that is the key to them not having many friends.” Regarding Liam he declared, “He doesn’t come across as a rugby kid or an outback kid. He doesn’t fit any of the groups that naturally exist within that classroom. He sits aside from that group.” Like Mr Hamilton, Mr Black indicated that Liam struggled to work in a group situation.

4.5.2. Theme 2: Interplay between Teaching and Learning

Theme 2: Interplay between Teaching and Learning, will be considered using Sub-theme: 2a) ‘helpful teachers’, 2b) ‘non-helpful teachers’ and will be supported by data points from Liam’s interview. Sub-theme: 2c) ‘support’ will be presented by Liam’s teachers Mr

Hamilton and Mr Black. Sub-theme: 2d) 'teaching styles' will not be included in this case study because no participant made reference to teaching styles preferred by adolescent boys with AD/HD.

4.5.2.1 Sub-theme 2a): Helpful Teachers

For Liam, teachers who gave him easier work to complete were considered helpful. More specifically he said, "It is the same work as everybody else but easier as it is worded in a way I understand." As a member of an elective class in Year 9 and 10 where he was able to complete his assignments, he said, "The teacher would look over them, proof-read them and help me." It is clear that Liam appreciated specific strategies by teachers to support his learning.

4.5.2.2 Sub-theme 2b): Non-helpful Teachers

During primary school, Liam noted that sometimes he did not always complete his homework because it was too difficult or he did not understand what was required. He stated, "I would be yelled at and get a detention at lunch time. I tried to tell the teachers I could not do the homework but they would not listen to me." Liam stated that most of his teachers were unhelpful:

> They would not help me to answer questions from the text book that I did not understand. I would put my hand up and they would come, explain it the same way but then just walk off so I still didn't understand.

4.5.2.3 Sub-theme 2c): Support

In regard to supporting children and adolescents with AD/HD, Mr Black specified that pedagogy required change so that boys with AD/HD could achieve better success at school. Teachers were required to: "Dissect the curriculum and say is it really important that,

in the national curriculum or the text book? Is it really that important? Is it something they are going to need when they leave school?" Also Mr Black stated:

> We as teachers need to sit back and take a look at our academic high horse and say 'what am I after?' I am after a concept, that they understand how this works. Not that they remember 50 names but that they understand the basic concept.

He concluded saying, "Think about the bits that are really important and not about the bits that are important to you or some curriculum document." Mr Black made modifications to the curriculum to engage boys with a diagnosis of AD/HD.

Alternatively, Mr Hamilton's suggestion in regard to supporting students with AD/HD involved teachers using: "Physical proximity and a quiet voice." About supporting Liam he said:

> I just have to look at him and he knows that it is time to refocus. I have been able to enunciate that over the past couple of years and he knows my facial gestures or the tone of my voice and the language I use. I use the same look when I walk away or from across the room. So I don't have to say anything.

Mr Hamilton's use of non-verbal cues was an effective teaching strategy for Liam. However, it is unsure if Liam read Mr Hamilton's cues to refocus and concentrate because about teachers he stated, "Most of them were not helpful at all." While Mr Hamilton made allowances for Liam's inattentive behaviour, Liam could not see that his teacher was trying to be helpful. The perceptions of teacher and student in regard to support highlight how AD/HD is influenced by personal experiences (Crotty, 1998).

Mr Hamilton suggested the school administration should introduce streamed classes during secondary school and alternative pathways (e.g., Vocational Education Training (VET) and prevocational subjects). His comments support Liam's preference for the more practical type subjects in secondary school. Mr Hamilton also suggested the school

administration should: “Fund resources so the school can have specialised trained staff to sit in classes and give feedback to teachers, and work with the teachers to be able to get the best out of the boys with AD/HD.” His suggestions go some way to offering ideas to improve school-based strategies for adolescent boys with AD/HD.

4.5.3 Theme 3: Self-esteem and AD/HD

Theme 3: Self-esteem and AD/HD, will be presented using Sub-themes: 3a) ‘effects on self-esteem’ and 3b) ‘feeling different’ from the data points by Liam.

4.5.3.1. Sub-theme 3a): Effect on Self-esteem

According to Liam, teachers during primary school had impacted on his self-esteem as: “My teachers told me I would never go anywhere in life because of my AD/HD.” He highlighted the effect his Year 2 teacher had on his self-esteem. He explained:

> My primary teacher diagnosed me and told me I had AD/HD even though at that time I did not have a diagnosis. That made me feel pretty bad. I thought I was a normal Year 2 student but I wasn’t according to my teacher.

Liam indicated that most of his teachers in primary school were unhelpful and in secondary school some of his teachers were unsupportive thereby making him feel dispirited on occasions. He explained, “I would feel pretty bad because I didn’t understand the work and they would get angry at me.” Liam made no comment in regard to the ways teachers affected his self-esteem. However, as he progressed through secondary school he stated: “The older I get, the more I enjoy school because I can choose subjects I like and enjoy.” When he participated in subjects he liked and enjoyed, that is, subjects which were practical and hands-on, school became a positive experience for Liam.

4.5.3.2. Sub-theme 3b): Feeling Different

Liam stated that he did not feel different to boys who were not diagnosed with AD/HD. As he had declared previously, "It feels normal to me. I feel normal but I know I act differently to other people." Liam did not feel different to other boys but he said, "They learn a lot quicker." While Liam stated that his friends do not treat him differently he admitted: "My friends treat me differently when I am not medicated." Children with AD/HD often misread cues from peers (Hoffman & DuPaul, 2000), so it may seem Liam may have an unrealistic perception about his relationship with his peers.

4.5.4 Theme 4: Medication and School

Theme 4: Medication and School, will be presented under Sub-theme: 4a) 'pros and cons of medication' from considerations by Liam. Findings from Sub-theme: 4b) 'the journey of medication' will not be included because Liam's mother did not participate in the study.

4.5.4.1 Sub-theme 4a): Pros and Cons of Medication

Liam comments about medication were favourable on all accounts. In fact, the positive effect of medication on his schooling was a focal point of his interview. Without medication, he admitted he displayed inappropriate levels of inattention and impulsivity. He reflected:

> I will talk to everyone. I do silly things like dropping water bottles off top floors. I get in trouble with teachers a lot by acting stupidly such as throwing things around in class so they tell me to be quiet and sit still.

He added, "I can't control myself when I am not taking my pills. I don't feel guilty when I am out of control, I don't feel anything."

When Liam was medicated, he felt he behaved in a similar manner to boys without AD/HD: "I sit quietly in class and I am on my best behaviour." Liam was mindful of the

benefits of medication (e.g., sustained attention, refraining from distractions and an ability to regulate restlessness and hyperactivity, and improved self-esteem) (Singh et al., 2010). His comments about the benefits of medication were pivotal in gaining a greater insight into Liam's story about AD/HD and how medication was able to improve his experience of school.

4.5.5 Theme 5: Confusion about AD/HD

Theme 5: Confusion about AD/HD will be yielded within Sub-themes 5a) 'misunderstanding', 5b) 'knowledge of AD/HD' and 5c) 'impact on learning' using the data points from Mr Hamilton and Mr Black.

4.5.5.1 Sub-theme 5a): Misunderstanding

Mr Hamilton's misunderstanding of AD/HD centred on his limited understanding about the behaviour difficulties he had observed in children and adolescents with AD/HD. He suggested that the students he taught who had AD/HD experience voices or noises in their head which contribute to their inability to concentrate. As he explained, "The condition is masked by the fact that they are working as hard as they can when they are working but when those voices start or sounds start and they get distracted, their work ethic decreases." This researcher was unable to find previous research to support Mr Hamilton's hypothesis in regard to 'noises in the brain' as the reason why young people with AD/HD find it difficult to concentrate or focus in the classroom for any length of time.

Mr Black's confusion about AD/HD focussed on his perceived knowledge of the medical model of AD/HD (Castellanos, 1997; Castellanos & Tannock, 2002). He stated:

> It is a definable medical condition at one end of the spectrum and there is a whole lot of others along the way that exhibit some of the behaviours there of, that may have been diagnosed but may or may not have the medical condition that is

> associated with it and are labelled by perhaps people without enough knowledge with ADD when they may have other things tacked on, but at the extreme end I believe it is a chemical imbalance in the brain which then exhibits itself as a range of real or observable behaviours or problems. Problems may not be the right word but behavioural differences to the norm. I don't like the word problems.

While Mr Black may have had a limited understanding of AD/HD, his knowledge of AD/HD he perceived, enabled him to effectively teach young people with the disorder. Mr Black believed boys with AD/HD are similar intellectually to boys who do not have AD/HD. He reported, "There are some really bright kids that are AD/HD and there are some challenged kids where it is part of their spectrum of disorders I imagine." He indicated that intellectual ability had little relevance to a diagnosis of AD/HD. Furthermore he stated:

> It depends on the intellectual level rather than the ADD and the level of ADD. I have seen high level ADD boys still being fairly well organised and fairly low level ADD boys being fairly disorganised. I don't think I can label it ADD organised/disorganised. I think there are a few other factors interplay in there as well.

Mr Black's description of the behaviours he had observed in children with AD/HD reflected the variation in the way people conceptualise AD/HD (Glass & Wegar, 2000). For him, his experience in the classroom led him to interpret and understand AD/HD in his own unique way. What was important, however, was whether he was able to make a difference to the schooling experience for the boys he taught with AD/HD.

4.5.5.2 Sub-theme 5b): Knowledge of AD/HD

Mr Hamilton highlighted what he knew and understood about AD/HD by talking about his personal experiences with a nephew diagnosed with AD/HD. "My nephew has AD/HD and it helps to have someone in the family. He was diagnosed quite severely as having AD/HD so for me having it first hand in the family is quite an insight from a teacher's

perspective." When asked what he meant by 'quite severely', Mr Hamilton replied, "Severely diagnosed with AD/HD means that when he was at a younger age it was impossible to have him sit at any one time to listen to anything. My sister was driven to distraction." The behaviours highlighted by Mr Hamilton are typical of the core characteristics of AD/HD observed in many children and adolescents (APA, 2013).

Mr Hamilton also spoke about how he perceived the term AD/HD. He stated, "AD/HD for me has been tossed around for a long time and I see it has a lot of misnomers, a little bit of hear-say, a little bit of 'that is rubbish' or whatever it is so you listen to that stuff." While his comment implied an ambiguity about AD/HD, in reality he was fairly knowledgeable about AD/HD through interactions with a nephew diagnosed with AD/HD.

A gap for Mr Hamilton in regard to his knowledge about AD/HD was: "Am I doing the right thing in my class? What you see in script and what you see from a news report or from a reading you complete, maybe different to what is going on in your class." He reflected:

> All I have to go on about knowing and understanding AD/HD is from a practical perspective other than speaking to the learning support staff at the school. AD/HD is something where the child has very little control over the manner in which they can be engaged in lessons and in a manner in which they can draw on information from those lessons to learn because what is obviously going on in their head like the noises and the sounds or whatever you say or whatever is going on in their head is causing distraction.

It seems reasonable that Mr Hamilton had some understanding of AD/HD in terms of the variation in behaviours exhibited by Liam (i.e., his impulsivity and his poor attention). However, it is unclear whether Liam was mindful of Mr Hamilton's support of him in the classroom. Liam was asked if teacher interventions were helpful and his reply was: "No, not at all."

Knowledge gaps limit a teachers' understanding of the nature and cause of AD/HD (Scuitto et al., 2000) and to put into context his knowledge about AD/HD, Mr Black declared:

> Know would be stretching it a bit. We are given these children who we are told have this condition without any real knowledge of exactly what the condition entails and without any strategies or what is another word for strategies, to enable us to incorporate whatever differences they may have in the way we deliver our curriculum.

As stated previously, Mr Black's understanding of AD/HD was based on a neuro-biological model (Castellanos, 1997; Castellanos & Tannock, 2002). He believed that AD/HD was caused by a chemical imbalance in the brain thereby affecting a child's ability to concentrate. He queried, "I guess if you can't concentrate for a long period of time there is a whole flow on or a series of flow on effects from that." While Mr Black's understanding about AD/HD may have been limited, he believed: "It is not naughty children."

4.5.5.3 Sub-theme 5c): Impact on Learning

Mr Hamilton reflected on how boys with AD/HD worked in his classroom. He said:

> Because of the manner in which they neurologically function they like to be 'here' and 'there' but schooling involves the bell going and you sitting down and for the next 40 or so minutes until the teacher tells you to go and do something different. School is regimentation. School is a regimented program. Some boys do not operate on regimented time.

Mr Hamilton said he appreciated information that he received from the Learning Support Department about particular boys in his class such as Liam. Mr Hamilton noted, "I use the information to try new ideas in the classroom. Sometimes it works and sometimes I struggle." About his teaching strategies, Mr Black declared:

> You do try stuff but you are not given any information on how 'these sorts of things may work. Excellent, I'll try some of them'. It is a 'learn as you go' type

> thing and you either learn or you go crazy I guess. You try stuff. That worked well. I'll try that again. It might not work the next time but then you try something different. That worked well. You try something again. That was a disaster. You try various bits and pieces. Still within the confines of your classroom because you've still got certain constraints.

4.5.6 Theme 6: Language and Emotions

Theme 6: Language and Emotions will be considered using Sub-theme: 6a) 'teachers' language about AD/HD' using data points by Mr Hamilton and Mr Black. Findings from Sub-theme: 6b) 'parents' journeys' will not be included because Liam's mother did not participate in the study.

4.5.6.1 Sub-theme 6a): Teachers' Language about AD/HD

Reflecting on teaching Liam, Mr Hamilton stated he was distressed about the impact AD/HD had on Liam's daily functioning at school. He explained, "Essentially how I see it: a very, very serious and very harmful, encroaching upon the learning process because of ultimate distraction." Furthermore he declared, "I do not treat them as if they were dumb. It is very important they understand that I consider them to be as clever as everyone else in the class." He appears to have thoughtfully considered his experiences teaching children with AD/HD and his attempts to implement appropriate school based strategies.

Mr Black pondered his relationship with boys with AD/HD and how their inconsistent behaviour reflected his teaching style. While he said he tried to be consistent in his application of specific strategies to help all students in his classes, specifically about boys with AD/HD he admitted, "I am not going to bullshit to them. I will say 'you are being a pest,' 'I know you are struggling to read but let's have a crack at this'." He described his frustrations saying, "In a ten week term we probably have five days where you feel like tearing your hair out." He concluded: "Sometimes we all think 'why are we doing this'?" His

comments support Mr Hamilton's perception about teaching boys with AD/HD and highlight the need for teachers to know how to address the schooling difficulties students with AD/HD may experience.

4.6 Case Study 3: Noel, Noel's Mother and Two Teachers

The individual, semi-structured interview with Noel and his mother took place in their family home in February, 2012. He had left the school in September, 2011 but was keen to return. Noel was 16 years of age and completing Year 11 at the time the interviews took place. Two each of his teachers, Mr Smith and Mr Wills participated in an individual, semi-structured interview and Noel participated in the focus group interview. As with reporting the findings for Harry and Liam, Noel's results will be reported beginning with sub-theme: teaching and learning experiences.

4.6.1 Theme 1: Description of Schooling

Theme 1: Description of Schooling will be considered within Sub-themes: 1a) 'teaching and learning experiences', 1b) 'classroom behaviour', and 1c) 'the importance of friends' from data points collected through interviews with Noel, Noel's mother and teachers Mr Smith and Mr Wills.

4.6.1.1 Sub-theme 1a): Teaching and Learning Experiences

To begin to understand what school was like for Noel, he declared:

> It is very hard to concentrate and be motivated at school. Sometimes I wake up and I don't feel like going to school. Sometimes I feel lazy. In class I get easily distracted by talking to my mates. Sometimes, if I feel like doing something really bad like wagging a class, I will go to class but not do any work.

Noel's description about his classroom behaviour highlights the behaviours common in many individuals with AD/HD (Murphy, 2005).

Noel doubted school could be made interesting, however, he provided suggestions for other students with AD/HD. He proffered: "More flexibility, teachers using more humour and teachers making a connection with the kids they teach, makes a massive difference." Harry and Liam had also mentioned they preferred teachers who used humour as a teaching tool. Noel's attitude towards school was directed to independent schools specifically. He stated:

> Independent schools treat you like toy soldiers; perfectly the same. I think it is good to have class rules but there should not be a big emphasis on hair. Rules about hair are a waste of time and not relevant to the real world. Cut the crap and get to the school work.

An inability for Noel to anticipate appropriate behaviour and his undeveloped pragmatic speech to guide his thoughts about school rules and expectations may have resulted in situations of conflict with his teachers (Aase & Sagvolden, 2006).

The subjects Noel enjoyed included Modern History and English. He enjoyed English because: "I have always had good teachers. If you have good teachers, you have fun at school. It is interesting. It is creative and I enjoy that." Reciprocal relationships with teachers and students with AD/HD are important so they can develop into successful adults (Power et al., 2009).

Noel indicated that he did not like Mathematics because the subject was difficult and repetitive. Noel also indicated that he did not enjoy Science: "I hate it because it is repetition work and it is just a bunch of gibberish to me." Noel's behaviour in the classes he did not like may have also contributed to his inconsistent academic results. Noel's academic report over two years is summarised in the following table:

Table 4.5
A summary of Noel's school report from 2010 – 2011

	Year	English	Mathematics	Science	History
Semester 1: 2010	9	B	E- (Adv)	D+	B+
Semester 2: 2010	9	B-	D+ (Ord)	D-	B-
Semester 1: 2011	10	C-	D (Ord)	D+	C+

His dislike of Mathematics and Science is evident by weaker grades and his like of English and History by his stronger results. The Semester Two 2011 document report was not included in the study because Noel left the school in September 2011.

4.6.1.2 Sub-theme 1b): Classroom Behaviour

Noel admitted his that his inappropriate behaviour in class limited his academic opportunities. He stated, "I try to distract myself. If I am doing my work and if I can't do it, I flick my pen or something." In addition he said, "I move my legs, I just daydream. I have had my phone confiscated once. I try to start a conversation all the time with anybody. I know I am a pain in the arse in class." Furthermore, he stated, "I don't get picked on but sometimes I am quiet and I get yelled at and stuff." Noel's school impairments are consistent with many of the characteristics associated with a diagnosis of AD/HD (APA, 2013) and defiance and non-compliance are common behaviour problems for adolescents with AD/HD (Hoffman & DuPaul, 2000).

Noel referred to school as: "A pain in the arse and a waste of time. I wish it was different everyday but it is the same thing all the time and so boring. I hate routine." Many children with AD/HD experience problems with academic achievement and conformity to rules (Power et al., 2009), but Noel's apparent dislike of school may have also resulted from his feelings of boredom. The results of his academic report over an eighteen month period (see Table 4.5) suggest that his disengagement of school may have affected his attitude

towards Mathematics and Science, the two subjects he did not like. Noel found History and English 'interesting' and as such, his grades in these two subjects were stronger (see Table 4.5).

While Noel believed it was important to attend school to succeed in life he declared, "To me most of the stuff we learn is pointless and in a couple of years something completely different is taught to what we learn now." His comments regarding the curriculum equate with his attitude towards school in general. He admitted school was 'social recreation'.

According to his mother, Noel's poor attitude to school was first observed in early primary school. His behaviour: "Consisted of not being able to sit still, annoying other children, always talking, always distracted and the level of homework was overwhelming for him." Noel displayed the types of behaviours which are common among children and adolescents with AD/HD (APA, 2013). In regard to Noel's behaviour at secondary school, she stated: "A little bit difficult and they were very patient as I know my son can be disruptive." While she perceived his attitude to school had improved somewhat by the time he had transitioned to secondary school, she admitted he still demonstrated inappropriate classroom behaviours.

Speaking in generalities about boys with AD/HD, Mr Smith referred to their observed behaviours: "Mainly their fidgeting, distraction, looking for anything else, needing to get up and a hard time following class rules." Mr Wills' observation of Noel's classroom demeanour was similar to that of Mr Smith. His reflection of Noel's behaviour included: "Calling out, getting out of the seat and running around, not being able to sit still and disengaged." Both teachers identified the behaviours exhibited by Noel as typical of the behaviours they had observed in children and adolescents with AD/HD (Hoffman & DuPaul, 2000; Power et al., 2009). Noel's teachers and his mother conveyed their own individual meaning of AD/HD

through their suggestions that Noel may have experienced difficulty in conforming to classroom expectations.

4.6.1.3 Sub-theme 1c): The Importance of Friends

Noel commented that the most important aspect of school for him were his friends. "That's just about it otherwise there is no point in coming here," he proposed. He stated that it was 'pretty easy' to make and to maintain friendships, uncommon among many adolescents with AD/HD (Power et al., 2009). While Noel claimed he had many friends, he also stated that they did not help him with his school work. He declared:

> I guess your friends don't really help you too much with your school work. It is pretty well up to you to do your own work. You can get advice from your girlfriend or the smart kids in your class.

It seemed apparent to Noel that he was able to meet the academic requirements of school but his results (See Table 4.5) indicated otherwise.

Noel's mother spoke positively about her son's ability to make and maintain friendships and of the calibre of his peer group:

> He has got some beautiful friends and I must say he chooses his friends really well. He has tons of friends. He is amazing socially. He is very smart socially and he must have a high EQ. He has such a wide range of friends and he gets on with everyone. People find him interesting and he is very conversational.

It seems Noel possessed a high level of social competence, which is unusual in adolescents with AD/HD (Power et al., 2009).

Like Noel, adolescents with AD/HD can be inconsistent in their school performance and can experience difficulty with social relationships (Murphy, 2005). Mr Wills and Mr Smith indicated that Noel did not seem to have many friends and students did not want to

work with him during group activities. Mr Wills proposed, "The only way he gets friends is by being a goose. When there is a group activity he will be assessed on, no one wants to work with him because he mucks around." Similarly, Mr Smith stated boys with AD/HD: "do not maintain friends. Their peer assessment is always critical."

Noel and his mother's viewpoint about friendships contrast with his teacher's perspectives. This variation about friendships highlights the way people convey an understanding of their world.

4.6.2 Theme 2: Interplay between Teaching and Learning

Theme 2: Interplay between Teaching and Learning will be considered using Sub-themes: 2a) 'helpful teachers' and 2b) 'non-helpful teachers' from data gathered from Noel and his mother. Sub-theme: 2c) 'support' will be outlined using data points by Noel's mother and Mr Smith and Mr Wills. Lastly the data points from Sub-theme: 2d) 'teaching styles' will be considered from Noel and the teachers.

4.6.2.1 Sub-theme 2a): Helpful Teachers

Noel regarded helpful teachers as the 'good teachers'. He considered that a good teacher was someone who would talk to him but not necessarily about his schooling. Noel described a good teacher as a person who demonstrated a positive attitude towards him: "If you don't bring your equipment, they give you paper and a pencil." Noel appreciated teachers who were willing to make accommodations for his disorganisation, which is common among children and adolescents with AD/HD (Murphy, 2005). Noel enjoyed opportunities in the classroom when he was assisted by a teacher on a one-to-one situation because it was 'a lot of help to me'. Noel described helpful teachers as: "They know more than you do about some subjects so you learn from them." It appeared that Noel respected teachers who were willing

to help him despite his ongoing problems complying with school rules and his inconsistent academic results.

Noel's mother confirmed that many of her son's teachers were 'awesome' as they connected with her son on a personal as well as an academic level. She identified learning support staff as particularly helpful because they provided the emotional support her son needed and they offered him the extra assistance he required to enhance his academic learning. She noted, "He participated in an elective class that scaffolded his learning." The elective class was able to offer Noel the additional help he needed to support his learning processes.

4.6.2.2 Sub-theme 2b): Non-helpful Teachers

Noel identified two ways his teachers were not helpful. Non-helpful teachers focussed on the academically capable students or students they seemed to like, but he said, "They should be trying to help the students who are struggling." Non-helpful teachers: "Are good on paper but they can't teach." His apparent criticism of teachers may have impacted on his learning because adolescents with AD/HD are at risk of engaging in relationships with teachers that are conflictual (Power et al., 2009).

Noel's mother stated that some of Noel's teachers were not helpful so she rarely communicated with his them because: "It had been too difficult and stressful." She said the staff were non-helpful if they treated her son differently. She stated:

> At the independent school where it is very structured and you have kids who are very compliant, to have children in your class that take a lot of time can be difficult. I haven't told many of the teacher's he has AD/HD because some teachers do not understand and he begs me not to talk to his teacher's because sometimes, in the past, if I have tried to liaise with some teachers, he has been picked on by a teacher.

> I have found at secondary school there is absolutely no communication with the teacher's to my satisfaction.

Noel and his mother's comments about non-helpful teachers highlight the importance for teachers to develop positive relationships with children with AD/HD and their need to promote student autonomy so these students can approach their school work in a more positive way (Power et al., 2009).

4.6.2.3 Sub-theme 2c): Support

Noel's mother identified two ways her son could be better supported at school. Her first suggestion was for Noel to be allocated a case worker: "So they can liaise with different people so you are only liaising with one person." She explained, "Goals need to be set socially and emotionally," so, she conferred, the case worker could assist. She declared:

> Teachers do not read the learning needs reports and for parents to rehash all that information is terrible. You feel embarrassed all the time and you get sick of it. You feel like you are some kind of AD/HD activist and I am not that.

A case worker could assist all parties (student, parent and teachers) to be informed about the specific needs and requirements of individual students with AD/HD so all personnel interpret what is required in terms of the schooling needs of children with AD/HD.

A second way Noel could be better supported by his school according to his mother was for him to better know his teachers:

> Teachers can do better by telling their personal stories. Kids are looking for mentorship more so than you think. Teachers need to be real to kids and talk to them personally. Teachers need to be prepared to be a bit vulnerable sometimes. Kids want to hear real-life stories. They want to know their teachers. Kids are looking for a sense of belonging. Don't just teach from the text book, bring classes alive.

Her suggestions highlight the need for teachers to be a 'real person' in the eyes of children and adolescents with AD/HD and for teachers to develop a reciprocal relationship with them (Sagvolden et al., 2005).

Mr Smith suggested that the best way for teachers to support boys with AD/HD was to keep the teaching and learning strategies simple so that every student can benefit. He suggested that teachers need to be better educated about boys with AD/HD: "I can't just put it down to better educated but I think it becomes better educated." Boys in general, Mr Smith stated:

> Are complex to understand and that is the problem for myself. I would want to try and understand it; it would take too long. People do degrees in this sort of thing. I am not sure. You can read case files, you can read over what has been said but I don't like labelling these boys. I like to give them the opportunity then if I don't know and then I can go 'we seem to be having some issues here', then is there something I should know about it? That is where I would like to be. I would like to notice that the work is not here or I would like to try my strategies for behaviour first before I realise that these strategies don't work. There must be a reason. I have tried seventeen strategies. This must be a very misbehaving boy or there are other issues?

Mr Smith's questioning of his teaching methods to students with AD/HD helped him to understand what school may be like for young people with attention difficulties. While it appeared his knowledge and understanding of AD/HD was limited, he used strategies to cater to each student's individual learning needs. While he was willing to implement strategies, a limited knowledge about AD/HD suggested he may not have been sure which strategies were most beneficial.

Mr Wills suggested professional development for teachers was one way boys with AD/HD could be supported. Specifically, he identified primary teachers:

> A child should not reach Year 7 and the signs of AD/HD have to be identified by a secondary teacher. I am going to put all the pressure on primary school teachers. Training and making everyone aware of it and also so what we are looking for and some of the things that student might do in their behaviours so support in that regard.

4.6.2.4 Sub-theme 2d): Teaching Styles

Referring to the learning processes used by his teachers, Noel reflected:

> Some teachers are smart and they know all the stuff but they can't teach it. One teacher is not very good at telling it, he just babbles on in the same monotone voice for the whole lesson. You can't even hear him.

Noel's learning appeared to conflict with the teaching style of some of his teachers. While Noel may have been disengaged in the classroom due to his inability to concentrate and focus, teachers saw him as a behaviour problem. Had his teachers been cognisant of Noel's learning requirements, that is, offering a clear and informed teaching voice and lessons structured in a purposeful way, greater opportunities for academic success may have been forthcoming for Noel.

Mr Smith regarded himself as a firm teacher who set clear boundaries and high expectations for all of his students regardless if they had AD/HD. About his particular classroom strategies Mr Smith proffered:

> Clear established rules in the classroom. I like to try my strategies for behaviour first and then realise they do not work. I like to start the year with a clean slate. I do not want to have any preconceived ideas about a particular boy.

Mr Wills' strategies for managing the behaviours of students with AD/HD included:

> Helping them to begin their work; monitoring them closely; not letting them sit next to other boys who would distract them so they would be completely focussed; sitting them in the front of the classroom away from their peers; not letting them

> work with their friends; do not turn your back on them; I try to address each student individually; and lastly, put them by themselves.

Mr Wills revealed that the above mentioned strategies were not specifically targeted to students with AD/HD but were used in his day-to-day teaching for all students. He reflected, "I have never incorporated anything special in my classes to cater for a student with AD/HD. If they are not a behaviour problem, I have ignored it." However, in regard to Noel, Mr Wills used the following teaching strategies: "Separate him from the bunch. That sounds kind of harsh but at that stage that was the only way I could get him to do any work."

4.6.3 Theme 3: Self-esteem and AD/HD

Theme 3: Self-esteem and AD/HD will be presented from Sub-theme: 3a) 'effect on self-esteem' and considered by Noel and Noel's mother. Sub-theme: 3b) 'feeling different,' will be presented using data points from Noel.

4.6.3.1 Sub-theme 3a): Effect on Self-esteem

The frequent and inappropriate comments (stated previously) made by Noel in regard to some teachers may have influenced his attitude about school. Despite this, Noel spoke of the positive affect a good teacher had on his self-esteem. He said, "A good teacher is nice to you and treats you like you are not an idiot and helps you with your school work." On the contrary, he reflected: "If you say something smart one time they say 'that was very smart Noel' and you think 'what the hell, do you think I am only 6 years old'?" His contradictory comments about teachers may have affected the teacher-student relationship and consequently his classroom competence.

Noel also alluded to some of his friends being ignorant of the learning difficulties he experienced at school and of how a diagnosis of AD/HD had affected his self-esteem. He said:

> A couple of my friends know I have AD/HD - they don't see it as a big deal. Some make fun of me because I have received learning support in the past. You can be branded and seen as a bit of a dummy. 'He isn't really going anywhere in life and needs some help and will do a trade and won't go to Uni'. No one has actually said this to me but it is the general attitude. This sort of comment annoys me because people in learning support try twice as hard as people who don't do learning support.

Peer attention becomes increasingly important during secondary school (Power et al., 2009) and it may appear that the remarks made by Noel's perceived friends could have created a negative mindset about school for Noel.

While Noel's mother did not indicate whether teachers had a positive or negative effect on her son's self-esteem, she identified the need for the school to provide Noel with better emotional support. She stated, "Limited emotional support has been received at the school. He feels ashamed at times so he does not talk to anyone and does not ask for help." She highlighted the importance of counselling for boys with AD/HD.

There is a sense of emotional stress for both mother and son that is exacerbated by Noel's perceived conflicts at school. Noel's self-esteem and oppositional statements to teachers may have affected his attitude to school and to his school work. While schools can make educational accommodations for students with AD/HD, interventions beyond the school environment (clinicians and parents) may have also been helpful for Noel.

4.6.3.2 Sub-theme 3b): Feeling Different

Noel highlighted the importance of 'fitting in' at school. He indicated that if a student did not fit in at school then there was no point in going. He declared, "It would be hell then wouldn't it? People would pick on you." Three of the other boys made a similar comment

regarding the importance of 'fitting in' at school so it may have been a priority for the boys to feel part of their peer group.

Noel compared himself to peers who did not have AD/HD in relation to his perceived academic competence. He said, "Stuff just seems to stick to their brain a lot faster". He added:

> I seem to forget stuff that you'd tell me within the next five minutes and I don't know I just can't seem to concentrate at all. I can't be bothered and I postpone studying and just muck around. I feel like I can't do much.

Furthermore Noel indicated, "I don't really think, I just live in the moment."

Noel indicated that he felt different to his same aged peers because he could not focus and concentrate in a classroom, thereby making him feel different. He explained:

> I cannot study for a long period of time or concentrating on a task seems daunting. I can't get my head down and study. I know I have to do some study but when the time comes, I can't be bothered. I feel like I have to make noises and stuff. I like to muck around. I draw attention to myself because I get bored. I always have to do something apart from school work. It is impossible for me to concentrate and sit and do school work for an hour like most other boys.

Students are expected to sit quietly in class, concentrate for a long time and actively engage in the teaching/learning process (Miranda et al., 2006), however, it was apparent that Noel experienced significant difficulty meeting these classroom requirements. Noel's inconsistent attitude towards school provided insight into his perceived experience of school.

4.6.4 Theme 4: Medication and School

Theme 4: Medication and School will be presented under Sub-theme: 4a) 'pros and cons of medication', and 4b) 'the journey of medication' using information gleaned from the individual semi-structured interview with Noel's mother.

4.6.4.1 Sub-theme 4a): Pros and Cons of Medication

According to his mother, Noel was diagnosed with AD/HD in Year 1. In regard to the confirmation of the diagnosis, she said, "I was devastated when I was told he had AD/HD." The parents deliberated whether to choose medication as the main treatment method for Noel. After a trial of Ritalin, Noel's behaviour at home became more adaptive. Noel's mother stated, "When we gave him the first tablet it was amazing how peaceful it was within a half an hour and the whole family dynamics changed." Reportedly, Ritalin made Noel calm. It seems that Ritalin was able to help Noel control his behaviour which also benefitted family life.

4.6.4.2 Sub-theme 4b): The Journey of Medication

The journey for Noel and his parents in regard to medication began when he was in Prep. According to Noel's mother, Noel's Kindergarten teacher had described him as a 'very bright child', however, the more structured environment in Prep had made school difficult for him. She stated, "From Prep I realised for the level of brightness that he was, he was not achieving and things were very frustrating to him." His behaviour at school included fidgeting, consistent talking to other children at inappropriate times and becoming distracted in class, behaviours commonly observed in children with AD/HD (Hoffman & DuPaul, 2000). Noel was attending an independent school at the time and his mother felt the structured environment there was unsuited to her son's needs. She identified, "A play-based Prep would have been beneficial."

Noel's mother was unable to effectively communicate with his primary school teachers about her son's behaviour difficulties because some teachers spoke down to her and blamed her for his attention problems. She reported one teacher saying, 'If you only read to him more or he would be lucky if he ended up working in a factory or you know the research

on these kids says they end up doing nothing'. She decided to show the teachers Noel's IQ report. Following this, the teachers began to assist him further with his learning. "The teachers misinterpreted his ability and thought he had a low IQ," she recalled. The need for non-judgemental dialogue between the teachers and Noel's mother is evident.

In reference to Noel's teachers in secondary school, his mother declared, "He is treated differently at school because he has AD/HD by some of his teachers. He is seen as a pain in the neck by some teachers." Adolescents with AD/HD often perceive negative messages by teachers who suggest they are self-centred, rude, inconsiderate and lazy (Murphy, 2005). The key to providing better outcomes for Noel at school from the perspective of his mother, was for his teachers to be more considerate of his learning needs.

4.6.5 Theme 5: Confusion about AD/HD

Theme 5: Confusion about AD/HD will be considered by Mr Smith and Mr Wills using Sub-themes: 5b) 'knowledge of AD/HD' and 5c) 'impact on learning'. Sub-theme: 5a) 'misunderstanding' will not be reported as comments from Mr Smith and Mr Wills during the semi-structured, individual interviews were not related to a misunderstanding of AD/HD.

4.6.5.2 Sub-theme 5b): Knowledge of AD/HD

In regard to Mr Smith's understanding of AD/HD, he said:

> I know little of it. To me it is the boy, I don't relate the boy to a disorder and how I can relate and work with the boy. I have no understanding, no real understanding of AD/HD as I indicated on the demographics sheet. (See Appendix H)

He admitted that he tried to avoid an answer to the interview question, 'what do you know and understand about AD/HD?' preferring to talk about the demonstrative behaviours of students with AD/HD. In particular, about Noel he said, "He resisted doing work but once got

started, could focus." He indicated boys with AD/HD including Noel were 'complex to understand' and this was 'a problem in itself'.

Mr Smith identified parents as the critical factor in regard to behaviours demonstrated by some boys with AD/HD. He explained:

> I believe that boys who have challenges in their lives are treated a certain way at home by both parents and that does not necessarily correlate with how they are treated within the classroom because they are always more demanding of attention, whereas non-AD/HD boys see that attention with the teacher should be fair.

Mr Wills spoke in generalities about his knowledge of AD/HD implying his understanding 'is not that good'. While he said he understood the symptoms of AD/HD to include behaviours such as: 'hyperactive, inattentive, calling out and cannot sit still', he did not discuss AD/HD in further detail. It cannot be presumed he was not interested in improving his knowledge about AD/HD but moreover that he used similar strategies to teach all the students in his classes. He reflected, "The number one thing is do not put a label on them. Every boy needs to be treated as an individual."

4.6.5.3 Sub-theme 5c): Impact on Learning

Mr Smith recognised that Noel's learning may have been compromised by his inattentive and disruptive behaviour because he noticed that Noel was frequently distracted in class. Noel, he noted, "Was always distracted. Anything could distract him. Anything was more exciting than being in the classroom." Students with AD/HD are at risk of developing relationships with teachers that are divergent (Power et al., 2009) and it seems that Mr Smith experienced such a relationship with Noel. He said, "I didn't get that strong relationship coming through. He really didn't care. He seemed to me that he expected a male to disapprove of his behaviour no matter what it was. That is my general perception."

On the contrary, Mr Wills specified that students with AD/HD were: "Very hard workers especially in Drama. English is easier as you can just sit them in the front row and no one is a round them they can distract." Referring to Noel he said, "In Drama it is hard to keep your eye on him and the group. You turn your back and when you turn around, he has a bat and he is swinging it around the room." Noel's misconduct may have impacted on his teacher/student relationships.

4.6.6 Theme 6: Language and Emotions

Theme 6: Language and Emotions will be presented using Sub-themes: 6a) 'teachers' language about AD/HD' from the individual semi-structured interview with Mr Smith only as Mr Wills did not use emotive language in his interview. The findings by Noel's mother will be considered within Sub-theme: 6b) 'parents' journeys'.

4.6.6.1 Sub-theme 6a): Teachers' Language about AD/HD

Mr Smith recalled several occasions when he had observed and noted Noel's difficult behaviour. He said, "He seemed to get violent occasionally." When this occurred Noel was removed from the classroom. Mr Smith did not elaborate further in regard to the behaviour Noel exhibited on such occasions but stated that Noel's acting out and consequent removal from class would have compromised the teaching/learning opportunities available to him.

4.6.6.2 Sub-theme 6b): Parents' Journeys'

When parents are required to justify their child's behaviour to others they feel vulnerable (Johnson & Read, 2002), and Noel's mother said she often felt 'embarrassed' and was 'tired of it'. Furthermore, she expressed her frustration when she compared Noel to other boys who were more academically and socially competent. She said, "In a private school when there are children who do really well and your child doesn't, it is a struggle and it is

really, really difficult." She concluded, "I have been forced into this position." Her disappointment and disillusionment with her son's experience of school highlight the stressors she seemed to experience living with a child with AD/HD.

Noel's mother also described her experiences in regard to people who she perceived were ignorant in regard to what it was really like living with a child with AD/HD. She said:

> I have a feeling that if you mention the word AD/HD, some people have a personal belief they think it is not really real or they think it is because you don't discipline your child. You sense this as a parent, you are not stupid. It is really easy for someone who does not have a personal experience to make judgements based on the Courier Mail.

4.7 Case Study 4: Zeb, Zeb's Mother and Two Teachers

The individual, semi-structured interview with Zeb took place in March 2012 in the researcher's office. The individual, semi-structured interview with his mother was postponed on one occasion but was rescheduled a week later and also took place in the researcher's office. Zeb was 15 years old and completing Year 11. He was the eldest of two children, having a younger sister. Two each of his teachers, Mr Smith and Mr Wills participated in an individual, semi-structured interview and Zeb participated in the focus group interview.

4.7.1 Theme 1: Description of Schooling

Theme 1: Description of Schooling will be presented within Sub-themes: 1a) 'teaching and learning experiences', 1b) 'classroom behaviour' and 1c) 'the importance of friends' using data points from Zeb, Zeb's mother and the two teachers Mr Smith and Mr Wills.

4.7.1.1 Sub-theme: 1a) Teaching and Learning Experiences

To begin the interview process, Zeb was asked to describe his experience of school. He focussed on his schooling beyond the class environment rather than in the classroom. "I don't have a very large social group at school. I do my assignments at lunch time and I tend to go to the library." Children with AD/HD often experience difficulty making and keeping friends and they also experience rejection from their peers (Murphy, 2005; Singh et al., 2010). From Zeb's statement it appears he often spent time on his own so it would seem plausible that he did not have many friends.

Zeb then described his experience of school in regard to classroom procedures. He explained:

> If I don't understand anything at school, I write it down and do it when I get home at night. I listen in class but I don't write much down, but I am paying attention. When I get home I learn the work. I will occasionally put my hand up to ask a teacher something when we are starting a new topic. I talk to one or two people I am sitting next to but usually work on my own.

According to Zeb, having AD/HD affected his ability to concentrate. He said:

> It is really distracting when I am in class. If I get distracted from the topic I kind of stay off the topic (unfocussed) so I have to make myself not get distracted because if this happens I won't be able to (refocus) get back on the topic easily.

To consolidate his learning he repeated the same class activities at home. This intervention worked for Zeb as he achieved strong academic results as evidenced by his grades (see Table 4.6).

Zeb included Physics, Biology and sometimes English as his favourite subjects. He said, "I can keep up with the work in class and I will ask the teachers questions if I don't understand something because I like the teachers in these classes." He enjoyed these subjects

as is evident by his grades (see Table 4.6). However, Zeb admitted that he was disengaged with the teaching/learning process. He stated, "I get bored in classes sometimes, especially last period and more towards the end of the week." So, as the day/s progressed and his medication wore off, Zeb became increasingly tired and his capacity to concentrate declined. If teachers were able to recognise his inattentiveness then they may have been able to respond in terms of appropriate strategies such as a quick break from the classroom activity to enable Zeb to regain his attention and focus.

Zeb enjoyed most of the subjects that he studied at school, however, he also indicated that he did not like some teachers. More specifically he said, "In my earlier secondary years I wouldn't like a subject if I didn't like the teacher and I wouldn't do any work in class or at home." Furthermore, Zeb indicated, "Now if I don't like the teacher but like and can do the subject, I do more work in those subjects at home or during lunch time than I actually do in class." It seemed apparent that a strong teacher-student relationship compelled Zeb to engage in his schoolwork.

Zeb's academic report over two years is summarised in the following table:

Table 4.6
A summary of Zeb's school report from 2010 – 2011

	Year	English	Mathematics (Adv)	Science	History
Semester 1: 2010	9	A-	A	A	A
Semester 2: 2010	9	A	A	A-	A
Semester 1: 2011	10	B	A-	B+	B-
Semester 2: 2011	10	B+	B	B+	B

According to Zeb, as he progressed through secondary school, the classroom environment "Is not more interesting but it is less uninteresting." He admitted that more recently he found it easier to concentrate. This was not so much due to the school providing

engaging teaching/learning strategies but more likely due to the fact that as he grew older his capacity to remain focussed had improved.

4.7.1.2 Sub-theme: 1b) Classroom behaviour

Zeb's classroom behaviour is typical of many students with AD/HD (Biederman, 2005; Hoffman & DuPaul, 2000; Hughes, 2007a). Zeb had to 'put everything down, like not touch anything,' in order to concentrate. As stated previously, he had developed strategies to limit his off-task behaviour but he admitted that his school computer interfered with his concentration level.

> I go on it in class time; I play games and stuff and then become so focussed on the games I don't listen to what the teacher is saying. You are not allowed to download games on my school lap-top but there are always ways around this. Therefore, I use pen and paper to make notes in class rather than my computer.

Once again Zeb was aware of his inability to concentrate in class and he had developed strategies that helped him to limit his inattentive behaviour.

Zeb's mother described her son as a bright boy who had always achieved well academically and as such he had been accelerated a year in primary school. In regard to his behaviour in primary school she noted, "He was not in trouble a lot but in Year 1 there were a few incidences where he did some stupid things." She did not comment about his inappropriate behaviour in secondary school so it can be assumed that as Zeb transitioned into secondary school, his behaviour was more commensurate with his peers.

Mr Smith indicated that at the beginning of each year he would enter his classroom and observe his students in order to identify their individual behaviours. He did not target boys with AD/HD in particular but his purpose was to design strategies that could best meet the needs of certain individuals. As he explained, "I look more to the behaviour of each of the

boys and try and work out a strategy for that boy from what I understand of their behaviour." Furthermore, he stated:

> I think the class times of the lessons would be difficult for them where they have to be contained especially if the activity you are doing is a long activity and not broken up, it is harder for them to maintain their interest.

Mr Smith made allowances for Zeb so that he was able to meet the needs of the curriculum at the same level as his peers.

By observing Zeb, Mr Smith noted that he rushed his work in order to finish tasks quickly. He said, "If he is happy to do the task, he needs to get it done quickly so it is over so it is done, that's it, so that reflection of going back is not there." Despite Zeb's impulsivity, Mr Smith said that Zeb was a diligent student: "He will work hard on the task but the other problem is, once he has finished it is hard for him to go back over because he believes it is completed, it is done." Zeb's incapacity to self-edit and cross-check written work may have been due to his limited capacity to remain focussed. Zeb would revise class work at home knowing that he was unable to concentrate for an entire lesson. He was a diligent student and used the strategy of repeating tasks at home to consolidate his learning.

4.7.1.3 Sub-theme: 1c) Importance of Friends

Zeb, his mother and the two teachers were in agreement about the quantity of friends that Zeb managed and maintained at school. From Zeb's perspective, he claimed it was easier to make friends when he was in primary school in comparison to secondary school: "I don't have a very large social group at school." However, his friends offered to help him with his schooling and he helped them:

> They are alright. I have one friend who is in all of my classes and we help each other out and communicate on 'Face book'. I have three to four close friends at

> school. If I lose focus in class or I am not focussed or I lose attention, my friends will explain what I have missed and show me how to do stuff.

Like Zeb, many young people find it difficult to make friends at school (Murphy, 2005; Power et al., 2009; Singh et al., 2010), however, Zeb seemed to be comfortable with a small friendship group.

Of his ability to work in a group activity, Zeb stated:

> In group assignments you have to get information off people. I don't have problems working in groups with other students. It is really annoying to be put into a group by a teacher because I usually get put into a group with stupid people and I have to do the entire assignment by myself. They would just stuff around and not do anything.

Zeb experienced difficulty listening to the opinions of others and his inability adopt a team approach to class activities may have hindered his ability to make and manage his friendships.

According to his mother, as she reflected on his years at primary school, Zeb was able to make and maintain one good friend. She recalled, "If the two of them had a misunderstanding and did not speak with each other for a few days, my son would have no one to play with." In secondary school, his mother stated, "He does not have a close friend. He mentions names but the boys have more to do with his subjects than friendship. He is not particularly close to anyone." Her perception that Zeb has had few friends over the course of his schooling aligns with Zeb's perception about having a small friendship group throughout school. In group work activities she indicated, "He is not a big one for group work, he hates group work. I understand that. It just takes one personality in a group to overtake the group."

Mr Smith doubted that boys with AD/HD were able to form and maintain friends. In relation to Zeb, he indicated, "He frustrates other boys but when the teacher is not looking

and therefore you never see it. Peer assessment is always critical." On the contrary, in group activities, Mr Wills stated:

> Zeb is pretty good. He only had a couple of good little mates. He sat next to one boy and they worked hard together. He did not have many friends but he did not have any enemies either. Everyone was nice to him and they were polite. He did not actively seek friends.

Despite well-intentioned teachers in regards to group tasks, Zeb preferred to work on his own or to choose with whom he wished to work. Teachers need to be mindful that many young people with AD/HD experience difficulties on a social level and as such, teachers need to make allowances on an individual basis in certain class activities (i.e., group tasks).

4.7.2 Theme 2: Interplay between Teaching and Learning

Theme 2: Interplay between Teaching and Learning will be presented using Sub-themes: 2a) 'helpful teachers' and 2b) 'non-helpful teachers' considered by Zeb and Zeb's mother. Sub-theme 2c) 'support' will be considered by data points from the teachers only as Zeb and his mother did not comment on the ways teachers could be more supportive. Sub-theme 4d) 'teaching styles' will be offered using data points from Zeb.

4.7.2.1 Sub-theme: 2a) Helpful Teachers

Zeb identified two ways his teachers were helpful, "A teacher is helpful if they answer a question even if it is off the topic." Furthermore, Zeb considered, "If I hand in a piece of work that is not good, a helpful teacher will give me another chance to redo it and hand it in again." It appeared that Zeb appreciated teachers who were flexible and were willing to give him a second chance if he did not complete a task to their standard.

Zeb's mother did not mention if his teachers were helpful to him in primary school but in secondary school she said, "Secondary school teachers have always made positive

comments about my son – he works well in class." It is clear that she saw Zeb as a capable student whose schooling experience became more positive as he transitioned to secondary school.

4.7.2.2 Sub-theme: 2b) Non-helpful Teachers

Zeb identified two teachers who were unhelpful to his academic progress. Of the first teacher he said:

> This teacher will demonstrate and tells the basics and expects us to extract information from a book that has information in it that is really hard to get stuff out of it. He isn't really a teacher he is more like a lecturer. He will say something, demonstrate it, go over it but he doesn't teach it.

Moreover Zeb said this teacher: "Sets an enormous amount of homework. He thinks his subject is the only subject that we get homework in, and it isn't." It is apparent that Zeb's regard and respect for this teacher was conflictual due to the teacher's perceived limited empathy in relation to Zeb's work load across other subject areas, thereby affecting their teacher-student relationship.

Zeb stated the second teacher whom he found non-helpful: "Was really annoying. I hated the subject because it was so boring. She was boring and the subject was boring." Boredom in the classroom impacted on Zeb's ability to remain attentive to the learning process. Zeb had to revisit the work he missed in class after school to ensure his inattentiveness did not compromise his schooling.

Zeb's mother admitted that her son had always disliked at least one teacher every year at school. She said:

> It may or may not be his favourite subject or his least favourite subject. I think it is more situational whether he has said something in class and the teacher hasn't

> agreed or understood what point he was going on and then he says 'she is just stupid'.

Not liking some of his teachers highlighted Zeb's perceived dissatisfaction with the schooling processes and in particular, classroom environments. If teacher-student relationships were not reciprocal, he perceived his learning was jeopardised.

During this current year of schooling, Zeb's mother was not aware if her son had experienced conflictual relationships with teachers. She noted, "When Zeb complains about a teacher, I say to Zeb 'well it is your problem not theirs, you have to pass the subject' but I don't say it that harsh." Ensuring Zeb had developed positive relationships with teachers was important for Zeb's mother because she assumed that by connecting with teachers Zeb would have greater opportunities for academic success.

4.7.2.3 Sub-theme: 2c) Support

To support boys with AD/HD like Zeb, Mr Smith declared, "I like to give them the opportunity first and then if I notice something isn't right, then to seek help." Mr Smith did not rely on the information he received from the Learning Support Department which disclosed confidential information pertaining to some of the students he taught. He preferred to observe each student and then develop strategies that were best suited to their needs. The strategies he identified that offered support to boys with AD/HD included:

> I give them things to play with. I try to keep them interacting through prompt questions. I walk around the room a lot. I try to spend two to three minutes with every boy with their task. If they are distracted, I will walk past them or stop near them and tap on their desk and mention their name while I am reading if I think they are distracted.

It seemed Mr Smith was aware of Zeb's behaviour difficulties and used specific strategies to enhance his learning experiences.

Mr Wills stated that to support boys with AD/HD was to: "Not put a label on them. Every boy needs to be treated as an individual." Both of Zeb's teachers were conscious not to label him and they both indicated that they considered him in the same way as his peers. Some students with AD/HD feel labelled which can impact negatively on their experience of school (Exley, 2008). Zeb's teachers did not want to label him or compromise his schooling experiences.

4.7.2.4 Sub-theme: 2d) Teaching Styles

Zeb indicated that he enjoyed the teaching style of his Mathematics B teacher because: "The teacher goes slow in his teaching. Even though the students say they understand he knows that some of them probably don't so he repeats a concept." The strategy to repeat particular teaching/learning processes and his methodical approach to teaching appealed to Zeb's learning style. The teacher provided an optimal learning environment for Zeb, that is, clear instructions thereby enhancing Zeb's learning opportunities.

Zeb also indicated his Mathematics C teacher was helpful by: "Making it interesting by telling jokes." He liked teachers who used: "Humour and they go over stuff. If humour is at the expense of you trying to learn, then that is bad but if it is at the expense of you doing something stupid then that's fine." Humour was an important strategy for Zeb as it helped him to refocus and engage in his learning.

4.7.3 Theme 3: Self-esteem and AD/HD

Theme 3: Self-esteem and AD/HD will be presented using Sub-theme 3b) 'feeling different' with the data points from Zeb and his mother. Sub-theme 3a) 'effects on self-esteem' will not be reported because Zeb and his mother did not speak about teachers and self-esteem.

4.7.3.2 Sub-theme: 3b) Feeling Different

In reference to feeling different to his same aged peers, Zeb proposed, "I don't really think about that." More specifically he said, "I wouldn't know because I don't know what it is like not to have AD/HD." When he was asked if his friends treated him differently, he replied, "To what?" According to Zeb, it was not important to be part of a group at school: "It doesn't matter as long as you fit into a group outside of school." It would appear that because Zeb did not feel different to his peers his self-esteem may not have been negatively affected. Despite having few friends, school appeared to be a positive experience for Zeb.

4.7.4 Theme 4: Medication and School

Theme 4: Medication and School will be presented under the following Sub-theme: 4a) 'pros and cons of medication' using data points captured from interviews with Zeb and Zeb's mother and Sub-theme: 4b) 'the journey of medication' from data gathered through the interview with Zeb's mother.

4.7.4.1 Sub-theme: 4a) Pros and Cons of Medication

Zeb stated that taking medication assisted with his learning and if he did not take medication he perceived he could be 'erratic'. Medication helped him to think through the concepts he learned in class and assisted him to structure answers to particular questions asked by his teachers. He reported that his inattentiveness was exacerbated if he had not had a good night's sleep thereby affecting his capacity to concentrate. Medication has a positive effect on adolescents' ability to focus and concentrate (Singh et al., 2010) and for Zeb, medication helped with focus and attention.

Zeb's mother spoke in some detail in regard to Zeb's experience in having to take prescribed medication for AD/HD. Zeb began to take medication at six years of age and from

the first tablet, taking the psycho-stimulant medication has never been an issue for him. Medication was part of the family's morning routine at breakfast. She said, "We get up, there is the breakfast and the juice is there with it. The tablet is beside it."

So while it was not concerning to Zeb to take medication, there were noticeable side-effects (weight loss and insomnia). However, Zeb's mother had developed a plan at home to counteract the weight loss and his limited sleeping pattern and his family adapted their lifestyle accordingly. This centred on a strict routine for Zeb. Initially when Zeb began medication his mother reported:

> Back then it was seven o'clock and lights out. We had to have calm-down time. It is very labour intensive in some ways and we know when we have a bad patch because we are tired as well. We go through stages because it does become very tiring.

She added, "We are not dead organised or anything but we have a Monday to Friday routine that we have to stick by." More recently Zeb has been given autonomy over his sleep time (as stated previously) and he was aware that if he if stayed up late the medication was not as effective.

Managing the medication initially became a lengthy process for Zeb and his family. Zeb's mother was aware of doing 'the right thing' by her son so took the needed precautions such as removing additives from his diet, reducing medication over the weekend and managing the required times he took the medication. As she explained,

> It is something he takes first thing in the morning and we get no benefit from it. We don't give him the tablets on weekends. We give him something else which we call half tablets which are tablets which someone would have again at twelve o'clock. They last for three or four hours. He has those on days that he is playing Soccer or if he has a game, just to keep him focussed. That is our choice. That is for his body's sake. He doesn't eat. We have just actually changed his medication. It wears off and

> the homework doesn't happen. We have changed to either Concerta or Strattera one of the two. We tried both of them previously but it is supposed to do the same thing but last longer. I think it is Concerta. We changed over at the beginning of this year just to see how it went. I haven't particularly noticed any difference but unfortunately the first term is always so up in the air. There are millions of things going on so and it has definitely been that.

Through their stringent home routine the family were able to help Zeb to manage his behaviour difficulties to ensure that the positive benefits of medication (improved attention and focus at school) did not outweigh the negative effects (weight loss and insomnia).

4.7.4.2 Sub-theme: 4b) The Journey of Medication

The family's journey towards Zeb's diagnosis of AD/HD began when he was in Prep. Zeb's mother was confident her son had AD/HD from the age of three because he did not understand 'logical consequence'. She indicated, "By about three years they should understand that." As stated previously, she inferred that Zeb was a 'bright child' but his difficulties with behaviour at school in his earlier years was not age appropriate. Zeb's mother was unsure if it was the school who suggested she take Zeb to a paediatrician but she stated she was aware: "There were just a few things that happened in a short space of time so we decided to check things out."

In regard to his secondary schooling, further adaptations were made for Zeb to ensure his diagnosis of AD/HD did not compromise his schooling. His mother explained, "I think he has a low self-esteem. We did not want AD/HD to become a stigma for him." She was mindful that Zeb may be labelled by the school community as is the case for many students with AD/HD (Exley, 2008). The adaptations she introduced included:

> Using long acting medication so Zeb did not have to take medication at school and packing his medication discreetly prior to school camps. I would put it in a zip lock

> bag and put paper around the outside so it was very discrete. It was something that wasn't anyone else's business.

These strategies proved to be beneficial for Zeb and assured that his peers were unaware that he had AD/HD.

4.7.5 Theme 5: Confusion about AD/HD

Mr Smith and Mr Wills also taught Noel so their comments regarding confusion about AD/HD have been reported in Noel's case study.

4.7.6 Theme 6: Language and Emotions

Theme 6: Language and Emotions will be explored using Sub-theme: 6b) 'parents' journeys' using data points from Zeb's mother. Sub-theme: 6a) 'teachers' language about AD/HD' will not be included in Zeb's case study because data points from Mr Smith and Mr Wills were reported in Noel's case study.

4.7.6.2 Sub-theme: 6b) Parents' Journeys'

Zeb's mother spoke with emotion in regard to her and her husband's decision to trial psycho-stimulants in order to manage Zeb's inattentive behaviour difficulties. Apart from the side-effects she was aware of in relation to taking psycho-stimulant medication, she was also concerned about the reaction from her husband's work colleagues in regard to their decision to trial Zeb with prescribed medication. She explained:

> My husband was in a car with his colleagues who deal with troubled children and most of them would not have been aware at the time and they were going 'AD/HD is just bad parenting disease'. It is so hard that stigma attached to AD/HD 'bad parenting'.

While the parents were concerned about their child's happiness and success at school they also dealt with comments from their work colleagues. Therefore, it was not surprising that

Zeb's father was 'horrified' by the initial suggestion to trial medication. A conflicting viewpoint was presented by Zeb's parents and the perception from their work colleagues about the use of psycho-stimulants in regard to how individuals understand their world through their different interpretations to the same circumstances (Williams, 2000). In this case, the pros and cons associated in taking psycho-stimulant medication.

Zeb's mother also highlighted the stressors living with a child with AD/HD, common among many families (Johnson & Read, 2002). She spoke about the effect her son had on her marriage. She declared:

> They say 80% of marriages divorce with AD/HD kids or something but they put pressure on you. You just want to wring their necks sometimes. You can't always be going mad at your child so you do take it out on each other.

Her honesty and openness about living with a child with AD/HD provided an emotional and personal account of the lived experience of parenting a child with AD/HD.

Zeb's mother emotionally described the perceived 'stigma' her son experienced having to take medication at school or on school camp. She said:

> You hear the awful stories that at twelve o'clock. We did not want our child lining up outside the health centre at 12.00pm to take his medication. I used to freak out writing on the school camp form that my son was taking medication for AD/HD.

Zeb's mother blamed herself and her husband for the trauma she perceived Zeb had experienced over the years by their insistence to investigate why their son did not behave in a similar way to other boys at primary school. She said: "We still have days where we think that twenty years from now he will still be seeing psychiatrists because of the torment we have inflicted on him." At a recent appointment with the specialist, the doctor indicated Zeb would need to continue to take medication for some time. She said, "When we went to the paediatrician one or two times ago he said, 'When he gets to nineteen or twenty'. I said, 'oh

my god they have just taken away my light'." The family journey in regard to medication was well-articulated by Zeb's mother in how she described her lived experience with her son.

4.8 Case Study 5: Joe, Joe's Mother and Two Teachers

Joe was a Year 12 student who completed the individual, semi-structured interview with the researcher in March 2012. He was the younger brother of two boys and had been a student at the school since Year 3. His mother and two each of his teachers, Mr Hamilton and Mr Stone, also participated in an individual, semi-structured interview. Joe participated in the focus group interview. The case study will be presented beginning with Sub-theme Teaching and Learning Experiences.

4.8.1 Theme 1: Description of Schooling

As with the findings for Zeb, Joe's case study will be presented beginning with Theme 1: Description of Schooling. This theme will be supported with data points from Joe, Joe's mother and two of his teachers Mr Hamilton and Mr Stone, using the Sub-theme: 1a) 'teaching and learning experiences', 1b) 'classroom behaviour' and 1c) 'importance of friends'.

4.8.1.1 Sub-theme 1a): Teaching and Learning Experiences

Joe began his story about his schooling experience by revealing that when he was in primary school the school community were not aware that he had been diagnosed with AD/HD. Observing other boys at school whom he knew had AD/HD, he perceived that many of them were treated differently by their same aged peers. Many young people with AD/HD are bullied at school due to their inappropriate and unwanted behaviours (Sing et al., 2010; Timmermanis & Wiener, 2011) and Joe did not want to be seen as different so he kept his diagnosis of AD/HD to himself.

Joe appreciated the learning support that he had received when he was in primary school as he knew he experienced difficulties with his learning. As he recalled, "Other kids not in the class would call us dumb." It is not uncommon for children with learning difficulties to have an associated AD/HD diagnosis (Tymms & Merrell 2006; Tabassam & Grainger, 2002) so it is understandable that Joe kept the diagnosis of AD/HD to himself.

In contrast, in secondary school most of his friends knew he had AD/HD so it seems that as Joe grew older he was more accepting of the diagnosis. He reflected on the past, "I was self-conscious that I had AD/HD but now I don't care. I thought I might have been treated differently because they did not understand and did not know what it is."

Furthermore, in regard to his secondary schooling, Joe spoke specifically about his problems with learning. He reflected:

> I think I would do better at school academically if I didn't have AD/HD because I would be able to remember stuff better. Every year, except for last year, in my whole life I have failed at least one subject, just. I have always failed one subject every year up until last year (Year 11). I am going for an OP.

His school difficulties and the diagnosis of AD/HD had impacted on his ability to achieve academically to the level he had hoped.

Joe suggested that his schooling experience could be more motivating if the school employed specialist teachers who were able to better understand the academic and behaviour difficulties boys like him experienced. In particular he suggested, "Classes should be streamed and allocate teachers who are suited to a particular types of student learning." Joe's comments confirm that adolescents with AD/HD learn differently (Power et al., 2009).

Joe's favourite subjects in secondary school were Biology and Industrial Technology and Design (ITD) because those subjects were more interesting to him and were

predominantly practical (hands on) based. His least favourite subjects were Mathematics and Economics because he considered that these subjects were difficult for him to manage. He did not understand Mathematical concepts and some topics were boring. With Economics, the teacher's style of teaching was his main concern: "I have nothing against the teacher I just don't like her teaching methods." Joe's academic report over two years is reported in the following table:

Table 4.7
A summary of Joe's school report from 2009 – 2010

	Year	English	Mathematics (Ord)	Science	Geography
Semester 1: 2009	9	C+	C-	C-	B
Semester 2: 2009	9	B-	B	C-	C+
Semester 1: 2010	10	C+	A-	C-	C+
Semester 2: 2010	10	C+	B-	C-	B

Joe's grades across a two year period (see Table 4.7) align with his comment in regard to failing (C-) at least one subject each year. His results fluctuated from year to year.

4.8.1.2 Sub-theme 1b): Classroom Behaviour

Joe described school as 'really hard' because it was difficult for him to learn. His challenges in relation to attention and concentration difficulties had impacted on his ability to retain information. As he described, "I lack concentration. I forget what I have learned from one day to the next. This affects my grades at school. I just daydream." The common characteristics of AD/HD (inattention and daydreaming) had translated into some weaker academic results (Table 4.7) and motivational difficulties.

On reflection of her son's experience of primary school, Joe's mother said his teachers had informed her that he was a quiet student. As she stated:

> In the classroom he was never a problem. He would just sit at the back of the room and be gazing out the window and no one would know that he was not paying attention. My son was not a problem to the teachers.

She made similar comments in regard to his secondary schooling: "He was never a behaviour problem, he just sits quietly but cannot tune into what the teacher says." Mother and son agree in regard to the AD/HD characteristics Joe demonstrated in classroom situations.

Mr Hamilton reflected on Joe's inability to focus in his classroom: "He loves to talk, particularly if he has a couple of his closest friends in the classroom with him. He is able to drift off. He is not disruptive in class but his distraction takes him off task." Joe, his mother and one of his teachers had identified that Joe's inattentiveness led to day-dreaming type behaviour

Mr Stone spoke in generalities about the boys whom he had taught and who had a diagnosis AD/HD so his comments are not reported.

4.8.1.3 Sub-theme 1c): The Importance of Friends

Previous comments made by Mr Hamilton and Joe indicate that Joe appeared to have established a close set of friends. Some of his friends helped him with his assignments, however, there were other boys, according to Joe, who used him as a bench mark to measure their academic achievements against his. He noted, "Some friends don't help you so they get a better mark."

Joe admitted that friendships were a positive aspect of his schooling but making friends was difficult because: "It depends what you want to fit into." Important for Joe, was to fit in at school and to not to appear to be different. In regard to Joe's decision to not tell people in primary school he had been diagnosed with AD/HD, Joe's mother recalled:

> He doesn't like the idea of anyone knowing. He is getting used to it now because he is a bit more mature. He has picked up that it is quite common and not a bad thing. You know boys, one little thing is wrong with them, 'oh dear don't draw attention to me' and 'I don't want anything wrong with me'.

Her reflection of Joe's attitude towards his diagnosis of AD/HD clarified the need for him to 'fit in' at school.

Joe's mother indicated that while Joe had few friends when he was in primary school he was able to establish and manage friends in secondary school. About his friends in secondary school she said, "He now has a large group of friends but more so with particular individuals within the group that he seems to be friendly with. He is pretty choosy." Additionally she said:

> He used to have friends that would come out, but these days he is always on the phone or he is Face booking. So he doesn't always have to have that physical contact as much. He is constantly with his friends but through social networking.

Mr Hamilton indicated:

> Joe has a close knit group of friends who express themselves easily and talk constantly. His friends are articulate and intelligent and he is able to function with them with no trouble at all. However, I never hear him speak. He speaks very quietly.

Mr Hamilton also indicated Joe and his friends: "Have common interests outside the classroom with musical instruments and video games. Common ground helps AD/HD boys make friends."

Mr Stone spoke generally about the ability of boys with AD/HD to form and maintain friends so his comments have not been reported.

4.8.2 Theme 2: Interplay between Teaching and Learning

Theme 2: Interplay Between Teaching and Learning will be presented using findings from Sub-theme 2a): 'helpful teachers' using data from Joe and 2b) 'non-helpful teachers' using considerations from Joe and his mother. Sub-theme 2c) 'support' will be considered by the teachers while the findings from Sub-theme 2d) 'teaching styles' will be supported with data from Joe, Joe's mother and Mr Stone. Mr Hamilton did not make specific reference to his style of teaching.

4.8.2.1 Sub-theme 2a): Helpful Teachers

Joe explained why it was important for him to have helpful teachers: "Certain qualities that particular teachers have in their teaching help me to learn." He defined a good teacher as a person who: "Makes the subject easier so you don't dread going to the class, builds your confidence in the subject, teaches in detail; they know their subject well, they are informative and explain concepts properly." Such strategies helped Joe with the learning processes.

Furthermore, Joe indicated a good teacher:

> Is able to cater for all different types of learners, comes down a level to teach you. If they have taught dumber classes they are better teachers. They don't treat you as if you are stupid. They try and help teaching you. Just because they know it, they don't expect you to know it.

A particular teaching style made a difference in regard to academic and personal outcomes for Joe.

4.8.2.2 Sub-theme 2b): Non-helpful Teachers

According to Joe, teachers were unhelpful when he became confused during the teaching/learning process. He identified that particular teaching procedures used by some

teachers were particularly unhelpful. This included teachers whom he said, "Flicked through the text book and did not follow a logical order." With these kinds of teachers, Joe claimed he learned 'nothing'. He stated, "This sort of teacher make you have to do extra work at home because you don't learn anything in their lesson, you have to do it at home." He added: "The smarter the teacher the worse they are, because they teach over your head and only the bright kids understands what they are saying. Just because they understand it, they expect everyone else to." It seemed that some of Joe's teachers may have made few considerations in regard to the diverse learners in their classrooms. As a result, Joe may have experienced feelings of inadequacy and disillusionment knowing he could not keep up to the same level of ability as his peers.

Joe's mother had counselled her son in that he would come across some teachers throughout his schooling with whom Joe may struggle to make a connection. She reflected:

> I said to my son that he had to adapt to all things in life and that is just part of the learning process and there will be people you don't get along with and all the rest of it but you have to make the most of a situation.

Her insight about life experiences generally, captured the essence of what she was trying to say to her son in regard to his experience of school, that is, a teacher-student relationship can affect the context in which student competence is affirmed but she inferred that there could be occasions when a student is at risk in engaging in conflictual teacher-student relationships.

Successfully raising a child with AD/HD requires outstanding parenting skills (Sagvolden et al., 2005). As a parent she declared:

> I have been around long enough to realise that life is not perfect and the world is not perfect either. I have tried to teach the kids you have to be adaptable, you need to cope with certain circumstances and turn them around to be the best they can for

> you rather than fight against it because I think people like this can very easily get belligerent and anti and sometimes they become aggressive.

It would be probable to assume Joe valued his mother's advice in regard to being accepting of other people.

4.8.2.3 Sub-theme 2c): Support

Mr Hamilton suggested the best way that he could support Joe was to read the notes pertaining to Joe that were written by Learning Support staff at the beginning of each year. He offered:

> Read the information provided by the Learning Support Department at your school. To know as a good teacher you can pin-point an issue and to do a bit more work with students who have AD/HD. Having the prior knowledge is important. Once you have acquired the knowledge, you need to then go into your classroom and learn about the child you are teaching. Learn what he likes, what makes him tick. At the end of the day you need to sum up who he is as a person and how he manages his AD/HD in the context of your class. As soon as you know the child and how he works it is easy then to work with him. If you do not know the child and do not know how he works, you will not be able to get him to work.

It appeared that Mr Hamilton had a sound knowledge and understanding of appropriate strategies that were required to effectively engage and teach Joe. As stated in Liam's case study (Mr Hamilton was one of the two teachers interviewed) his understanding of AD/HD had grown by observing the behaviour difficulties he had seen in his nephew who had a diagnosis of AD/HD. His strategies appeared to be well-managed by the students whom he taught and who had AD/HD and he also appeared to utilise a common-sense approach to teaching.

Mr Stone made several suggestions in regard to how teachers could better support boys with AD/HD. He said, "Make sure we know who these boys are in our classes, learn

how to identify a boy who has AD/HD by giving teachers some pointers to identify these types of boys. “Furthermore, he said, “Have strategies to be able to assist them to learn to their full potential.” Finally, he offered, “Speak to the parents to get some background on the student to better help teachers understand why or how they behave the way they do.” Mr Stone offered useful tools that could be used by classroom teachers at the beginning of the school year.

4.8.2.4 Sub-theme 2d): Teaching Styles

Joe was reliant on teachers to help him to achieve the vocational goals he had aspired to reach and as stated previously, what was particularly important to him was a solid Overall Position (OP) at the end of Year 12. What could hamper his academic pathway were teachers whose teaching style differed to his way of learning. He indicated, “A big thing that affects me is the way teachers teach. I can’t handle teachers that change topics.” Certain teaching styles impacted negatively on his learning: “When they are not organised in their teaching, go through the work too quickly and not explain anything.” Joe’s behaviour difficulties such as his inattention and his limited focus intensified when he perceived his teachers did not deliver structured lessons. As a result Joe indicated, “I could not keep up because the teacher was unorganised and wasted time and didn’t explain things three different ways.” Perhaps teachers who explained a concept three different ways was an unrealistic expectation of Joe’s but his opinion pertaining to the fact that students have different learning styles was valid.

While Joe’s mother had made similar remarks to Joe in reference to teaching methods used by some of Joe’s teachers, she was realistic about their teaching styles: “Teachers have different ways of teaching. He needed to take the good with the bad. He needed to develop better coping strategies.” Her advice to Joe helped him to realise that it may not be practical

to assume that all teachers could implement strategies that were specifically designed around his particular learning requirements.

Mr Stone highlighted several interventions that he used to support boys with AD/HD: "Lessons are very structured; show a task in a variety of different ways to cater for all learners; sensing when a child does not understand a concept." Mr Stone used a teaching style complimentary to the learning requirements preferred by Joe.

4.8.3 Theme 3: Self-esteem and AD/HD

Theme 3: Self-esteem and AD/HD will be presented using Sub-theme: 3a) 'effect on self-esteem' using data points from Joe and Joe's mother, and Sub-theme: 3b) 'feeling different' using considerations from Joe.

4.8.3.1 Sub-theme: 3a) Effect on Self-esteem

While it seemed that secondary school was a relatively positive experience for Joe, there were some teachers he sensed who were unprepared for their classes and who appeared to be disorganised in their teaching. He perceived that these teachers had impacted on his grades. There was pressure by Joe to achieve strong results across all his subjects as he had his sights on a respectable Overall Position (OP). A teacher who did not use clear instructions, according to Joe, impacted on his ability to achieve good grades. He noted, "Teachers who go through things too quickly and in a short amount of time, it becomes jumbled and confusing and therefore I miss everything that is taught."

In regard to his self-esteem, Joe was asked if some teachers impacted on his self-confidence. He said, "Teachers embarrass you if you ask a stupid question." However, Joe's mother could not recollect any teacher who had a positive or a negative effect on her son's

self-esteem. She highlighted that it was important that Joe develop coping strategies as a life skill stating,

> I have tried to teach the kids you have to be adaptable, you need to cope with certain circumstances and turn them around to be the best they can for you rather than fight against because I think people like this can, they can be quite difficult to live with.

4.8.3.2 Sub-theme: 3b) Feeling Different

As stated previously, Joe did not tell the school community when he was in primary school that he had AD/HD to ensure he was not treated differently by the other students. As he grew older, however, he indicated that he became more comfortable telling friends and peers he had AD/HD, assuming there would be no negative repercussions. While many young people with AD/HD are aware their behaviour difficulties in the classroom may make them appear to be different, the reality is they often experience social rejection (Miranda et al., 2006). Joe told of the importance of 'fitting in' at school. He declared, "You'd be miserable and you are like not going to concentrate and you are not going to enjoy it." Joe's need to be similar to his same aged peer group highlighted the need for children and adolescents with AD/HD to not to appear to be different. For Joe it was important to fit in so: "So you don't stand out."

4.8.4 Theme 4: Medication and School

Theme 4: Medication and School will be presented under Sub-theme: 4a) 'pros and cons of medication' using data gathered by Joe and Joe's mother, and Sub-theme: 4b) 'the journey of medication' using data points from Joe's mother.

4.8.4.1 Sub-theme: 4a) Pros and Cons of Medication

Many young people with AD/HD are optimistic about taking medication because it reduces their difficult behaviours (Singh et al., 2010). For Joe, medication as a form of

treatment for AD/HD had a positive effect improving his ability to focus and concentrate. As he explained:

> Medication does not help me to remember stuff but it helps me to concentrate for longer. Without medication I can only concentrate for a couple of minutes. I can concentrate for ten minutes in a boring subject when I have had my medication.

Joe's mother said that she had never forced her son to take medication and was mindful of the positive effects that medication had on Joe's ability to focus and concentrate. Her concern with medication as a form of treatment, however, were the negative reports from newspapers, the television and from people she knew who made ill-informed comments including: "Oh you dreadful woman, not dreadful but fancy drugging your child and you are giving your child speed, you are drugging your child." Despite these views from journalists and the wider public, Joe's mother was confident in her decision that Joe should take medication to manage his behavioural difficulties.

When Joe first began taking medication, he was required to take a tablet at school daily. Joe's mother was concerned that taking medication at school may have drawn attention to her son. She said:

> He had to get his tablet from the school nurse and it was a broken dose at that time because they didn't have the slow release tablet available. He did not like having to do this. It drew attention that he was doing this.

So despite that fact that medication had positive benefits, there was also a negative side, that is, Joe taking medication at school.

4.8.4.2 Sub-theme: 4b) The Journey of Medication

Joe's perceived difficulties with numeracy and literacy in Year 2 influenced Joe's parent's decision to trial him with psycho-stimulant medication. It was a 'difficult process'

for Joe's mother to understand why her son was unable to read or complete mathematical exercises. Her concerns became more apparent when she compared her older son's performance at school to Joe's achievements. Furthermore, she was concerned by the lack of support Joe received by his teachers. She contemplated the reasons why Joe appeared to find school challenging. As she explained:

> I started doing some research myself because I had Tim (pseudonym) before him. If he was my first child I don't know that I would have actually noticed because I would go to school and say what is going on and they would say you are not coping as a mother because your older son is a high achiever and this son is not very bright and you can't deal with it.

It seemed that the school community had made a decision about the academic capability of the two brothers without knowing why there were differences in their abilities. Joe's mother took Joe to a psychologist who completed a battery of tests. Following this, a paediatrician confirmed the diagnosis of AD/HD.

Knowing that Joe had AD/HD was a relief for his mother. She stated, "I was hugely relieved when the paediatrician diagnosed him with AD/HD because I couldn't work out what was going on. I then read a lot about it and I could then understand it." She concluded that the early years of school were difficult for Joe because of his focus difficulties. She reflected:

> We did an enormous amount of catch up and fortunately I was in the position. We did speech therapy probably for a couple of years; he's always had a Maths tutor up until this year. This is the first year that he hasn't had a Maths tutor and he is in a more enclosed schooling system so he has managed to survive by extra support.

Joe's schooling was scaffolded by his mother and other outside school providers (e.g., a tutor) in order to help Joe with his learning and therefore to make school a more positive experience for him.

4.8.5 Theme 5: Confusion about AD/HD

Theme 5: Confusion about AD/HD will be explored using the following Sub-themes: 5a) 'misunderstanding', 5b) 'knowledge of AD/HD' and 5c) 'impact on learning' from the perspective of Mr Stone only as the data points in regard to Mr Hamilton's perception about Theme 5: Confusion about AD/HD was discussed in Case Study 2: Liam and the Two Teachers.

4.8.5.1 Sub-theme: 5a) Misunderstanding

Mr Stone admitted that his knowledge and understanding of AD/HD was minimal. He reflected:

> I think it is where boys are struggling to concentrate in class because something is not quite functioning in their brains. Messages are not being received the way they should be and therefore that is affecting what they are supposed to be doing. An instruction may be given but they are not necessarily getting that instruction.

His understanding of AD/HD was probably based on the neuro-chemical model of AD/HD suggesting under functioning neuro-pathways within the central nervous system are linked to AD/HD (Johansen et al., 2002). Further to this, Mr Stone said, "It is treated with drugs. Some boys manage their AD/HD with drugs. Some boys tell me it does work, it doesn't work, and they're not sure." It appears he attempted to improve his knowledge of AD/HD through conversations with students whom he taught who had a diagnosis of AD/HD.

4.8.5.2 Sub-theme: 5b) Knowledge of AD/HD

Mr Stone was able to identify some AD/HD characteristics. He stated, "If they cannot concentrate they are more easily distracted, behaviour is not what is expected because of their AD/HD." Despite stating that boys with AD/HD had a limited ability to concentrate and were

easily distracted, he was unable to offer other symptoms in relation to behaviours associated AD/HD.

4.8.5.3 Sub-theme: 5c) Impact on Learning

According to Mr Stone, the 'work ethic is poor' for students with AD/HD. He noted, "Work ethic is poor because self-discipline is low." The repercussions were, he added, "Homework completed is minimal because the last thing they want to do when they get home is homework because they want to do very little when they are at school." Mr Stone's summation of the work ability of many young people with AD/HD highlight the importance of classroom strategies to support students' school related success. Mr Stone seemed to have a reasonable understanding of the impact that AD/HD had on the teaching/learning experiences of children and adolescents with AD/HD.

4.8.6 Theme 6: Language and Emotions

Theme 6: Emotive Language, will be reported using the Sub-theme: 6b) 'parents' journeys' using considerations from Joe's mother. Sub-theme: 6a) 'teachers' language about AD/HD will not be reported by the teachers. Mr Hamilton also taught Liam and his comments regarding Emotive Language have been reported in Liam's case study. Mr Stone did not use emotive language during the individual, semi-structured interview with the researcher.

4.8.6.1 Sub-theme: 6b) Parents' Journeys'

Joe's mother described schooling in general terms:

> A school has to be open to all children and they can't be pandering to individuals can they? That's when the problems start with attention deficit because they are not getting the support and it roller coasters on and on and on and he has had two completely devoted parents who can work their life around him and everything.

Her comments about Joe's experience of school confirmed that his school performance and his social interactions were empowered by his parents who had considered the kinds of strategies Joe preferred to ensure his schooling experience was relatively positive.

4.9 Case Study 6: Aaron, Aaron's Mother and Two Teachers

The individual, semi-structured interview with Aaron took place in mid-March 2012 in the researcher's office. The individual, semi-structured interview with his mother occurred the following day in their family home. Aaron was 16 years old and had just begun Year 11. He was the eldest of two boys. His teachers, Mr Wills and Mr Milton participated in an individual, semi-structured interview. Aaron participated in the focus group interview. As with the previous case-studies, the first master theme to be reported will be Description of School within sub-themes 'experience of school', 'classroom behaviour', and lastly 'the importance of friends'.

4.9.1 Theme 1: Description of Schooling

Theme 1: Description of Schooling will be considered within Sub-theme: 1a) 'experience of school', 1b) 'classroom behaviour' and 1c) 'the importance of friends' from the perspective of Aaron, Aaron's mother and teachers Mr Wills and Mr Milton.

4.9.1.1 Subtheme: 1a) Teaching and Learning Experiences

Aaron described his schooling experience as 'tough' due to the overwhelming amount of work he was required to complete in the classroom and also because he experienced difficulty completing assignment tasks. Describing his behaviour difficulties he said: "I lose concentration easily and daydream." His behaviours are typical of the core symptoms of AD/HD that are evident in many young people with AD/HD, that is, poor attention and limited concentration (APA, 2013).

Aaron's inconsistent level of attention and concentration became increasingly problematic as he transitioned through school and he would use tactics to avoid beginning class work. He reflected on his past ten years of school saying:

> In primary school I don't think the teachers knew I had AD/HD and thought I was just slacking off but I wasn't, I was really struggling. I could not understand what was being taught. Much of the learning went over my head and eventually I just gave up. I stopped trying to learn. That was in primary school. I gave up last year in Year 10 too.

Young people with AD/HD can experience feelings of disappointment caused by continual feelings of failure Murphy (2005) and it seemed that problem behaviours had a debilitating and demoralising effect on Aaron's academic capabilities thereby overriding his desire to achieve academic success. However, as Aaron progressed through school he had greater ownership of the subjects that he studied and he indicated that in recent years, school had become more interesting.

Aaron considered that for school to be motivating for him and to experience greater school satisfaction, he required teachers to use teaching/learning processes that were suited to his learning style. For this to happen Aaron indicated, he would have preferred to study only those subjects he liked. These were the subjects that had a practical focus and were work related. He considered, "You don't have to think much. You are not sitting in a classroom all day." It seemed that the subjects in which Aaron could move freely around the classroom, to work at his own pace and where he was building and designing, reduced those behaviours that interfered with his academic progress.

About the less practical subjects such as English, Mathematics, Science and Studies of Society and the Environment (SOSE), Aaron said he would have enjoyed these subjects more if they were not so challenging for him. He provided the interviewer with a summary of the

reasons why he did not enjoy the compulsory core subjects he was required to study until the end of Year 10:

> English - I don't like it because of teachers trying to teach me things I do not want to learn and I don't need in life such as books and historical novels. I can't put words onto paper when I have to write a story or an essay. I think English is hard and I don't have an interest in it.
> Maths – I don't get it. I have been trying to learn the same concepts for three years now and I just don't get it. So I give up. I can do simple Maths problems but not complex ones.
> Science – I like Chemistry but generally I don't get Science.
> SOSE – I don't like learning about the environment.

From his comments and his academic results (see Table 4.8) it appears that Aaron was achieving limited success at school. His lived experience of school was characterised by poor attention and minimal motivation. Aaron's experience of school was similar to the findings by Murphy (2005) who found that student behaviours associated with AD/HD have the possibility to impair almost every aspect of their academic and social functioning. This is evident in Aaron's academic report over a two year period and is summarised in the following table:

Table 4.8
A summary of Aaron's school report from 2009 – 2010

	Year	English	Mathematics	Science	SOSE
Semester 1: 2010	9	D-	D- (Adv)	D+	C
Semester 2: 2010	9	C-	A- (Ord)	D	B
Semester 1: 2011	10	C-	C+ (Ord)	D-	B-
Semester 2: 2011	10	D+	D+ (Ord)	D-	C

Aaron's weak results are indicative of a student whose inattentive behaviour difficulties impacted on his academic progress.

4.9.1.2 Subtheme: 1b) Classroom behaviour

Aaron recalled from as far back as Year 4, the repercussions from his poor classroom behaviour. Due to his inability to focus and concentrate, Aaron said, "I got into trouble nearly every day. Every small thing wrong that I did, the school would make it into a big thing." His mother was frequently called to the school and on occasions his perceived irresponsible and inconsiderate actions found him suspended from school.

Aaron's mother expanded further on Aaron's behaviour difficulties during primary school. She reflected, "He was forever getting into trouble, and he was nit picked for so many little things." Year 5 was the worst year for Aaron she recalled because the school administration team had blamed her and her husband for Aaron's poor behaviour in class. She remembered one situation in particular:

> They actually blamed us for Aaron's problem. They said we should go and take a Triple P parenting course because that is why Aaron is so out of control. It is our fault he is like that. I was so angry because I thought no it's not, because why isn't our other son like that then? There were lots of reasons why I was disgusted with his primary schooling.

Perhaps if the teachers and school administration team had a better knowledge and understanding in terms of the characteristics of Aaron's behaviour, the teachers may have been able to implement behaviour management strategies to better support Aaron.

Her disappointment with the school community became more evident as Aaron's progressed through Year 5. She highlighted a particular episode:

> It almost became a joke because at least once a term we would go in for a hand ringing session as my husband and I used to call it. It was the Headmaster, the Deputy Headmistress, the teacher, the Learning Support teacher and then Paul (pseudonym) and I. We would all be in the headmaster's office and what can we do

> about Aaron? After about the third one of these we thought this is just a joke, a waste of our time and nothing is coming of it.

Her frustration with the school community was evident as the frequent meetings with the school administration brought no solutions. Had the school administration team had a better understanding of Aaron's consistent struggle with school, they may have been able to implement strategies that may have had a positive impact in his schooling.

Aaron's continued maladaptive behaviours in the classroom transpired into secondary school. His mother stated:

> He was distracted and not concentrating on his work and he would be in the classroom but talking to somebody or looking around. Not concentrating on what he was supposed to be doing and that was when he was taking the Ritalin.

Mr Wills described Aaron's behaviour in class as: "Disinterested, lacking motivation and not doing any work," thereby describing behaviour difficulties that are evident in many children and adolescents with a diagnosis of AD/HD (Power et al., 2009). Referring generally to the work ethic of boys with AD/HD he believed, "AD/HD boys will get started, you expect them to keep working but they will start work, write two lines and then stop and look around for something else to do. I guess attention span is limited." It seemed that Mr Wills was able to identify a common behaviour pattern observed in many young people with AD/HD (Murphy, 2005).

Mr Milton, Aaron's Mathematics teacher, described Aaron's behaviour as: "Fidgety, doodling, eyes being aloof, interacting with others or just staring at work, doing nothing, gazing or looking out the window." His description highlights the core characteristics of AD/HD, that is, deficient organisation, poor attention and limited concentration (APA, 2013). According to Hughes (2007b), the deficit behaviours associated with AD/HD impact significantly on a young person's educational functioning. Mr Milton's descriptions of

Aaron's behaviour in a classroom environment are consistent with the difficult behaviours that many young people with AD/HD experience.

4.9.1.3 Subtheme: 1c) The Importance of Friends

While friends were important to Aaron for his social functioning at school, he indicated that his friends did not help him with his assignments. Foremost, he stated he was doubtful his friends were even aware that he had AD/HD. He noted: "I don't think they know and I haven't told them. You come to school for friends. You don't fit in if you don't have friends." Young people with AD/HD keep their diagnosis to themselves for fear they are thought to be stupid (Singh et al., 2010) so Aaron may not have told his friends he had AD/HD because he felt they were 'better off' not knowing. Aaron's desire to 'fit' into his school community was important for his experience of school.

The symptoms associated with AD/HD can hinder the formation and maintenance of relationships with peers (Biederman, 2005; Houghton, 2006; Kos, Richdale, & Hay, 2006). Aaron's mother reflected on her son's friendship group throughout his schooling. Beginning with primary school, she recalled Aaron had no friends but he had made a 'couple' of friends by Year 5. She was relieved he had friends even though it appeared his friendship group was small. The few friends Aaron had made in primary school did not transition to the secondary school he was going to attend so once again he was required to build a new friendship group. Of the boys he was able to form a friendship with, Aaron's mother noted, "He had like-minded friends who he enjoyed motor bike riding with. He is loosely in with this group still but it is not as tight as it used to be." It would appear that as Aaron moved through secondary school he was able to manage and maintain a friendship group even though his friendships were superficial.

Referring to Aaron's inability to work with other boys, Mr Wills said Aaron was not capable of joining a group to complete a class activity and he would just sit there. He relayed a conversation he had with Aaron in regard to a group task:

"Are you going to get into a group?" (Mr Wills)
"No one wants to work with me." (Aaron)
"I've just been watching you and you haven't even asked anybody." (Mr Wills)

It was evident that Mr Wills was unable to understand or explain why Aaron appeared to be unmotivated to attach himself to a group during a particular activity.

Mr Milton was aware that of the boys he taught with AD/HD most of them had at least one friend: "While they are friendly to others, they do not appear to have close friendships." He had observed these boys behaviours and noted that many of them were impulsive. To confirm this, he reflected on his student classroom interactions:

> In a group task that involves problem solving they often stand back or wander off and allow others to take the lead because the work is beyond them. Some even roam away from the group and come back when the task has been completed. Generally speaking, boys with AD/HD do not do particularly well in group activities and especially for any great length of time.

4.9.2 Theme 2: Interplay between Teaching and Learning

Theme 2: Interplay Between Teaching and Learning will be considered using the Sub-themes: 2a) 'helpful teachers' and 2b) 'non-helpful teachers' from data points gathered through interviews with Aaron and Aaron's mother. Sub-theme: 2c) 'support' will be presented using data gathered by Aaron's mother and the teachers while Sub-theme 2d) 'teaching styles' will not be reported as no participant made reference to this sub-theme during their interview.

4.9.2.1 Sub-theme: 2a) Helpful Teachers

Aaron considered that a helpful teacher was an educator who was able to push him to complete his class work. Moreover, a teacher was particularly helpful if he or she was: "Persistent with me and lenient." Important characteristics for Aaron it seemed were for his teachers to be patient and tolerant of his, at times, inconsistent behaviour.

Aaron identified that helpful teachers were experienced in their area of expertise. More specifically he explained helpful teachers were: "Laid back. Not force us to do it right then and there. It can be done later." It seemed that what Aaron required was a teacher who taught in a way that complimented his learning style. Teacher confidence is an important factor in determining how well a student with AD/HD engages in a classroom activity (Sherman et al., 2008). For Aaron, an optimal learning environment included teachers who were confident and knowledgeable about their subject. Aaron also enjoyed the opportunity to work with a teacher on a one-to-one basis and he appreciated extra time to complete his examinations.

Aaron's mother did not specifically state how teachers were helpful or not helpful to her son's education. However, regarding Aaron's middle primary school years when behaviour problems were at a peak she said, "By this time he was getting one-to-one learning support for one lesson a week. Aaron certainly did work better one-on-one. A classroom situation was a disaster." A strategy that worked for Aaron, thereby reducing his unwanted behaviours, was working in a quiet environment away from the distraction of his peers and with a teacher who was able to work with him individually.

4.9.2.2 Sub-theme: 2b) Non-helpful Teachers

Teachers were unhelpful according to Aaron if they were not persistent. Referring to one teacher he said, "If I ask him a question he turns around and walks off." Furthermore, he explained, "They try to help me but eventually they give up." It is evident that for Aaron to have adopted positive teaching/learning processes, his teachers needed to be persistent and patient.

Aaron also suggested that his teachers should be made aware of all students in their classes with AD/HD. About him, he said:

> They would know I had AD/HD and therefore be more understanding of me. Some teachers don't know I have AD/HD which is another reason why they give up because they think I am slackening off. Have teachers who are educated about AD/HD.

Aaron's point confirmed the need for his teachers to know about AD/HD so they could implement strategies that were best suited to his needs.

Aaron also indicated that teachers should create a learning environment to include structure, clear instructions and which provided him with frequent reinforcers to help sustain his focus and attention. For him, "Teachers are not helpful if they cannot control a class because then I just muck around."

4.9.2.3 Sub-theme: 2c) Support

According to Aaron's mother, to support her son in the classroom effectively, teachers need to be educated about AD/HD and she was able to highlight two particular interventions. She suggested, "He needs to sit at the front of the classroom." She also indicated that teachers should use techniques that could reduce Aaron's inattentive behaviour. However, having said

that, she was not forthcoming in proposing which particular strategies could be beneficial. However, she warned:

> These are things that help him learn but then you don't want to alienate him from the classroom like all the dummies are sitting up the front. He learns the techniques but he then forgets them. I don't know how you can do it in the school system but they need to learn it and learn it and learn it.

Perhaps the strategy she was referring to was for teachers to repeat a learning concept so students with AD/HD have an opportunity to refocus when the activity is re-taught.

Mr Wills agreed with Aaron's mother that the best way teachers could support boys with AD/HD was for teachers to have a better knowledge and understanding of the behaviours associated with AD/HD diagnosis (Scuitto et al., 2000). Mr Wills offered two ways his awareness of AD/HD could be better informed. He noted, "Through professional development and talking with work colleagues about specific students." He explained, "If we all teach Aaron, when one teacher says 'I can't get him to do any work', another teacher might say, 'well I do this or try that', just helping each other."

For teachers to support adolescent boys with AD/HD Mr Milton suggested:

> Teachers need to know who they are dealing with. Attend PD sessions. Making sure you have strategies in place and making sure you are aware of the students in your class who have AD/HD and to not label these boys as 'special'. Treat them like everyone else but be more understanding and accommodating with your procedures you have in place to combat any problems.

Additionally he said, "Be patient and be consistent in strategies. The student who has AD/HD, their behaviour if it is poor or if they are not focussed, is not done on purpose and getting angry is not going to help." It appeared Mr Milton created a positive teaching/learning

environment through his structured classroom and behaviour management strategies thereby offering the boys in his class the best opportunity to achieve academic success.

4.9.3 Theme 3: Self-esteem and AD/HD

Theme 3: Self-esteem and AD/HD will be presented using Sub-themes: 3a) 'effect on self-esteem' and 3b) 'boys feeling different' using data points from Joe and Joe's mother.

4.9.3.1 Sub-theme 3a) Effect on Self-esteem

Aaron did not indicate whether teachers had a negative or a positive effect on his self-esteem. However, he said he was 'picked on' for talking in class by some of his teachers. Aaron must have spoken to his peers when he was bored or distracted. To highlight the impact some teachers had on his schooling experience he explained, "They treat you like a retard because they don't know in the first place that you had it and they don't even know what it is." When asked what he meant by the term 'retard' Aaron replied, "Retard means they treat you like a dumb kid. They treat you as dumb if you aren't doing any work in class." It seemed as though the teacher-student relationship was jeopardised in classroom situations when Aaron sensed he was victimised by a teacher. When Aaron and his teachers were at risk of engaging in a conflict, strategies to improve interactions were needed such as rewarding his positive behaviour and affirming him regularly.

Aaron's mother made no comment about teachers who had a positive or negative effect on her son's self-esteem.

4.9.3.2 Sub-theme 3b) Feeling Different

Many young people with AD/HD sense they are different to their peers who do not have AD/HD (Travell & Visser, 2006), however, Aaron did not feel different to other boys. He reflected, "It is hard but I don't really know any different." Pertaining to how he acted at

school around his friends, Aaron stated his impulsive behaviour and silly comments made him feel different. His inability to think before he spoke meant he said things that would 'come out differently'. As he grew older it seemed that Aaron's peer group became increasingly important to him so he tried to control his unwanted behaviours so as not to appear to be different to his peers.

4.9.4 Theme 4: Medication and School

Theme 4: Medication and School will be presented under the following Sub-theme 4a) 'pros and cons of medication' and 4b) 'the journey of medication' using the considerations from Aaron's mother. Aaron made no reference to the pros and cons of medication.

4.9.4.1 Sub-theme: 4a) Pros and Cons of Medication

Aaron began medication to help with his behaviour difficulties when he was five years old. While medication helped him to focus and concentrate in the classroom, Aaron's mother admitted she was worried about the perceived side-effects associated with taking medication. She had noticed several changes in Aaron's behaviour once he began a course of Ritalin. She reported, "He would not eat and I could not get him to sleep." Reported common side-effects to stimulant medication include weight loss, insomnia, agitation and social withdrawal (Graham, 2008b). Therefore, Aaron's mother monitored his medication and she noted the risks associated with the side-effects. The benefits and non-benefits of medication were considered carefully. As Aaron's mother reflected, "We had to juggle his medication. He was on Ritalin and then we tried Concerta, these ones that don't have the troughs and peaks."

Some young people feel exposed by the need to take medication at school (Singh et al., 2010) and Aaron's mother was aware of the stigma perceived by some young people who are required to take medication at school. She remarked, "It kind of singles them out that they are one of the wackos that have to go and get their medication." She reflected on a recent conversation with Aaron: "He did not like what it was doing to him. But I say 'it helps you with your concentration.' 'Yes but I feel like a zombie.'" Aaron's feelings are not uncommon among young people who use medication to control the unwanted behaviours that are associated with a diagnosis of AD/HD (Singh et al., 2010).

4.9.4.2 Sub-theme: 4b) The Journey of Medication

The journey for Aaron in regard to taking medication for his unwanted behaviours began when he was in Year 1. Aaron's teacher had spoken with his mother about her concerns in relation to Aaron's underdeveloped fine motor skills so she recommended Aaron visit the school counsellor. After initial tests, it was revealed that Aaron had reached some developmental milestones in his schooling but in other areas he was below the age appropriate level.

Aaron completed a battery of tests with various clinicians in an attempt to find reasons for his limited progress at school. His Year 1 teacher indicated there was 'something wrong' but was unable to identify anything specific. According to Aaron's mother, "He would not listen to you, he would go off and do whatever he liked, and regular discipline would not work with him." Aaron eventually saw a specialist and during the consultation his mother reported:

> She would normally have run a battery of tests but we had already had many of them done. We found all these little things but nobody had put them altogether and Aaron was in full flight during the consultation. He was throwing blocks around and

> jumping on the chair and he was hyperactive. He was almost climbing the walls and she is almost sitting there with things being flung around.

Aaron's mother blamed his teachers for not alerting her to the fact that Aaron more than likely would have met the criteria for a diagnosis of AD/HD. Her need to blame others is not uncommon for mothers who have a child with AD/HD (Carpenter & Austin, 2008). She explained, "I thought it would have been part of teacher training that they would have been able to pick this up. I thought teachers with some experience would know.

4.9.5 Theme 5: Confusion about AD/HD

Theme 5: Confusion about AD/HD will be considered using Sub-themes: 5a) 'misunderstanding', 5b) 'knowledge of AD/HD' and 5c) 'impact on Learning' using data points from Mr Milton. As Mr Wills also taught Noel and Joe, his comments regarding Confusion about AD/HD is reported in Noel's case study.

4.9.5.1 Sub-theme 5a) Misunderstanding

While Mr Milton did not make remarks pertaining to a misunderstanding about AD/HD, he was critical of the training he had received at university in regard to information about AD/HD. A lack of knowledge meant that the strategies he used to support children with AD/HD were limited. He noted:

> When you get into the classroom setting, it is completely different to what you have learned and studied at university so anything I have learnt in times past has only been spasmodic. I have not done any research for a long time and I have forgotten a fair bit.

It was clear that his understanding of AD/HD was not extensive.

4.9.5.2 Sub-theme 5b) Knowledge of AD/HD

Mr Milton's knowledge about AD/HD was limited to the observed behaviours he had seen in his classroom (inattention, hyperactivity and impulsivity). He explained:

> What I understand about AD/HD is that students will have difficulty remaining still, keeping attention, and as a result there is a lot of behavioural side effects that arise in the classroom including being fidgety, annoying other classmates, to not being able to complete work and it progresses all the way to extreme cases where the behaviour causes the child to be removed from the class.

Further consideration of the unwanted behaviours that are typical in adolescents with AD/HD may have provided Mr Milton with further knowledge about AD/HD to implement strategies to improve the academic outcome for students like Aaron.

4.9.5.3 Sub-theme 5c) Impact on Learning

Mr Milton suggested that the reason why so many students with AD/HD were unable to work to their full capacity was due to their attention and concentration difficulties. He proposed:

> They are going to struggle getting the same results as those boys who do not have AD/HD because of their lack of attention. They are going to have to try harder than those boys who do not have AD/HD. From my perspective it does not seem as though they are trying hard as they are often off task but in their eyes they may be working very hard.

Mr Milton's portrayal of the inconsistent behaviour patterns he noticed in the boys he taught who had AD/HD, typify the behaviours evidenced in many young people with AD/HD (Hoffman & DuPaul, 2000).

4.9.6 Theme 6: Language and Emotions

Theme 6: Language and Emotions will be presented using Sub-theme: 6a) 'teachers' language about AD/HD' using data points from the teachers and Sub-theme: 6b) 'parents' journeys' using considerations from Aaron's mother.

4.9.6.1 Subtheme: 6a) Teachers' Language about AD/HD

Mr Wills' use of emotive language was evidenced when he described Aaron's work ethic. He described his frustration when he tried to reduce Aaron's inappropriate level of attention. He pondered, "I had trouble motivating him, getting him to do any work. He was very hard. He would just sit there and you really could have screamed." Aaron's self-regulation problem was an annoyance for Mr Wills which more than likely placed the teacher-student relationship under strain. On the one hand, Aaron stated that he felt some teachers regarded him as dumb so he 'gave up' but from the teacher perspective Aaron was a reluctant and unco-operative learner who did not follow appropriate procedures in the classroom. Aaron had not developed sufficient self-regulation skills to respond to the demands of the classroom and so a habit of disengagement evolved.

Mr Milton did not use emotive language during the individual, semi-structured interview except to state it was important not to treat boys with AD/HD as 'special'.

4.9.6.2 Sub-theme: 6b) Parents' Journeys'

Aaron's mother admitted she was initially ignorant of the types of behaviour difficulties that are common in children with AD/HD. She assumed: "Children who had AD/HD always chased their family around with a knife. They are completely off the wall." To learn more about AD/HD as a childhood disorder she watched a DVD and realised she

was misinformed about AD/HD and that Aaron displayed many of the unwanted behaviours identified in the DVD.

As she had stated previously, she was angered by the perceived limited knowledge and understanding of AD/HD from Aaron's school community. At the time when she and her husband were required to attend meetings at school to discuss classroom interventions to reduce Aaron's inappropriate classroom behaviour, she pondered, "I don't think that anybody really knows what it means. At least if I said he was a diabetic they would know what is wrong with him."

Aaron's mother spoke with feeling and sentiment as she summarised Aaron's overall experience of school. She proposed, "Writing in general and creative writing, well you may as well have asked him to fly to the moon without a rocket. It just doesn't happen." She admitted that for any child to succeed at school, they need to be motivated to learn, however, in Aaron's case she declared:

> He got lost in the system very early on and he just gave up from then on. We lost Aaron at about Grade 2. He was a handful but he was such a bright and happy little boy, a little effervescent ball of light around. It was a shame that he could not find that learning was good.

Her feelings of disappointment indicated it was difficult for her to understand how her son could not translate his obvious abilities into better outcomes. Schooling was a difficult experience for Aaron.

4.10 Conclusion

In this chapter, the results of the study were presented and in relation to the Dynamic Developmental Theory (DDT) of AD/HD, the explanatory model guiding the study, as well as the six cases that constituted the study. The study expanded the focus of the DDT to

include participants beyond a clinic sample of children, that is, six adolescent boys in a natural setting (i.e., school). The study also expanded the DDT to include the boys' mothers and two of their teachers. Data emanating from each case – transcripts of individual, semi-structured interviews with the boys, their parents and their teachers, transcripts of the focus group interview with the boys and document review – were analysed and six themes and related sub-themes emerged. In the next chapter, these themes and sub-themes will be re-examined from a cross-case perspective, thus facilitating the development of a cogent response to the overarching question: How do six adolescents boys who have a diagnosis of AD/HD, their primary carer and their teachers, describe the boy's experience of school?

CHAPTER 5
Cross-case Results and Discussion

5.1 Introduction

The purpose of this multiple, instrumental case study is to develop a deeper understanding of the experience of schooling of six adolescent boys diagnosed with AD/HD. In the previous chapter, the findings of the study were described in detail for each of the six cases (boy, parent and teachers) with respect to the six emergent themes; namely, (1) Description of Schooling, (2) Interplay between Teaching and Learning, (3) Self-esteem and AD/HD, (4) Medication and School, (5) Confusion about AD/HD, and (6) Language and Emotions. In this chapter, the findings across these six themes are considered from a cross-case perspective and are discussed in relation to DDT, previous empirical studies and current recommendations for educational practice.

The cross-case analysis yielded three major factors; namely, A. Friends, B. Learning Environment and C. Knowledge of AD/HD/Medication. The relationship among these factors and the six major themes (and their sub-themes) that emerged from the six case analyses is presented in Table 5.1 along with illustrative excerpts from the interviews with the participants. This information is expanded further in Figure 5.1, where the connections among the three major factors (cross-case analysis), the six emergent themes (case analyses) and the five principles of DDT are presented graphically so that the relevant connections among these important perspectives on the findings can be more readily comprehended.

The cross-case findings in relation to the three major factors will be discussed in the following sections along with a consideration of DDT, previous empirical studies and current recommendations for educational practice.

Table 5.1
Development of the Three Major Factors

Major Factors (Cross-case Analysis)	Emergent Themes (Case Analyses)	Sub-themes	Excerpts from Participant Interviews
A. Friends	1. The Description of Schooling	a) Teaching and Learning experiences b) Classroom behaviour c) The importance of friends	"You come to school for friends." (Aaron)
B. The Learning Environment			"I acted silly in classes." (Liam)
B. The Learning environment	2. The Interplay between Teaching and Learning	a) Helpful teachers b) Non-helpful teachers c) Support d) Teaching styles	"Certain qualities that teachers have in their teaching helps me to learn." (Joe)
C. Knowledge of AD/HD/Medication	3. Confusion about AD/HD	a)Misunderstanding b) Knowledge of AD/HD c) Impact on learning	"I think it (AD/HD) is where boys are struggling to concentrate in class because something is not quite functioning in their brains." (Mr Stone)
A. Friends	4. Self-esteem and AD/HD	a) Effect on self-esteem b) Feeling different	"You have to fit in otherwise you get teased and everything because you don't have friends." (Liam)
C. Knowledge of AD/HD/Medication	5. Medication and School	a) Pros and cons of medication b) The journey of medication	"We still have days where we think 20 years he will still be seeing psychiatrists because of the torment we have inflicted on him." (Zeb's mother)
C. Knowledge of AD/HD/Medication	6. Language and Emotions	a) Teacher's language about AD/HD b) Parents' Journeys	"It is very important they understand that I consider them to be as clever as everyone else in the class." (Mr Black)

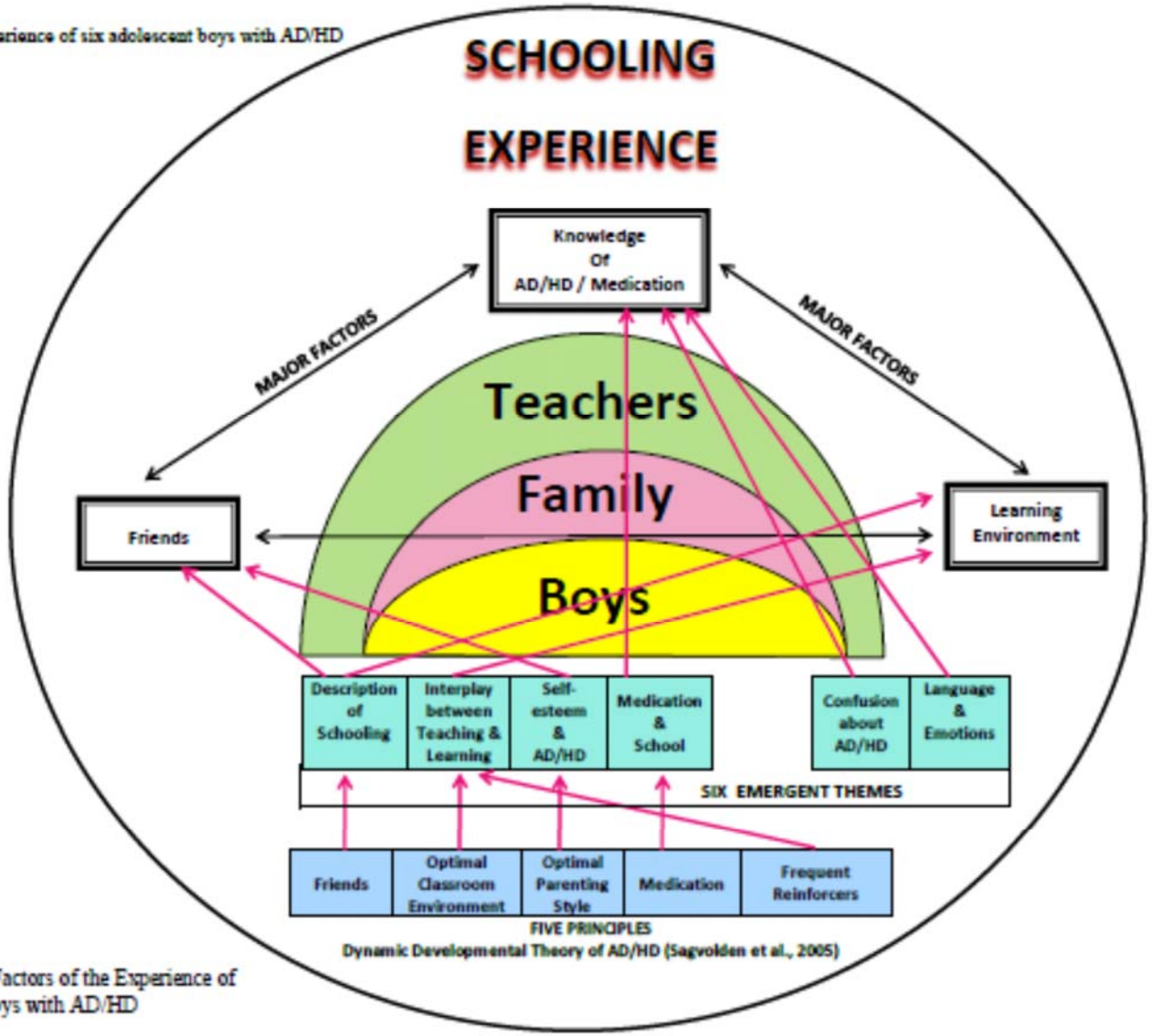


Figure 5.1 Key Factors of the Experience of Schooling for Boys with AD/HD

5.2. Friends

In this first section, cross-case findings in relation to the first major factor, A. Friends, is discussed from the perspective of the boys, their parents, and their teachers with particular emphasis on the important role of friendships in the boys' experience of schooling.

5.2.1 Boys' Perspective on Friends

The cross-case analysis revealed that although the boys placed high value on friendships, they all experienced difficulties during their primary school years. While none of the boys identified reasons why it was hard to make friends, it is possible that the boys presented with more overt behavioural characteristics of AD/HD at this time (Hoza et al., 2005). As a result, the boys experienced greater difficulties in forming and maintaining friendships with their age peers. It is also possible that at this time the boys' pragmatic language skills were less developed than their peers (Hoffman & DuPaul, 2000; Power et al., 2009). Accordingly, the boys would have experienced difficulties in making, managing and keeping friendships during their primary school years.

The difficulties that the boys experienced in initiating and sustaining friendships during primary school are described in the DDT model. The DDT proposes that the learning of age appropriate social skills is more difficult for children with AD/HD because the period of time during which reinforcers can be applied successfully is shorter than it is for children without AD/HD (Aase & Sagvolden, 2005). This means that the boys may not receive adequate timely reinforcement in a particular social situation thus allowing an opportunity for an inappropriate behaviour to arise (Aase & Sagvolden, 2005). The boys' difficulties in stopping and thinking may well have resulted in behaviours (impulsivity and /or hyperactivity) in particular situations that gave cause for the boys' peers to ignore or avoid them.

With regard to the present experience of friendships, that is, during the adolescent period, the boys in this study described themselves as finding it easier to make friends and to maintain one or two particular friendships. In addition to finding it easier to make friends in secondary school, the boys noted they also experienced less rejection. The boys stated that in secondary school, it became a higher priority for them to 'fit in' with the peer group and not feel different to other boys. As Liam declared, "Friends are really important to me so I like to have my pills so I don't feel different."

Even though the boys had forged a friendship group in secondary school, they stated that they still 'felt different' to other boys. They were aware they behaved in a dissimilar way to their peers and that they were unable to control inappropriate behaviours as well as their peers. From the perspective of Harry, Liam and Joe, 'fitting in' at school and not appearing to seem to be different, was an important aspect of school for them.

The findings that initiating and maintaining friendships were easier for the boys and that rejection was less frequent during adolescence are also congruent with DDT. The DDT states that strong and salient reinforcers are required for children with AD/HD to behave appropriately (Aase & Sagvolden, 2005). The desire (the reinforcer) to not appear different to their peers helped the boys to manage more successfully the behaviours that were unacceptable to their peers. That is, as the boys' grew older, their motivation to 'fit in' made them more conscious to behave in a similar way to the peer group. As Liam stated, "I have not noticed my friends treating me differently to anyone else."

According to DDT, the behavioural variability observed in children with AD/HD is due to an alteration of the two main behavioural selection mechanisms, reinforcement and extinction. Reinforcement of age appropriate behaviour in conjunction with the extinction of previously unacceptable actions helps individuals make friends (Aase & Sagvolden, 2005).

This means that as the boys made the transition to secondary school, school was a more affirming experience. By the time they entered secondary school, the boys had acquired more socially desirable behaviour and they were less self-conscious about having AD/HD. As a consequence, their peers were more accepting of them.

There are six previous studies that are relevant to the present study in relation to friendships and children with AD/HD. The first of the five studies was conducted by Hoza et al. (2000) who examined the behavioural, self-evaluative and attributional responses of 120 boys (7 – 13 years) with ADHD and 65 boys without AD/HD to success and failure in relation to friendships, using a dyadic, laboratory get-acquainted task. Objective coders rated the boys with AD/HD as less socially effective in their interactions than boys without AD/HD (Hoza et al., 2000). The results indicated that the boys with ADHD were less able in their social interactions than the boys without AD/HD (Hoza et al., 2000).

The second study was also conducted by Hoza and her colleagues (2005). In their study of 285 children (boys and girls) with AD/HD, these researchers found that social difficulties are common among children with AD/HD. They concluded that relationships may be impaired for these children as early as seven years of age (Hoza et al., 2005).

The third study examining difficulties with friendships for children with AD/HD was conducted by Erhardt and Hindshaw (1994). Their study revealed that boys with AD/HD demonstrated social behaviours in the classroom and on the playground that were associated with greater rejection by their peers than were the social behaviours of boys without AD/HD. Similarly, the fourth study by Normand et al. (2011), found that children with AD/HD mismanage their friendships and attract friends who also have AD/HD. Their study was based on self-reports and included parent and teacher ratings.

The fifth study that is consistent with this research project pertaining to peer relationships among individuals with and without AD/HD was conducted by Heiman (2005) who concluded that the number of friendships among children with AD/HD are not significantly lower than those children without AD/HD. Heiman's target group comprised children aged between 7 and 12 along with their parents and teachers. While significantly younger than the adolescent boys in the present study (15 – 16 years of age), findings between the two studies did not vary significantly. That is, the participants indicated they had developed friendships with peers.

The final relevant study was not consistent with the findings of Taylor and Houghton (2008) who interviewed 15 students with AD/HD; ten secondary school students (nine males and one female) and five primary school students (four males and one female). This study found that the self- reported friendships were highly varied among the participants from many friends, to some friends or no friends (Taylor & Houghton, 2008).

Overall, it would seem that children and adolescents with AD/HD are able to make and manage friendships, however, a variation exists among the studies as to quantity of friends as well as quality of friendships. Such variation in findings may well be due to several factors relating to the characteristics of the participants including size of sample, gender (e.g., whether a sample included girls), and age range of sample (e.g., whether the participants were children or adolescents or both).

5.2.2 Parents' Perspective on Friends

Findings from the cross-case analysis of the parents' perspectives on the boys' friendships were similar to those of the boys themselves; that is, the boys had few friends in primary school but more friends (small group) in secondary school. The nature of those later friendships, however, was described as somewhat superficial by the mothers.

Two mothers perceived their sons had few if any friends throughout primary school while the three other mothers only discussed their sons' friendships in secondary school. In relation to friendships in secondary school, the parents generally agreed their sons had developed a small network of friends. In contrast to the other parents, Noel's mother declared, "He has tons of friends. He is amazing socially." Her comments were not consistent with those of the other mothers who had indicated that their sons had trouble making and maintaining friendships throughout school.

Even though the DDT model does not account for the perspectives of parents, the views of the parents are similar to those of the boys, thus providing additional support to the processes proposed by DDT. It appears that as the boys became older they were able to exert greater self-control. This improvement may be, in part, due to their strong need and desire to 'fit in.' The boys had gained the ability to stop and think through possible consequences of behaviours not otherwise appropriate in situations, with the result that they had gained acceptance by peers (Aase & Sagvolden, 2006).

The cross-case findings with respect to parents' perspectives on the boys' friendships are largely congruent with two previous studies. Firstly, Taylor and Houghton (2008), who conducted semi-structured interviews with 15 mothers of children with AD/HD, found that the mothers perceived that their children had either marginal (two or less on-going) friendships or were socially isolated (no or infrequent friendship patterns). In the second study, Heiman (2005), who examined 39 self-reports from parents of a child with AD/HD and 17 self-reports from parents with a child without AD/HD, found that the parents of children with AD/HD reported their children to be lonelier than did the parents of children without AD/HD.

The results of the two above mentioned studies are consistent with this study, in that parents reported their children with AD/HD to have few friends, in particular during the primary school years. In secondary school the children had more friends, however, the friendships were superficial.

5.2.3 Teachers' Perspective on Friends

Teachers' perspectives of the boys' friendships varied across a continuum from no apparent difficulties, through associating with students with similar interests/behaviours, to great difficulties in establishing and maintaining friendships. Of the eight teachers who commented on friendships, two teachers indicated that the boys were able to make friends easily, three teachers stated that the boys were unable to make friends at all and three teachers said that the boys were able to identify with one person with whom they appeared to be close.

With further regard to the continuum of teachers' perceptions, one teacher speculated that it was difficult for boys with AD/HD to make friends because of the nature of the 'group dynamics' within a particular class or year level. He noted that boys with AD/HD do not form friends with other boys who demonstrate similar behaviours. In contrast, another teacher commented that boys with AD/HD make friends with like-minded peers. Lastly, three teachers stated that boys with AD/HD experience difficulty making and sustaining friendships due to their social difficulties.

The variation in the teachers' perspectives on the boys' friendships may have been due to a number of factors including the teachers' awareness and observations of the boys across contexts (e.g., classroom and playground), across subjects (e.g., practical 'hands-on' learning' or non-practical 'abstract' learning) and in relation to familiarity (e.g., knowing a boy's name as well as his interests or hobbies).

The DDT model does not account for the perspectives of teachers. Nevertheless, it is important to note that in this study, the perspectives of the teachers were somewhat different from those of the boys and their parents. The teacher's perspectives about the boys' friendships ranged from many friends, some friends, to one friend. Accordingly, this researcher examined the literature for previous studies that might explain the differences in perspectives between boys and their parents and their teachers as well as the variation in perspectives of different teachers.

There are two previous studies that are relevant to the present study in relation to teachers' perspectives about the ability for children and adolescents with AD/HD to make and manage friendships. The findings of one of the studies are consistent with those of the present study, while the findings of the second are not. Consistent with the findings of the present study are the findings of Heiman (2005), who concluded that teachers perceive that children with AD/HD are lonelier and have fewer friends than children without AD/HD. Not consistent with the findings of the present study are those of Taylor and Houghton (2008) who found that teachers perceive children with AD/HD have few if any friendships.

In addition to the teachers' perspectives on the boys' friendships, the findings of the present study revealed that the boys had difficulty working in groups. The teachers noted that the boys appeared to: undervalue their contributions to a group; lack confidence in contributing ideas to a group; engage in inappropriate behaviour to distract attention away from their academic difficulties; dominate a group thereby alienating their peers; and engage in inappropriate behaviours in order to be removed from the group. These difficulties likely contribute to the challenges that the boys experienced in relation to making and managing friendships.

To conclude, teachers' perspectives varied in this study and with the findings of previous studies. Highly varied findings could be expected in a secondary school setting where teachers have varied contact with students depending on their teaching and supervision responsibilities, their length of service within a school and whether they have additional duties in the school (e.g., Deputy Principal, Student Welfare Co-ordinator). Accordingly, teachers need to be attentive to the social well-being of adolescent boys with AD/HD.

5.2.4 Summary in Relation to Friends

The cross-case findings in relation to the perspectives of the boys, their parents and their teachers on the boys' friendships indicate that the boys and their parents held similar views; that is, the boys had very few friends in primary school but more friends in secondary school. In contrast, the teachers' perspectives were varied.

The unique stories told by each of the participants offered insight into the boys' expressed need to experience friendships. As noted by the boys, developing successful friendships was very important to them. Noel summed up the importance of friends during the focus group interview by saying that the best thing about school was, "Your mates. That's just about it otherwise there is no point in coming here." By listening to the voices of the young people in this study, as well as to their parents and to their teachers, it was evident that these young people with AD/HD want and appreciate friendships at school. The findings indicated that it is important for children and adolescents to have friends at school so they 'fit in' and do not appear different from their peers.

5.2.5 Recommendations

Although the findings from this study indicate the importance for young people to establish and maintain friendships at school, the results of this study also suggest the need for further investigation.

Findings on to how children with AD/HD manage or mismanage friendships (Normand et al., 2011) suggest that young people with AD/HD often experience friendship problems because of their domination of the relationship or their failure to negotiate fairness in play. As a result, they generally experience fewer positive experiences in their friendships than do children without AD/HD. While the findings of Normand et al. (2011) go beyond the confines of this study, the present findings and those of Normand et al. (2011) suggest that further exploration of the friendships of adolescents with AD/HD is warranted. In particular, a greater understanding of how best to develop and maintain their friendships is needed. It is important that all children and adolescents have opportunities to experience meaningful and mutually beneficial relationships with peers.

5.3 Learning Environment

In this section, cross-case findings regarding the second major factor, B. Learning Environment are discussed from the perspective of the boys, their parents, and their teachers.

5.3.1 Boys' Perspective on the Learning environment

The cross-case analysis of the boys' perceptions of their learning environment revealed that as they transitioned to secondary school, schooling became more positive; for example, school reports of the boys' academic progress indicated that their results were stronger in those subjects they liked and enjoyed but their achievement was generally weaker when they did not like a subject (boring, too difficult, did not like the teacher). Such a finding is consistent with a social construction approach to AD/HD; that is, that these boys, like all

students, could be expected to achieve stronger results for subjects that they enjoyed and weaker results for subjects that they did not enjoy. Nonetheless, school reports varied among the six students with some boys achieving sound results in most subject areas across the two years while academic results were inconsistent over the two years for other boys. During the focus group interview, the boys indicated that they were able to participate and complete classroom tasks with a good teacher and a subject they enjoyed.

In reference to their teachers, the boys stated that a good teacher helped them stay focussed on teaching/learning procedures. The boys also noted that the use of humour by some teachers was an effective strategy. Four of the boys specifically stated that humour helped them to re-engage in the class activity. If distracted, a tenacious teacher who set firm boundaries and who offered clear instructions with expected consequences for low levels of on-task behaviour seemed to help the boys learning. Further to this, teachers who were patient, tolerant, who knew the course content and who fostered an engaging learning environment were also highly regarded by the boys. Aaron said, "Teachers help me when they push me to do the work. Teachers are helpful if they are firm and can control a class."

Clear structure by teachers (providing specific instructions and creating a set of realistic class rules) on a daily basis, both in the classroom and in the setting out of class work, was also appreciated by the boys. As Liam stated, "One teacher would pull me aside and ask me what I did and didn't understand so he would explain things to me one-to-one."

"A good teacher teaches in detail, they know their subject well, they are informative and explain concepts properly. A good teacher is able to cater for all different types of learners," said Joe. Zeb reiterated Joe's comment about a good teacher. He said, "Even though the students say they understand he knows that some of them probably don't so he

repeats a concept. I find that very helpful." For Joe and Zeb, explaining information clearly, firmly, confidently and repeating a concept was considered important for their learning.

The findings of the present study in relation to the type of learning environment described by the boys as best for them is compatible with the environment described by DDT, even though the DDT does not specifically take into account the perspectives of children and adolescents in schools. Citing the findings of Hoffman and DuPaul (2000) and Wolf (1998), Sagvolden and his colleagues noted that a school environment with structure, clear instructions and frequent reinforcers to establish stimulus control and verbally governed behaviour is considered ideal for individuals with AD/HD (Sagvolden et al., 2005).

The findings from this study about the self-perceived needs of students with AD/HD within the school environment are consistent with the findings of two recent studies. Firstly, Sherman at al. (2008) found that teacher qualities such as patience, knowledge of interventions and a collaborative approach with important others were considered beneficial to student teaching. Secondly, Bartlett et al. (2010) suggested that teachers were second only to parents in being helpful. Teachers were regarded as helpful if they were firm, patient, motivating, took a personal interest in the student and explained concepts clearly and in a language easily understood by the students (Bartlett et al., 2010).

The results of the two above mentioned studies are consistent with this study in that the boys also expressed that fair, consistent, firm teachers who know their subject matter well were important to consider in regard to the type of preferred learning environment for children and adolescents with AD/HD.

5.3.2 Parents' Perspective on the Learning environment

The findings from the cross-case analysis in relation to the parents' perspectives about the learning environment were limited because the mothers noted that they were not aware

how the school supported their child beyond the assistance provided by staff in learning enrichment. The mothers stated that their sons were given extra time by the learning support teachers to complete examinations, the assessment tasks were modified if needed, examination questions were read when required, tasks were scribed if necessary and spelling and reading programs were conducted.

Nevertheless, the mothers offered further suggestions as to how their sons could be better supported at school. More emotional assistance was advocated by two mothers. Teachers who knew her child well were important considerations for one mother. Another parent suggested a case worker should be assigned to her son so all persons involved in his schooling could liaise with one significant person. The mother suggested this could prevent inconsistency in the dissemination of important information among the personnel involved in her son's schooling.

The mothers also recommended firm guidance from teachers. Providing breaks during lessons was also seen as valuable. Of concern to one mother was the number of class assignments her son was required to complete simultaneously. Her recommendation was for better co-ordination and planning when assignments were distributed and the due date for assignments staggered so they were not due at the same time.

Although DDT does not specifically consider the perspectives of parents in relation to the type of learning environment suitable for children with AD/HD, the DDT model does indicate that a structured learning environment with teachers who are consistent in their teaching practice and who know their content well would be optimal for children and adolescents with AD/HD. These important factors considered by the DDT were also favoured by the parents.

With regard to the learning environment preferred by students with AD/HD, this researcher was unable to find previous research that examined the perspectives of parents. Accordingly, the findings from this study offer unique insight in to the perspectives of parents; that is, parents view their sons with AD/HD as benefitting from a school environment that includes firm teachers, specific support for learning difficulties, and additional emotional support from a case manager (e.g., student counsellor).

5.3.3 Teachers' Perspective on the Learning environment

The teachers' perspectives regarding the learning environment best suited to students with AD/HD indicated that most teachers had not given much prior consideration to the learning environment most suitable for boys with AD/HD. What was important to the teachers, however, was for them to receive relevant and up-to-date information about AD/HD as well as opportunities for teacher professional development relevant to teaching children and adolescents with AD/HD.

Even though the perspectives of teachers in relation to the learning environment are not part of DDT, the model does describe an optimal classroom environment as one that is achievable by teachers; that is, an environment that is structured and in which clear instructions are given to students (Sagvolden et al., 2005).

To date, this researcher has found only one study that specifically addressed the learning environment needed for students with AD/HD. The findings from this study (Rush & Harrison, 2008) are consistent with those of the present study in that the researchers concluded that teachers require additional professional training in relation to the needs of children and adolescents with AD/HD, so that they are better prepared to provide positive behavioural supports.

5.3.4 Summary in Relation to the Learning Environment

The cross-case findings in relation to the type of learning environment best suited to children and adolescents with AD/HD, from the perspectives of the boys, their parents and their teachers were similar: that is, a flexible and engaging classroom environment, adequate teacher knowledge about AD/HD supported by professional development opportunities, a positive teacher attitude toward individuals with AD/HD and innovative strategies within the classroom to help with focus and attention, were considered important by participants from all three groups.

5.3.5 Recommendations

To date, this researcher has not identified previous studies that have examined the value and importance of 'humour' as an effective strategy to support the learning of students with AD/HD. According to the boys, humour and banter helped them to refocus and regain concentration while at the same time enabling them to enjoy classroom activities. Further research in this area may identify specific teacher factors that encourage children and adolescents with AD/HD to develop adaptive behaviours that support them to learn and function successfully at school.

Given the findings of this study in relation to the learning environment, it is pertinent that teachers are regularly provided with information and classroom strategies to enable them to effectively teach students with AD/HD. There is a need to provide teachers with knowledge about AD/HD because of the direct role they play in the development of children's education. If teachers are given further opportunities to better develop effective classroom management interventions and if they are kept informed about AD/HD, school could well be a more successful experience for young people with AD/HD.

5.4 Knowledge of AD/HD/Medication

In the final section, cross-case findings pertaining to the third major factor, C. Knowledge of AD/HD/Medication will be presented from the viewpoint of the boys, their parents, and their teachers.

5.4.1 Boys' Perspectives on Knowledge of AD/HD/Medication

The cross-case analysis of the boys' perspectives on AD/HD/medication revealed varied opinions by the boys about the benefits of medication. It is important to note that the boys did not speak in length or in detail about medication as a treatment for AD/HD. Specific questions were not asked about medication because the focus of the study was upon experience of schooling, so their perspectives are presented in terms of the impact of medication on their school work and in relation to behaviours in the classroom. Of the six boys in the study, two of them did not mention medication during their semi-structured interviews, while one other boy had stopped his medication by the end of Year 6 as he considered he was 'growing out' of AD/HD. The other three boys spoke positively about the benefits of medication and their ability to focus and concentrate in class.

This researcher is aware that the three boys who spoke of the benefits of medication continued taking medication because of its perceived positive effects in relation to their schooling. Of these three boys who spoke positively about medication, two boys described how medication had improved their capacity to concentrate for longer in class but they also stated that medication did not improve their capacity to learn new knowledge. As Joe said, "Medication does not help me to remember stuff but it helps me to concentrate for longer."

The findings that medication impacted positively on each of the three boy's attention and focus in class are congruent with DDT. The DDT model supports the use of medication

as a treatment for AD/HD because of its normalising effect on the neurotransmitter dopamine which reduces the behaviours associated with AD/HD (Sagvolden et al., 2005). Secondly, DDT supports the long term use of medication because it reduces the variability in the behaviour of children and adolescents with AD/HD thereby improving their attention and reducing hyperactivity (Sagvolden et al., 2005).

There are four previous studies (Falissard et al., 2010; Knipp, 2006; Singh et al., 2010, and Thorell & Dahlström, 2009) which are consistent with the findings from this study in relation to medication, schooling and students with AD/HD. Taken together, the findings of the present study as well as those of Falissard at al. (2010); Knipp, (2006); Singh at al. (2010), and Thorell and Dahlström, (2009) indicate that students with AD/HD benefit from medication which helps to reduce inattention and sustain focus and concentration.

5.4.2 Parents' Perspectives on Knowledge of AD/HD/Medication

Findings from the cross-case analysis of parents' perspectives in relation to knowledge of AD/HD/medication were similar to the boys, in that the parents as well as the boys noted the positive benefits of medication. While the parents could not speak personally about the positive benefits of taking medication (i.e., they did not take medication themselves), they spoke in terms of the journey they took with their son in deciding whether or not their son should take prescribed medication. The parents also discussed the change they had noted in their son's behaviour at school once he had begun taking medication.

The mothers noted that their journey in relation to medication first began for them and their sons when the boys were in their early years of school (Prep or Year 1). The mothers recalled that their sons' unwanted behaviours at school required investigating. The parents acknowledged that the decision for their son to trial medication was an emotional one and at times they had questioned their decision to medicate their son. Nonetheless, the data revealed

that it was the mothers, and not staff within the school community, who had suggested a referral to a specialist clinician.

For the parents, acquiring information and making a decision about whether or not to use medication was challenging. The parents had to weigh the pros (benefits of medication) against the cons (side-effects). One parent in particular discussed the concerns she and her husband had to the possible side-effects of medication. Another parent told why they decided to change from fast release to slow release medication and how that process took considerable time and money.

A further finding regarding the use of medication was the stigma perceived by three of the mothers in relation to their sons taking medication at school. The mothers sensed that the school community knew that their son had AD/HD because of the boy's requirement to take medication at school. The boys (according to their mothers) felt different in a negative way and this compromised their experience of school.

While the mothers considered that medication can be an efficacious treatment for AD/HD, they raised three concerns regarding the use of prescribed medication. The first concern for two of the parents was the negative impact they had perceived from the media and the community because they had chosen medication as a preferred treatment method for their son. While the mothers highlighted the need to be a supportive parent to a child with AD/HD, the parents did not appreciate the perceived accompanying burden and pressure from society, which they felt they received in relation to their son taking medication for AD/HD.

The second concern raised by three of the mothers was the perceived side-effects of medication. While the mothers were mindful that side-effects could be expected, they also realised that positive benefits of medication could outweigh negative effects. One parent

spoke of specific strategies she implements to counteract some of the side-effects her son experiences by taking medication. This mother described how a hot breakfast offset his lack of appetite while a stringent approach to his sleeping routine overcame insomnia.

Although the DDT model of AD/HD does not take into account the opinions of parents in relation to knowledge of AD/HD/medication, the perspectives of the parents about the benefits of medication are consistent with DDT. The DDT supports the use of medication for AD/HD in that medication is therapeutic and reduces behaviours that are not conducive to or interfere with learning processes.

Cross-case findings with respect to parents' perspectives on AD/HD/medication are congruent with three previous studies. Clay at al. (2008) examined medicine administration from the child and parent perspective. Participants were being treated for either asthma, diabetes or AD/HD and of the 157 children and parents interviewed, 37 parent/child dyads had AD/HD (Clay et al., 2008). For the children with AD/HD, over half of them indicated they felt embarrassed, angry or were teased because they took medication at school (Clay et al., 2008). Findings by Taylor at al. (2006), revealed that parents were angered that the media portray them in a negative way, while Travell and Visser (2006), revealed varied experiences by parents and children to the diagnosis of, and treatment for, AD/HD.

In contrast to the congruent findings of these studies, however, the findings of a fourth study (Stroch et al., 2008) indicated that parents may not be fully aware of the side-effects associated with medication prescribed for AD/HD. In particular, the 146 parents were not conscious of the negative effect that medication could have on children's growth. Stroch at al. (2008) also revealed that parents reported teachers were the first to recommend a referral to a specialist clinician, whereas this current study indicated that the parents made the initial referral to a specialist doctor.

The findings from the present study, as well as the four studies described above, indicate that medication has benefits for children and adolescents in terms of improving their ability to focus and concentrate in the classroom. However, children and adolescents can be embarrassed about taking medication at school and parents may also perceive negative societal attitudes about their decision to utilise medication for AD/HD.

5.4.3 Teachers' Perspectives on Knowledge of AD/HD/Medication

Cross-case findings in respect to the teachers' perspectives on knowledge of AD/HD/medication were consistent in that the teachers indicated that although they had some knowledge about AD/HD, especially the characteristic behaviours, they were less knowledgeable about treatments (medication) and pedagogy (e.g., alternative teaching methods and classroom management strategies).

Although the DDT model does not account for teachers' perspectives on knowledge of AD/HD/medication, the findings support the processes described by DDT; that is, medication can reduce AD/HD-related behaviours by improving children's ability to focus and concentrate in the classroom.

Research in relation to teacher knowledge of AD/HD/medication is quite extensive to include studies of teacher knowledge as well as mis/perceptions about AD/HD (Glass & Wegar, 2000; Ohan et al., 2008; Rush & Harrison, 2008), awareness of AD/HD (Guerra, & Brown, 2012) and attitudes towards AD/HD (Beckle, 2004; Donnah et al., 2012; Kos, 2004). Further studies about teacher knowledge of AD/HD/medication include misconceptions about AD/HD (Sciutto et al., 2000), treatments for AD/HD (Vereb & DiPerna, 2004), and the impact of teacher credentials on stigma perceptions (Bell, Long, Garvan & Bussing, 2011).

Due to the relatively large number of studies completed in regard to teacher knowledge of AD/HD/medication, accounts from previous empirical research will specifically focus on the knowledge of in-service teachers. The knowledge of pre-service teachers lies beyond the scope of this present study. Secondly, the findings from previous research will concentrate on teacher knowledge and treatments and will not include findings about teacher knowledge in relation to mis/perceptions, attitudes and teacher credentials on stigma perceptions.

The findings of three previous studies are particularly relevant to the present study. The first, conducted by Vereb and DiPerna (2004) examined the relationships among in-service teacher's knowledge of AD/HD, teacher experiences, and treatments for AD/HD including acceptability of common treatments (i.e., medication and behaviour management). The results indicated that there was no relationship between teaching experience, knowledge of AD/HD and knowledge of treatments for AD/HD. These findings are consistent with those of the present study. In contrast, the findings of two further studies - Scuitto et al. (2000) and Guerra and Brown (2012) - indicate divergent findings.

Scuitto at al. (2000) indicated that knowledge about symptoms and diagnosis is correlated positively with teaching experience. Although the present study found no such association, concordance was evident in that both the present study and that conducted by Scuitto at al. (2000) concluded that teacher's knowledge about treatments for AD/HD are not well understood. The findings of the second study, conducted by Guerra and Brown (2012), also indicated that although more experienced teachers had a better knowledge about symptoms and diagnosis of AD/HD, they were not necessarily more knowledgeable about treatments.

The findings of the present study as well as those of the three previous studies discussed above indicate that teacher's knowledge about symptoms and diagnosis of AD/HD may be varied. Therefore it is difficult to draw a firm conclusion about teacher's knowledge of symptoms and diagnosis of AD/HD and medication as a treatment method for AD/HD.

5.4.4 Summary in Relation to Perspectives on Knowledge of AD/HD/Medication

The main findings of the role of knowledge of AD/HD/medication in relation to the experience of schooling from the perspective of the boys and their mothers were that medication in conjunction with management measures by parents to counteract the side-effects of medication were to be recommended. The findings also revealed that teachers' knowledge about symptoms and diagnosis of AD/HD as well as medication as a treatment was limited.

A desire by all the mothers was for their son to be happy at school and to achieve realistic scholastic goals. Generally, the mothers were positive about medication and stated it was an essential treatment along with non-medical supports at home (strict routines, no medication over weekends or during vacation times and a controlled diet plan). The mothers could see the benefits of medication as an appropriate intervention to improve their sons learning and performance at school.

5.4.5 Recommendations

The findings of the present study suggest that medication as a treatment for AD/HD can be beneficial for some adolescents. In concert with medication, however, the present findings also suggest that a flexible and engaging classroom, adequate teacher knowledge about AD/HD and the use of innovative strategies in the classroom by teachers can help students with AD/HD to focus and sustain attention. Finally, the findings suggest that a

support plan in the home environment can help children and adolescents manage the side-effects of AD/HD.

5.5 Conclusion

In this small, multiple, instrumental case study, AD/HD has been described as a phenomenon which can affect the lives of students with AD/HD, their families and their teachers. The DDT was used as a theoretical explanatory framework from which the perspectives of six adolescent boys with AD/HD, their parents and their teachers within an educational context, were examined. The findings of the study reinforce the five basic principles of the DDT and extend our developmental knowledge of AD/HD to include the functioning of adolescent boys within a school setting. The study also accounts for the perspectives of the boys, mothers and teachers on the boys' experiences of schooling.

Much of the DDT model was developed in relation to findings from animal research studies (Johansen et al., 2009) while the current study utilises data yielded by humans; that is the boys, their parents and their teachers in a community environment (i.e., school). Therefore, this study has further expanded the DDT to include school based evidence in relation to the basic principles. While the DDT is a holistic theory of AD/HD which includes cognitive, neuro-biological and genetic factors, this study has expanded the DDT to include an educational perspective.

By expanding the DDT framework to take into account behaviours within an educational context, this study has made an important contribution to the field. This study also identified two major themes that are beyond the principles of DDT; namely, Confusion about AD/HD and Language and Emotions. These themes lie beyond considerations of the DDT because the model does not take into account the perspectives of observers of individuals with AD/HD.

While the DDT is written in a format well-suited to researchers within a scientific environment, there is a need for the DDT to be understood in a more practical way and the current study has extended the application of the DDT to an educational context making it more accessible to professionals within the education sector. The DDT also offers a comprehensive account of AD/HD integrating biological, behavioural and social levels of analysis, grounded in a neuro-biological framework. This study has extended this well-articulated framework further into the human experimental setting.

The DDT is a comprehensive theory of AD/HD but for the purposes of the information proposed by the authors of the DDT to be applied in the educational context, a broadening of the DDT is required in order for the explanatory model provided by the DDT to be more accessible and useful to educators. It is important for knowledge and understanding of AD/HD and its apparent effects on the behaviour of children and adolescents to be shared by all individuals, not just cognitive scientists and neuro-psychologists.

If the experience of schooling of children and adolescents with AD/HD is to be optimised within an educational environment utilising structured classrooms that encompass clear instructions and frequent reinforcers (Sagvolden et al., 2005), then other factors such as teacher knowledge and understanding of AD/HD, and the importance of friendships to children and adolescents with AD/HD, need to be considered. These additional perspectives extend beyond the five principles proposed by the DDT to include an educational context and the added perspective of parents and teachers making the DDT more accessible, in that educational examples were provided within the five principles. This has enabled the five principles proposed in DDT to be grounded in practice.

What is known from the DDT, and this current study is that medication can be beneficial in promoting a positive schooling experience for children and adolescents with

AD/HD but other factors the DDT proposed and this study extended, may also need to be considered. As a result, this current study has made a contribution to the field of education.

The next chapter will provide a conclusion to this study which explored how six adolescent boys with a diagnosis of AD/HD experienced school. A summary of the focus of the study, including the study's strengths and limitations will be presented. Following this, implications for future research and recommendations for educational practice are considered. Finally, the contributions of the study will be offered.

CHAPTER 6

Conclusion

6.1 Introduction

The present study is designed to explore the experience of schooling of six adolescent boys diagnosed with AD/HD from the perspective of the boys, their parents and their teachers. A multiple, instrumental case study within an interpretative, qualitative research design was conducted in which each of the six cases consisted of a student, his mother and two of his teachers. The Dynamic Developmental Theory (DDT) of AD/HD was used to guide the study in relation to the boys' experiences of school.

Six themes emerged from the data which included transcripts of individual, semi-structured interviews with all participants, transcripts of a focus group interview with the boys and an analysis of the boys' school reports across the previous two years. The six emergent themes were: (1) Description of Schooling, (2) Interplay between Teaching and Learning, (3) Self-esteem and AD/HD, (4) Medication and School, (5) Confusion about AD/HD, and (6) Language and Emotions.

These themes and their sub-themes were then considered from a cross-case perspective and three major factors were identified; namely, (A) Friends, (B) Learning Environment, and (C) Knowledge of AD/HD/Medication. These three major factors, emerging from the cross-case analysis, were discussed in the previous chapter in relation to the primary research question: How do six adolescent boys who have a diagnosis of AD/HD, their primary carer and their teachers, describe the boy's experience of school?

In this concluding chapter, the strengths and limitations of the study are identified, implications for future research are presented and recommendations for educational practice are offered. Finally, the contributions of the study are presented.

6.2 Strengths and Limitations

Despite the obvious limitations imposed by the size (six cases) and characteristics of the sample (boys, mothers and teachers associated with an independent boys' school), the present study has a number of important strengths in relation to both theory and practice.

From a theoretical perspective, the current study has provided support for the DDT, an explanatory multi-dimensional model of AD/HD. The current study has also expanded the framework of the DDT of AD/HD to take into account behaviours within an educational context. By extending beyond the five principles proposed by the DDT, the present study has applied the fundamental underpinnings of the model to the real-world context of schooling. In particular, the findings have expanded the DDT to include a consideration of teacher knowledge, understanding and practice in regard to the educational experiences of children with AD/HD.

From a practical perspective, a particular strength of the study is that it has accounted for not only the perspectives of the students themselves but also the concomitant perspectives of the boys' mothers and teachers. Listening to the voices of three or more participants in relation to the schooling experience of each boy has provided a unique and rich perception of what it could be like to be an adolescent with AD/HD who, like his peers just wanted to be accepted socially and to be successful academically at school. As stated previously, the boys had no friends in primary school but they (and their mothers) were pleased that in secondary school, they did have a few friends.

Despite these considerable strengths, three limitations of the study need to be acknowledged. First, as noted above, the size of the sample means that findings cannot be generalised to the schooling experiences of the wider population of adolescent boys with AD/HD in Australia and beyond. As a consequence, conclusions regarding the benefits of

medication and effective teaching practices and interventions can only be drawn with great caution.

Second, it must be acknowledged that the parent participant group was comprised of mothers only. Without the perspectives of fathers concerning their sons' experiences of schooling, findings cannot be generalised to the wider parent population.

Finally, it needs to be recognised that the participants were associated with a very particular context, that of an independent school. Accordingly, the findings from this relatively privileged setting cannot be applied more widely to experiences within secondary schools in general and again, interpretation must be made with caution.

6.3 Implications for Future Research

The findings of the present study have a number of important implications for research, primarily in relation to students' perspectives or voice, and the importance of teacher and teaching factors suggested as beneficial by the participants and the DDT. Suggestions for future research are also offered in reference to the acknowledged limitations of the present study.

First, in regard to findings of the present study in relation to the perspectives of students, it is recommended that additional qualitative studies utilising the voices of young people with AD/HD, be conducted. The role played by young people with AD/HD and listening to what they have to say about their experience of having AD/HD, is valuable to other students, parents, paraprofessionals and teachers.

Second, with regard to teacher and teaching factors, a recommendation is to assess the efficacy of approaches described as being beneficial by the participants in the study (e.g., frequents short breaks, humour, a variation in the timetable, teachers who know their subject matter well) over time. Such research could identify which strategies have the capacity to

reduce unwanted behaviours and which also result in positive school experiences for children and adolescents with AD/HD.

Third, in relation to the acknowledged limitations of the study, it would be valuable for studies to be conducted that explored the schooling experiences of both children (primary students) and adolescents (senior secondary students) across a range of schools (government and non-government) with varying Index of Community Socio-educational Advantage (ICSEA) values (ACARA, 2013). An exploration of the schooling experiences of a broader range of age groups could provide more varied data about whether primary and senior secondary school children with AD/HD have similar experiences about school.

Fourth, the opinion of fathers and a comparison of their views with mothers would be informative. While it appeared from the findings of this study that the mothers were the major carers, fathers play an important role in the growth and development of their children. Accordingly, the perspectives of both mothers and fathers are important to consider in future research studies.

Finally, this study has extended the DDT as the explanatory theoretical model of AD/HD to include how adolescent boys with AD/HD function in a school setting. The study enabled the DDT to be understood in a more practical way thereby making it more accessible to professionals in the education sector. It is recommended that the DDT model could be utilised to further support educational research into the types of reinforcements beneficial for children and adolescents with AD/HD and the effects reinforcers have on focus and concentration. Furthermore, the DDT model could be used to further extend the type of classroom environment best suited to students with AD/HD.

6.4 Implications for Educational Practice

The findings of the present study have a number of implications for educational practice. Firstly, this study has deepened our understanding of the needs of children and adolescents who maybe experiencing difficulties with attention and behaviour and this study has provided strategies and processes to assist students with attention and behavioural challenges (and perhaps also a diagnosis of AD/HD) to function to their full capability at school.

Secondly, this study has considered the perception of parents concerning the schooling of their son who has been diagnosed with AD/HD. Specifically, parents want their child to be happy at school and succeed academically. In order for this to occur, parents considered medication as well as a structured family environment as important factors for a positive schooling experience. Also considered by the parents were teachers who knew their son well and a need for their son to have established a friendship group.

Thirdly, the findings of the present study may well be of value to teachers in relation to teaching and supporting students with AD/HD. In particular, teachers may wish to consider findings in relation to the importance for children and adolescents to have friendships. Teachers may also want to be more informed about the type of learning environment (e.g., a structured classroom, firm teachers who know their subject area well) required for children and adolescents with AD/HD and, become more cognisant about the difficulties at school that young people with AD/HD may experience.

6.5 Contribution of the Study

The findings of the study have extended the DDT model of AD/HD to include a consideration of how adolescent boys with AD/HD function within a school setting. The study has also accounted for the perspectives of the boys' mothers and teachers on the boys'

experiences of schooling. Using DDT as an explanatory framework, the findings of this study indicate that the use of prescribed medication in conjunction with other considerations (i.e., friends, the learning environment and knowledge about AD/HD/medication) are important factors to promote a positive schooling experience for children with AD/HD.

This study has made an important contribution because it effectively explores some of the myths and controversies surrounding AD/HD by taking a rigorous, well-informed and conceptually strong approach to a topic that is frequently misunderstood both in schools and in the wider society. It further advances knowledge by developing the Dynamic Developmental Theory of AD/HD to include the perspectives and personal experiences of students, parents and teachers which have, until now, been underrepresented. The study highlights students' own lived experience of AD/HD at school and uses these as a foundation to consider effective approaches to teaching and learning. The findings also contribute to ongoing research conversation about how schools and teachers can respond to enhance the presence, participation and learning of students identified as having AD/HD.

The present study has been successful in exploring the schooling experience of adolescents who have been diagnosed with AD/HD from their individual perspectives, as well as from those of their mothers and their teachers. As a consequence, the study has made a strong case for including individuals from all three participant groups when planning for education and support of an adolescent diagnosed with AD/HD in an inclusive school environment.

The study has also made a strong case for the need for adolescents diagnosed with AD/HD to be supported in their daily lives at school by teachers who are aware of the learning, social-emotional and behavioural difficulties that are associated with AD/HD across the developmental period. If students with AD/HD are to become 'successful learners, confident and creative individuals, and active informed citizens' (MCEECDYA, 2008) in the

same way as their peers, these students need friendships, an optimal learning environment and teachers who are informed about AD/HD.

Appendix A

Diagnostic criteria for Attention-Deficit/Hyperactivity Disorder
Statistical Manual of Mental Disorders (4th ed. [DSM-IV-TR] (APA, 2000)

A. Either (1) or (2):

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

Inattention

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

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

Hyperactivity

(a) often fidgets with hands or feet or squirms in seat
(b) often leaves seat in classroom or in other situations in which remaining seated is expected
(c) often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
(d) often has difficulty playing or engaging in leisure activities quietly
(e) 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 a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).

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

314.00 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.

Diagnostic criteria for Attention-Deficit/Hyperactivity Disorder
Statistical Manual of Mental Disorders (5th ed.). (APA, 2013)

The definition of attention-deficit/hyperactivity disorder (ADHD) has been updated in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) to more accurately characterize the experience of affected adults. This revision is based on nearly two decades of research showing that ADHD, although a disorder that begins in childhood, can continue through adulthood for some people. Previous editions of DSM did not provide appropriate guidance to clinicians in diagnosing adults with the condition. By adapting criteria for adults, DSM-5 aims to ensure that children with ADHD can continue to get care throughout their lives if needed.

Changes to the Disorder

ADHD is characterized by a pattern of behaviour, present in multiple settings (e.g., school and home), that can result in performance issues in social, educational, or work settings. As in DSM-IV, symptoms will be divided into two categories of inattention and hyperactivity and impulsivity that include behaviours like failure to pay close attention to details, difficulty organizing tasks and activities, excessive talking, fidgeting, or an inability to remain seated in appropriate situations.
Children must have at least six symptoms from either (or both) the inattention group of criteria and the hyperactivity and impulsivity criteria, while older adolescents and adults (over age 17 years) must present with five. While the criteria have not changed from DSM-IV, examples have been included to illustrate the types of behaviour children, older adolescents, and adults with ADHD might exhibit. The descriptions will help clinicians better identify typical ADHD symptoms at each stage of patients' lives.
Using DSM-5, several of the individual's ADHD symptoms must be present prior to age 12 years, compared to 7 years as the age of onset in DSM-IV. This change is supported by substantial research published since 1994 that found no clinical differences between children identified by 7 years versus later in terms of course, severity, outcome, or treatment response.
DSM-5 includes no exclusion criteria for people with autism spectrum disorder, since symptoms of both disorders co-occur. However, ADHD symptoms must not occur exclusively during the course of schizophrenia or another psychotic disorder and must not be better explained by another mental disorder, such as a depressive or bipolar disorder, anxiety disorder, dissociative disorder, personality disorder, or substance intoxication or withdrawal.

Care Beyond Childhood

The ADHD diagnosis in previous editions of DSM was written to help clinicians identify the disorder in children. Almost two decades of research conclusively show that a significant number of individuals diagnosed with ADHD as children continue to experience the disorder as adults. Evidence of this came from studies in which individuals were tracked for years or even decades after their initial childhood diagnosis. The results showed that ADHD does not fade at a specific age.
Studies also showed that the DSM-IV criteria worked as well for adults as they did for children but that a lower threshold of symptoms (five instead of six) was sufficient for a reliable diagnosis.

2 • *DSM-5 Attention Deficit/Hyperactivity Disorder Fact Sheet*
In light of the research findings, DSM-5 makes a special effort to address adults affected by ADHD to ensure that they are able to get care when needed.
DSM is the manual used by clinicians and researchers to diagnose and classify mental disorders. The American Psychiatric Association (APA) will publish DSM-5 in 2013, culminating a 14-year revision process.
APA is a national medical specialty society whose more than 36,000 physician members specialize in the diagnosis, treatment, prevention and research of mental illnesses, including substance use disorders. Visit the APA at www.psychiatry.org. For more information, please contact Eve Herold at 703-907-8640 or press@psych.org.

Appendix B

The Australian Guidelines on Attention Deficit/Hyperactivity Disorder – The Royal Australian College of Physicians (NHMRC, 2009)

Educational management
Inclusion: a legal requirement
159. All professionals supporting students with ADHD should be familiar with their legal responsibilities under the 1992 Disability Discrimination Act (DDA) and Disability Standards for Education (2005). ADHD is recognised as a disability under the DDA. As such, schools are responsible for explicit planning and review of support strategies and services for students with ADHD.
Recommended best practice based on clinical experience and expert opinion

Teacher knowledge
160. Pre-service and in-service teacher preparation courses should be designed to prepare all teachers with the knowledge and skills to accommodate students with specific learning needs and to manage students in need of additional support for their learning, behaviour, organisation and concentration difficulties.
Recommended best practice based on clinical experience and expert opinion

Resources
161. Resource allocations to schools should be accessible to teachers and school-based personnel for professional development in areas where established and emerging empirical scientific evidence about academic and social learning in children can inform more effective pedagogical practice. Such upgrading of skills should have an emphasis on practical school-based interventions.
Recommended best practice based on clinical experience and expert opinion

(pp. xxiv – xxv)

Appendix C

D.D.A. Guide: Getting an Education

A person with a disability has a right to study at any educational institution in the same way as any other student.

The DDA makes it against the law for an educational authority to discriminate against someone because that person has a disability.

This includes all public and private educational institutions, primary and secondary schools, and tertiary institutions such as TAFE, private colleges and universities.

What should educators do?

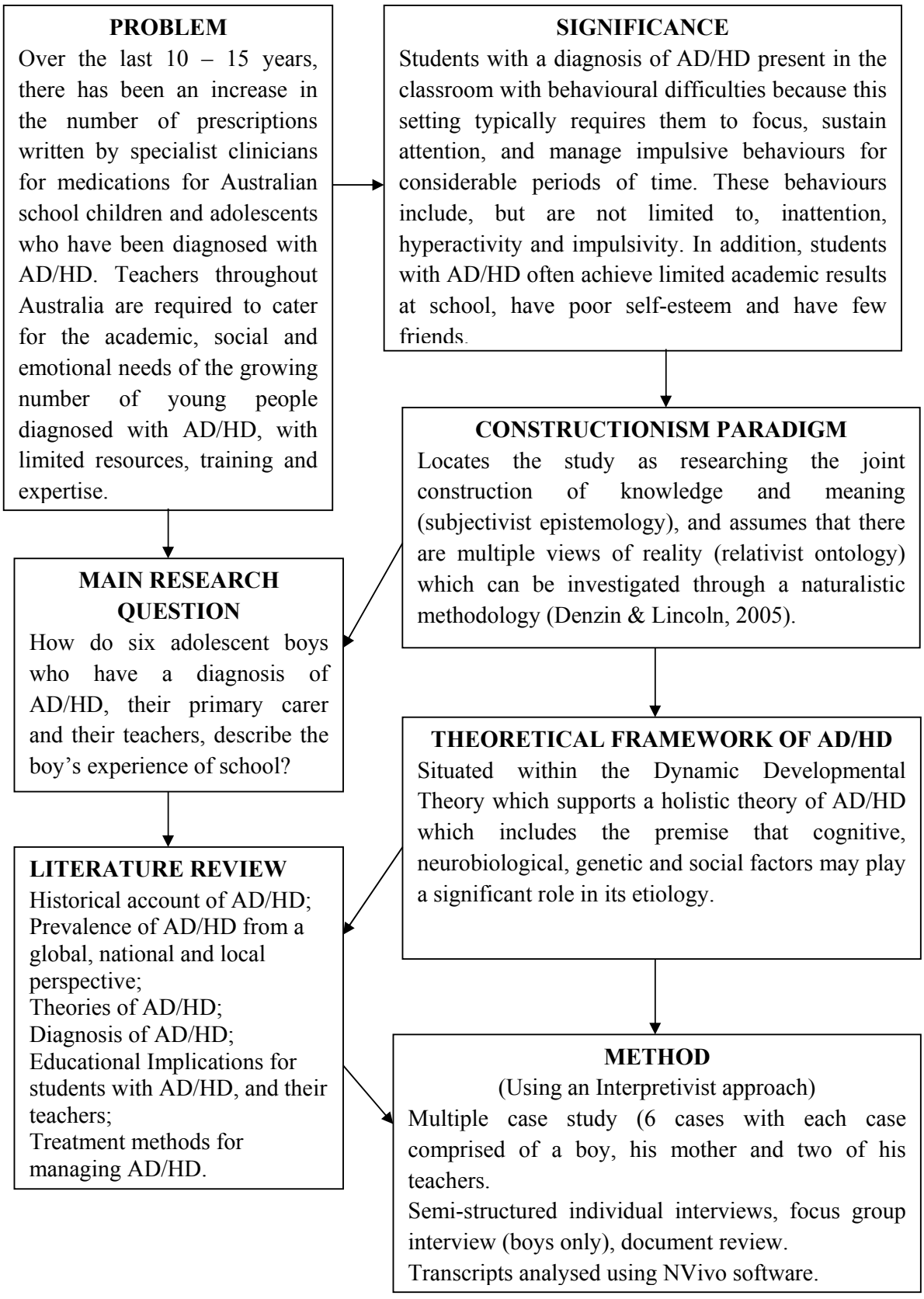
Educators must offer a person with a disability the same educational opportunities as everyone else. This means that if a person with a disability meets the necessary entry requirements of a school or college he or she should have just as much chance to study there as anyone else.

Educators must base their decisions on a person's ability to meet the essential requirements of the course. They should not make assumptions about what a person can or cannot do because of a disability.

http://www.hreoc.gov.au/disability_rights/dda_guide/getting_/getting_.html

Appendix D

Conceptual Framework Representing the Structure of the Thesis



Appendix E

Parent Individual Semi-structured Interview Questions

How did your son's experience at school influence his diagnosis of AD/HD?
Prompt Questions:
How were his early childhood years?
What types of reports did he get from school?
Did anyone suggest you have your son assessed for AD/HD?
How old was he when he was diagnosed?
How did the school respond?

Tell me about the support (e.g., educational and emotional) your son receives at school?
Prompt Questions:
How does your son receive support at school?
How frequently? What type of improvements in his learning have you seen?
How do you think your son is treated differently at school because he has AD/HD?
Has he ever sought counselling that you are aware of?

Tell me how teachers communicate with you as a parent?
Prompt Questions:
What do teachers say about your son's behaviour?
How do you feel about their comments?
What do teachers say about your son's schooling?

Tell me about your son's friendships?
Prompt Questions:
What type of activities does your son participate in outside school hours?
What types of social activities outside school does your son initiate?

How can your son be better supported in his learning at school?
Prompt Questions:
What can the school administration team do better to support your son at school?
What can his teachers do better to support your son at school?

On a scale of 1 – 10 how much do you think you know about AD/HD in your journey with your son?

Appendix F

Student Individual Semi-structured Interview Questions

What is it like to have AD/HD?
Prompt Questions:
In what ways do you feel different to boys who do not have AD/HD?
What parts of your life have nothing to do with AD/HD?

Tell me about what school is like for you?
Prompt Questions:
What are your favourite subjects at school? What makes these subjects so enjoyable?
What are your least favourite subjects? Why don't you enjoy them?
What activities do you participate in during morning-tea and at lunch?

Tell me how your teachers help you with your schooling.
Prompt Questions:
How are your teachers helpful?
How are your teachers not helpful?

How do your friends support you with your schooling?
Prompt Questions:
How do they help you with assignments?
How do your friends treat you differently?

What ideas can you offer that would make learning easier at school?
Prompt Questions:
Describe ways that school can be made more interesting?

Appendix G

Student Focus Group Interview Questions

What information would you give to someone who wants to know what schooling is like for someone with AD/HD?
Prompt Questions:
What things make you distracted in class or unable to concentrate?
What do you that helps you to concentrate?

How is school different for you compared with boys in your year who do not have AD/HD?
Prompt Questions:
Can you tell me about the good things about your schooling?
Can you tell me what is not good about your schooling?
How does school change (easier, harder) as you grow older?

Describe the ways that your teachers help you with your learning? Are the interventions helpful?
Prompt Questions:
How well do your teachers know you as an individual?
What makes a good teacher?

In what ways is it important to 'fit in' at school?
Prompt Questions:
How easy is it for you to make friends at school?
How easy is it to maintain your school friendships?

Tell me how the school can make learning easier?
Prompt Questions:
How should the school be different?
What class rules make learning hard?

Appendix H

Teacher Questionnaire

QUT STUDY – THE SCHOOLING EXPERIENCES OF ADOLESCENTS WITH AD/HD

1.	**Gender**	**Male _____**	**Female _____**				
2.	**Age**	**_____**					
3.	**Years of Teaching Experience**	**_____ years**					
4.	**Previous teaching experience (grades, subject areas, mainstream or special education etc.)** _____ _____ _____ _____ _____ _____						
5.	**Highest level of education**	**Bachelor's _____**			**Graduate Certificate _____**		
		Master's _____			**Doctorate _____**		
6.	**Do you have special education qualifications?**	**Yes _____ No _____**					
7.	**Please circle the year group(s) that you are currently teaching**	**1**	**2**	**3**	**4**	**5**	**6**
		7	**8**	**9**	**10**	**11**	**12**
8.	**What are the subjects that you are currently teaching?** _____ _____						
9.	**Have you ever taught a student with AD/HD?**	**Yes _____ No _____**					
10.	**Have you ever recommended that a student be evaluated for AD/HD?**	**Yes _____ No _____**					
11.	**Have you attended any presentations or seminars on AD/HD over the past 12 months?**	**Yes _____ No _____** **If so, please describe** _____					
12.	**Are you the parent of a child or adolescent with AD/HD?**	**Yes _____ No _____**					

13.	**How well do understand AD/HD?**	**1 Not very well**	**2**	**3**	**4**	**5**	**6**	**7 Very well**
14.	**How interested are you in AD/HD?**	**1 Not very interested**	**2**	**3**	**4**	**5**	**6 Very interested**	**7**
15.	**How confident are you about teaching a student with AD/HD?**	**1 Not very confident**	**2**	**3**	**4**	**5**	**6 Very confident**	**7**

Thank you for participating in my study.

Appendix I

Teacher Individual Semi-structured Interview Questions

Tell me what you know and understand about AD/HD.
Prompt Questions:
What professional development have you participated in regarding schooling and AD/HD?
What are the gaps in your understanding about schooling and AD/HD?
Can you suggest ways these gaps can be filled?

How does school differ for boys who have AD/HD?
Prompt Questions:
What behaviours in the classroom have you observed in boys with AD/HD?
What differences have you noticed in work ethic in boys with AH/HD?
How prepared for class (books, calculator) are boys with ADHD?

What interventions do you use in the classroom to support boys who have AD/HD?
Prompt Questions:
How do you respond to the specific needs of the boys who have AD/HD in your classroom?
How do you develop a positive relationship with the boys you teach who have AD/HD?
What advice would you give to other teachers as to how to best manage boys who have AD/HD?

Tell me about how boys with AD/HD form and maintain friends?
Prompt Questions:
How to boys with AD/HD socialise and interact during group activities?

How can the school better support boys who have AD/HD?
Prompt Questions:
What can the school administration team do better to support boys with AD/HD, at school?
What can teachers do better to support boys who have AD/HD, at school?
Student Individual Semi-structured Interview Questions

Appendix J

Example Transcript: Individual Semi-structured Interview - Noel

Student 3 Noel – Year 11 2012

Interview Date: 18 February 2012

Question 1: What is it like to have AD/HD?

It is very hard to concentrate and be motivated at school. Sometimes I wake up and I don't feel like going to school. Sometimes I feel lazy. In class I get easily distracted by talking to my mates. Sometimes, if I feel like doing something really bad like wagging a class I will go to class but not do any work. I will draw or something like that.

I don't really think, I just live in the moment. Stuff it, I just feel like talking. I will just write down a couple of notes and then Google it at night time but then you get home and you can't do any work. You get lazy so you go on Face book, play X-Box and do anything to avoid doing school work (totally unmotivated). I don't have much motivation for all my subjects except for Modern History. I like that subject but I am even lazy sometimes in that subject.

In what ways do you feel different to boys who do not have AD/HD?

I feel like I have to make noises and stuff. I like to muck around. I draw attention to myself because I get bored. I always have to do something apart from school work. It is impossible for me to concentrate and sit and do school work for an hour like most other boys.

Study wise I feel different. I cannot study for a long period of time or concentrating on a task seems daunting. I can't be bothered and I postpone studying and just muck around. I feel like I can't do much. I can't get my head down and study. I know I have to do some study but when the time comes, I can't be bothered.

What parts of your life have nothing to do with AD/HD?

My social life and going out with my friends.
Playing sport
Having a girlfriend.

Tell me what school is like for you?

It is a pain in the arse and a waste of time. I wish it was different everyday but it is the same thing all the time and so boring. I hate routine.

School is something you have to go to, to succeed in life but to me most of the stuff we learn is pointless and in a couple of years something completely different is taught to what we learn now.

School is where I go to socialise.

What are your favourite subjects at school?

Modern History, English, and some PE lessons.

What makes these subjects so enjoyable?

English because I have always had good teachers. If you have good teachers, you have fun at school. It is interesting. It is creative and I enjoy that.

Modern history – I find it interesting to read about the past so we don't make the same mistakes in the future.

I find these subjects quite hard because I have to really focus in these lessons. I try to do a lot of reading in these subjects because they interest me.

I hate Dance and I pretty well much hate most of my PE teachers because I feel they are up themselves but I like sport and I like being active.

What are your least favourite subjects?

Mathematics

Science

Why don't you like them?

Maths - because I find it so hard to do and it is so repetitive. I find it impossible to learn and do anything mathematical.

Science – I hate it because it is repetition work and it is just a bunch of gibberish to me.

What activities do you participate in during morning tea and lunch?

Chill with my mates, be social and have fun. I get rid of any extra energy I have by tuning girls.

Tell me how your teachers help you with in your schooling

You either have good teachers or bad teachers. A good teacher will come and talk to you and not always about school. A good teacher is nice to you and treats you like you are not an idiot and helps you with your school work. If you don't bring your equipment, they give you paper and a pencil. That makes a big difference I think. Doing on-to-one work is a lot of help to me.

How are your teachers not helpful?

They lecture me about life even though half of them have tried to get other degrees but have failed miserably and so have become teachers. Half of them are control freaks.

They act stuck up. They try and focus on one or two students they like or focus on the smart students where as they should be trying to help the students who are struggling. If you make one mistake, they try to make a big deal out of it.

How do your friends support you with your schooling?

There is a big difference between private school and public school kids and I guess your friends don't really help you too much with your school work. It is pretty well up to you to do your own work. You can get advice from your girlfriend or the smart kids in your class.

How do they help you with your assignments?

No not really. I help others.

How do your friends treat you differently?

A couple of my friends know I have AD/HD - they don't see it as a big deal. Some make fun of me because I have received learning support in the past. You can be branded and seen as a bit of a dummy – he isn't really going anywhere in life and needs some help and will do a trade and won't go to Uni. No one has actually said this to me, but it is the general attitude. This sort of comment annoys me because people in learning support try twice as hard as people who don't do learning support.

What ideas can you offer that would make learning easier at school?

Lap-top orientated work is a lot better. I think a lot of people with AD/HD have bad handwriting. It is a big deal for me to have a lap-top because I use it to get my assignments done during class and this makes a massive difference.
A cyclic or two week timetable is good because the routine is not the same.
Having a break in between classes allows you to refresh your brain.
I reckon I could work really hard if I had a big plate of MacDonald's next to me or food in general.

Describe some ways that school can be made more interesting?
I don't know if school can be made more interesting.
More flexibility.
At Grammar they treat you like toy soldiers – perfectly the same. I think it is good to have class rules but there should not be a big emphasis on hair. Rules about hair are a waste of time and not relevant to the real world. Cut the crap and get to the school work.
Teachers using more humour.
Teachers making a connection with the kids they teach makes a massive difference.

Appendix K

NVvivo Software – Development of Sub-theme The Importance of Friends

From Student Interviews

<Internals\\Interviews\\students\\Student 1> -
Most of my friends don't think I have AD/HD any more.
Reference 2 - 0.71% Coverage
I don't tell people I have AD/HD unless they ask me
<Internals\\Interviews\\students\\Student 2> - § 2 references coded [5.27% Coverage]
Reference 1 - 2.44% Coverage
Friends are really important to me so I like to have my pills so I don't feel different. My friends think I am an idiot when I am not medicated when I do silly things.
Reference 2 - 2.83% Coverage
I have not noticed my friends treating me differently to anyone else. My friends treat me differently when I am not medicated. They act silly at the same time I do. They follow what I am doing.
<Internals\\Interviews\\students\\Student 3> - § 2 references coded [1.67% Coverage]
Reference 1 - 0.51% Coverage
they don't see it as a big deal.
Reference 2 - 1.16% Coverage
Some make fun of me because I have received learning support in the past
<Internals\\Interviews\\students\\Student 4> - § 1 reference coded [0.45% Coverage]
Reference 1 - 0.45% Coverage
They don't treat me any differently
<Internals\\Interviews\\students\\Student 5> - § 4 references coded [4.08% Coverage]
Reference 1 - 0.48% Coverage
They don't treat me differently.
Reference 2 - 0.54% Coverage
Most of my friends know I have AD/HD
Reference 3 - 1.46% Coverage
I didn't tell anyone when I was younger because I saw how other kids were treated who had AD/HD.
Reference 4 - 1.61% Coverage
I was put in a learning support class in Year 6, 7 and 8 and other kids not in the class would call us dumb
<Internals\\Interviews\\students\\Student 6> - § 3 references coded [1.40% Coverage]
Reference 1 - 0.46% Coverage
I don't think they know
Reference 2 - 0.40% Coverage
I haven't told them.
Reference 3 - 0.54% Coverage
I don't want to get teased

Appendix L -

Project Title:
The schooling experience of adolescents with AD/HD
Approval Number: 1100001483
Clearance Until: 10/11/2014
Ethics Category: Human

As you are aware, your low risk application has been reviewed by your Faculty Research Ethics Advisor and confirmed as meeting the requirements of the National Statement on Ethical Conduct in Human Research.
Before data collection commences please ensure you attend to any changes requested by your Faculty Research Ethics Advisor.
Whilst the data collection of your project has received ethical clearance, the decision to commence and authority to commence may be dependent on factors beyond the remit of the ethics committee (e.g., ethics clearance / permission from another institute / organisation) and you should not commence the proposed work until you have satisfied these requirements.
If you require a formal approval certificate, please respond via reply email and one will be issued.
Decisions related to low risk ethical review are subject to ratification at the next available Committee meeting. You will only be contacted again in relation to this matter if the Committee raises any additional questions or concerns.
This project has been awarded ethical clearance until 10/11/2014 and a progress report must be submitted for an active ethical clearance at least once every twelve months. Researchers who fail to submit an appropriate progress report when asked to do so may have their ethical clearance revoked and/or the ethical clearances of other projects suspended. When your project has been completed please advise us by email at your earliest convenience.

For information regarding the use of social media in research, please go to:
http://www.research.qut.edu.au/ethics/humans/faqs/index.jsp
For variations, please complete and submit an online variation form:
http://www.research.qut.edu.au/ethics/forms/hum/var/variation.jsp
Please do not hesitate to contact the unit if you have any queries.
Regards

Janette Lamb on behalf of the Faculty Research Ethics Advisor
Research Ethics Unit | Office of Research

Glossary

Adolescence: Is the transition from childhood to adulthood that usually begins around the age of 13 and concludes at 22 years of age (Weiten, 2001). Stevens et al., (2007) see the adolescent as "being in between, effectively illegitimate in either valid end of a developmental binary" (p. 108). For many young people, adolescence has been described as a difficult stage of development; Eccles et al., 1993: Stevens et al., 2007).

Learning: Learning usually occurs through interaction between the learner and an instructor, or teacher who delivers a curriculum through directed activities that are highly structured or through a less structured means enabling the learner to increase knowledge through less structured activities but under teacher direction (Thielens, 1977).

Self-efficacy: Self-efficacy is a person's belief in their own ability to achieve a goal or task, or overcome an obstacle (Baron & Byrne, 2003).

Self-esteem: Self-esteem is the evaluative process that a person utilises to reflect their achievements and abilities and also includes others perceptions of ourselves (Kazdin, 2000). Self-esteem can include negative capabilities as well as positive accomplishments (Kazdin, 2000).

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