ADHD in Indian Schools: A Study of Students with ADHD and Their Teachers in Twenty Primary Schools in New Delhi and Bangalore

Nandini Sethi

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Except where due acknowledgement is given, I affirm that this thesis is the result of my own research carried out under the supervision of Dr. Bernd Heubeck of the School of Psychology of The Australian National University. It has not been submitted for any other degree.

Nandini Sethi

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ABSTRACT

Attention Deficit/Hyperactivity Disorder (ADHD) has been identified as a worldwide problem. However, questions remain regarding its expression, recognition and management in different cultures. In India, ADHD is a very under-researched topic. Only four studies could be found in the research literature, two of which reported high prevalence rates. This thesis presents two studies, a broad pilot study and an investigation focussed on teachers and their experience with ADHD in their classes.

The pilot study was conducted to gain initial insights into the awareness, recognition, diagnosis and management of ADHD in India. Key people in the child’s ecological system (teachers, principals, parents, mental health professionals and school counselors) were chosen to be interviewed for this purpose. These “stakeholders” commented on a wide range of issues, based on their involvement with children with ADHD and their ability to influence the children’s outcomes, either directly or indirectly. The findings indicated that in many cases, ADHD was probably left unrecognized. In addition, the impression was gained that many schools were not supporting these children adequately because of limited teacher knowledge, lack of well developed referral and intervention systems and limited resources.

The second study was conducted to investigate more systematically a number of issues related to ADHD, this time with a narrower focus on children and their teachers. One hundred and ten teachers reported on 110 children with ADHD symptoms in their classrooms as well as 110 comparison children whom they regarded as “average” children. Teacher identified children with ADHD symptoms displayed significantly more inattentive, hyperactive and/or behaviour problems than “average” children in the same
classrooms. However, in spite of being significantly more symptomatic, fewer than one fourth had received a diagnosis of ADHD and only 7.2% were on medication. In addition, only 10% of children had Individual Education Plans. This extended impressions gained in the pilot study that this may be an underserviced population in India. An analysis of the demandingness of these children, teacher stress, burnout and efficacy was conducted. Not only were these children more demanding, but they also stressed teachers more than comparison average children. The sheer frequency of inattention, hyperactivity/impulsivity and/or behaviour problems played a major role in stressing teachers. However, stress associated with children with teacher identified ADHD was not found to be uniquely predictive of teacher burnout or lowered self-efficacy. Investigation of the supports for teachers in the schools revealed that teachers in Indian schools wanted more support with children with ADHD, including professional development and the school’s support and understanding.

This research brings into focus and highlights the needs of children with ADHD and their teachers. These children need to be adequately diagnosed and managed in schools, which does not appear to be the case at the moment. The current processes of recognition and intervention in schools have the potential to leave many children undiagnosed and/or not supported. This research also brings into focus the perspectives of teachers and the need to support them. Lastly, the results make a case for professionals and school personnel to invest in children with ADHD to ensure that Indian schools will be truly inclusive.
INTRODUCTION

Attention Deficit/Hyperactivity Disorder (ADHD) is one of the most common psychiatric conditions among children. ADHD impacts on children’s social, emotional and academic functioning and affects parents and teachers, although the impact on teachers is less acknowledged. Much research has investigated interventions for ADHD and debates about stimulant medication are common in the media in many countries. Far less attention has been paid to children with ADHD and their teachers. This is surprising because teachers spend a lot of time with these children and the behaviours related to ADHD are commonly manifested in the classroom. ADHD is also often associated with oppositional defiance which can be challenging for teachers and increase the potential for negative interactions with the children, which are likely to impact on educational and psychological outcomes for children with ADHD. Given the role that teachers play in the lives of children, it is important to research teachers’ perspectives and experiences in relation to ADHD.

Most of what is known about ADHD and other psychopathology comes from research based in North America and Western Europe. However, how ADHD presents itself in the West may be very different from the way it presents itself in Asian countries. Even if the genetic aetiology of ADHD is similar, social, cultural and educational contexts can often influence its presentation and management. There is a case for conducting research on ADHD in other countries.

With a population of more than 1 billion, it is surprising that not much is known about ADHD in India. There are only a handful of studies on ADHD in the Indian research literature, which were conducted in the 1980s, 1990s and 2000s. Two of these
reported higher prevalence rates than what has been found in other countries. Considering this, more discourse on ADHD was expected in the media or professional literature. This, however, was not found to be the case. Given the gap in knowledge when it comes to ADHD and India, it was decided that this was an area that needed to be researched more. This thesis will bridge this gap by examining ADHD in Indian schools, with a special focus on teachers. This research will make a useful contribution to Indian Psychology by highlighting the recognition and management of these children in Indian schools. It will also highlight the important role that teachers play and the need to support them in the management of children with ADHD.
CHAPTER 1: LITERATURE REVIEW

1.1 The ADHD Syndrome

Attention Deficit/Hyperactivity Disorder (ADHD) is a disorder of childhood onset that is characterized by developmentally inappropriate levels of inattention and/or hyperactivity/impulsivity (American Psychiatric Association (APA), 2000). The Diagnostic and Statistical Manual of Mental Disorders-IV, Text Revision (DSM IV-TR) describes three subtypes of ADHD: Combined type, with both inattention and hyperactivity/impulsivity; Predominantly Inattentive type, with inattention but not significant hyperactivity/impulsivity; and Predominantly Hyperactive-Impulsive type, with hyperactivity/impulsivity but not significant inattention. The relevant behaviours should have an onset before the age of seven, be present in two or more settings and lead to clinically significant impairment in social, occupational or academic functioning. The DSM-IV also assumes that the symptoms are not due to other types of mental health or learning disorders.

ADHD affects approximately 3-10% of the school-aged population in the United States (APA, 2000) and is associated with significant deficits in behavioural, emotional, academic, and social functioning (Barkley, 2006; DuPaul & Stoner, 2003). ADHD is one of the most common psychiatric/developmental/behavioural disorders among children (Baird, Stevenson, & Williams, 2000; Taylor, 1997). It is a disorder which is highly comorbid with other conditions, for example, more than 50% of children with ADHD also display clinically significant symptoms of oppositional defiant disorder (ODD) and conduct disorder (CD) (Barkley, 2006). Other studies have suggested that 15 to 20
percent of children with ADHD have co-morbid mood disorders, 25 percent have co-ex- 
existing anxiety disorders, and 20 percent have specific learning disorders (Jensen, 
Martin, & Cantwell, 1997; Russo & Beidel, 1994; Tannock, 1998). In community 
samples, boys are 2-3 times more likely than girls to be diagnosed with ADHD 

1.2 The Importance of Research on Teachers and ADHD

Recently, many researchers have started emphasizing the need to understand 
teachers’ perceptions of ADHD. Most of the research on ADHD to date has been on 
cognitive and behavioural aspects of ADHD and treatment. Research has been conducted 
on children with ADHD, their adjustment, their families, and family stress associated 
with ADHD (Barkley, 2006; DuPaul & Stoner, 1994; Litner, 1999; Parker, 1999; Phelan, 
2000; Robin & Payson, 2002). Until recently, however, there was relatively little research 
on teachers dealing with children with ADHD in the class. This is surprising because, 
next to their parents, it is teachers who spend the most time with these children. 
Furthermore, many of the behaviours associated with ADHD, like inattention, 
hyperactivity/impulsivity and behaviour problems, are manifested in the classroom. As 
Kos, Richdale, and Jackson (2004) pointed out, the classroom may represent one of the 
most difficult places for children with ADHD because the setting requires children to 
engage in behaviours that are contrary to the core symptoms of the disorder. For example, 
remaining seated, following teachers instructions, taking turns, organizing and 
completing school and homework etc. are just some of the expectations from children in 
school settings, which children with ADHD would find hard to meet.
There are several reasons why it is important to research teacher perceptions and experiences. The first is that school teachers play an important role in the assessment and diagnosis of ADHD. They spend a lot of time with the children in structured and unstructured settings, and with their knowledge of age appropriate behaviour they are often called in to provide ratings of behaviour. Because the behaviours that define inattention in ADHD are clearly related to academic activities, teacher observations and perceptions are essential for determining the presence of ADHD in children (Wolraich, Hannah, Pinncock, Brown, & Baumgaertal, 1996). In fact, the sole reliance on mental health professionals as the only source for diagnosis has been criticized by some who regard school feedback to be an important source of information especially since there is no definitive test for the diagnosis of ADHD (Atkins & Pelham, 1991; Concannon & Tang, 2005). Snider, Busch, and Arrowood (2003) discuss the pivotal role that teachers play in the diagnosis of children with ADHD in the United States. Teachers may become aware of these students’ difficulty in meeting the behavioural, attention and academic norms for the class and suggest the possibility of an assessment of ADHD to parents. Parents in turn follow through on a referral to physicians who in turn make a diagnosis based on parent and teacher reports. Snider et al. (2003) contend that teacher referrals can be a significant factor in determining whether children will be diagnosed with ADHD.

A second reason for researching teacher experiences derives from the suspicion that the way teachers perceive and respond to ADHD behaviour plays a major role in the academic success and adjustment of children with ADHD. Teachers’ expectations and attitudes towards students may consciously or unconsciously affect their own behaviour
and impact on how they deal with these children. These attitudes are likely to affect the student’s academic self-efficacy and performance.

Lastly, not only do teachers affect their students, but students in turn can have an impact on teachers. In the context of ADHD, there is a greater potential for teacher burnout and stress. The behaviours displayed by these children can be challenging for teachers and impose demands on their time, energy and resources. In addition, these demands are imposed on an almost everyday basis, which can lead to an accumulation of stress. The effects of dealing with these children on teachers need to be investigated to promote not only better student outcomes, but also better teacher outcomes.

1.3 ADHD and Teachers

Research in the area of teachers and ADHD has looked at aspects of how teachers perceive and respond to ADHD. Researchers have investigated teachers’ knowledge of the condition, their ability to recognize children with ADHD, their attitudes towards the children and management of ADHD in the classroom. These areas of research will be examined in this section.

1.3.1 ADHD and Teacher Perceptions

A number of researchers have investigated school teachers’ knowledge about ADHD, in particular their understanding of the causes of the condition. Some studies suggest that teachers hold many misconceptions about the nature and causes of ADHD. Jerome, Gordon, and Hustler (1994) distributed true-false questionnaires on the
knowledge of ADHD to 439 American and 850 Canadian teachers. Approximately 66% of the teachers mistakenly reported that ADHD could be caused by the dietary intake of sugar or additives, 26% felt that it occurred equally in boys and girls, and 15% did not recognize it as having a biological base. Other studies have also found that teacher knowledge about ADHD is quite limited or they believe in myths about ADHD, for example, that it is caused by sugar intake or food additives (Barbaresi & Olsen, 1998; Sciutto, Terjerson, & Bender Frank, 2000).

Havey (2007) researched US and Dutch teachers’ knowledge about the aetiology of ADHD. Both sets of teachers chose biochemistry as the cause of ADHD although US teachers were more likely to see an important causal role in environmental factors. Other studies have found that some teachers connect the diagnosis of ADHD to environmental factors like parents’ divorce, family neglect, parents working longer hours, children not receiving enough guidance, lack of discipline at home, an over-protective mother and so on (Arcia, 2000; Einarsdottir, 2008).

There have been very few studies that have systematically assessed teachers’ knowledge and understanding of ADHD. Most of the studies examining teachers’ knowledge about ADHD have found that teachers hold many misconceptions about ADHD. This is likely to have implications for the way ADHD is responded to and managed. For example, to the extent that teachers believe that family factors are responsible for ADHD, there is the likelihood of the family being blamed.
In addition to research into teachers’ knowledge, and understanding about ADHD, researchers have also studied their ability to recognize and identify ADHD in the classroom. Some studies have found that teachers tend to overestimate the number of children with ADHD in classrooms. Three studies in particular, all in US classrooms, found teachers reporting children with ADHD in excess of the 3 to 5 percent estimated in the DSM-IV (Glass & Wegar, 2000 reporting 6-16%; Havey, Olson, McCormick, & Cates, 2005 reporting 9 percent and Weiler, Bellinger, Marmor, Rancier, & Waber, 1999 reporting 15%). In another study a boy/girl ratio of 7:1 for teacher-identified ADHD dropped to 1½ to 1 when only parent ratings were used in the diagnosis (McGee, Williams, & Silva, 1987).

While some studies have found that teachers overestimate the number of children with ADHD, others have found that teachers are not able to identify children with ADHD in the classroom. Arcia et al. (2000) asked primary school teachers in the US to complete the Conners’ Teacher Rating Scale (Conners’, 1989) on a target child with ADHD symptoms in the classroom. The teachers were also interviewed on topics relating to their attributions of the child’s behaviour. The researchers found that although the children were highly symptomatic as reported by the teachers on the Conners’ Scale, they seldom characterized them as having ADHD, and tended to not link their behaviour with ADHD. The reasons for this included attributing the child’s behaviour to environmental factors, lack of knowledge about ADHD, the notion that labelling did not help, the behaviour might change overtime and the legal repercussions of labelling a child.
There are many reasons why it is difficult to accurately identify ADHD in general, and the classroom, in particular. Arcia, Frank, Sanchez-LaCay, and Fernandez (2000) contend that ADHD is difficult to identify by teachers because of the complex and varied symptom profiles. Learning disabilities and oppositional defiant behaviour are often associated with ADHD, but are not always present (Biederman, Newcorn, & Sprich, 1991). In addition, ADHD can be confused with inattentiveness associated with mental retardation, a reaction to a chaotic environment or an under-stimulating environment for children with high intelligence (Arcia et al., 2000). Also, children with ADHD can be inconsistent in their day-to-day behaviour, but highly focused when presented with high interest tasks, the picture is further complicated (Arcia et al., 2000).

In addition to research into the ability of teachers to recognize children with ADHD, there has also been research into their ability to reliably differentiate children with ADHD from “normal” children in the class. While some research has found that teachers are able to distinguish ADHD from normal behaviour (Klein & Young, 1979), other research has found that factors such as gender and the symptom profile of the child influence which behaviours are considered deviant. The factors which influence teacher ratings of ADHD have been systematically investigated by a number of researchers (Abikoff, Jensen, Arnold, Hoza, Hechtman, Pollack, et al. 2002; DuPaul & Stoner, 2003; Gaub & Carlson, 1997; Gershon, 2002; Newcorn, Halperin, Arnold, Abikoff, Biederman, Mick, Faraone, Braaten, Jackson, & King, 2001). Studies have found that oppositional behaviour inflates teacher ratings of inattention and hyperactivity (e.g. Stevens, Quittner, & Abikoff, 1998). Gender of the child has also been found to impact on teacher ratings of
ADHD. Although ADHD has been found to be equally impairing for girls and boys, if not more for girls, there appears to be a referral bias in that boys are referred more often than girls for clinical services (DuPaul et al., 2003). Early research by Langsdorf, Anderson, Waechter, Madrigal, and Juarez (1979) showed that teacher ratings of hyperactivity seemed influenced by ethnicity and social class of the child, with white children receiving lower ratings of hyperactivity than black and Mexican American children. Thus, teacher ratings of ADHD can be influenced by many factors.

1.3.2 *Teacher Attitudes towards Children with ADHD*

Teacher attitudes towards children with ADHD are an important area of research. A teacher's attitude towards a child with disability can lead to different patterns of interactions. Hannah and Pilner (1983) describe an attitude as being composed of three components: firstly, a cognitive component, consisting of beliefs about a student; secondly, an affective component consisting of feelings of like or dislike towards a student; and thirdly, a behavioural component which involves a predisposition towards a particular action in regard to the student. If teachers hold negative attitudes towards children with disabilities or do not subscribe to a disability perspective, there is greater potential for negative interactions, ultimately affecting both student and teacher outcomes.

Bell (2006) used semi-structured interviews to understand teachers' attitudes towards children with ADHD, Conduct Disorder (CD) and Oppositional Defiant Disorder (ODD) in Jamaica. Teachers were generally found to hold negative attitudes towards
children with ADHD, and even more so in the case of ODD. Children with ADHD, Conduct Disorder and Oppositional Defiant Disorder were labelled rude and lacking in proper home training and were eventually suspended from school by age 15. She said that the suspension rate of children with disruptive behaviours was very alarming in Jamaica. Children suspended were neither treated nor placed in rehabilitation programs, which was seen as contributing to higher levels of violence in Jamaican society (Bell, 2006). Other researchers similarly found that children with ADHD were retained in the grade, or were suspended or expelled from school (Marshall, Hynd, Handwerk, & Hall, 1997; Pfiffner & Barkley, 1998). These studies highlight the need to accurately and systematically assess teachers’ or the school’s expectations and attitudes towards students with ADHD, because of the potential harm that negative attitudes could cause.

Most of the studies in these two sections have researched teachers’ knowledge, recognition, ratings, expectations and attitudes towards children with ADHD. It is important to research these aspects because they have implications for how ADHD is understood and managed. As Greene (1995) mentions, a person’s understanding of a problem guides any intervention they may consider. If a teacher does not recognize the problem or has an inaccurate understanding of the problem, it may be addressed in a less than appropriate manner. The classroom environment can either exacerbate or moderate the difficulties of students with ADHD (Greene, Beszterozey, Katzenstein, Park, & Goring, 2002). Given that children with ADHD need classroom interventions that usually require teacher involvement, it is critical to understand the attitudes and perceptions they
hold towards such children. These attitudes also may also affect teacher outcomes, which is often far less acknowledged and researched.

1.3.3 ADHD and Teacher Burnout and Stress

Research in the field of Educational Psychology has increasingly described the prevalence of burnout in teachers. The term “burnout” is commonly used in human service fields such as psychology, education, social work, law enforcement and nursing. Burnout is most commonly conceptualized in the literature as consisting of three components: emotional exhaustion, depersonalization and reduced personal accomplishment (Maslach & Leiter, 1997). Literature has documented the effects of teacher burnout on both teachers and students. Some of the documented effects of burnout include emotional and physical ill health (Kyriacou, 1987), less sympathy and less interaction with students (Blase, 1982), lack of praise, reduced tolerance of students, failure to prepare lessons adequately and lack of commitment to the teaching profession (Kyriacou & Sutcliffe, 1978). Gugliemi and Tartow (1998) conducted an extensive review of the literature related to occupational stress, burnout and health in teachers. They found that the literature reported extensively on the adverse effects of stress and burnout on teachers.

However, there appears to be very little research on stress and burnout in relation to teaching children with ADHD. This is surprising because burnout may be especially relevant to this area. The symptoms associated with children's deficits in regulatory skills become very apparent and problematic in educational settings, to the extent that ADHD
has even been defined as "a school-based disorder" (Atkins & Pelham, 1991). Children with ADHD often display behaviour problems, have difficulties following classroom rules as well as being more verbally and physically aggressive which can make teaching and maintaining discipline a challenge for teachers. Researchers such as Greene et al. (2002) have lamented the paucity of research on this topic because of the greater potential for teacher burnout in relation to ADHD.

Greene et al. (2002) studied patterns of teacher stress in a sample of elementary school teachers in the US. They found that teachers rated children with ADHD significantly more stressful to teach, compared to their classmates without ADHD. In addition, teachers reported significantly greater stress in teaching students with ADHD who displayed oppositional/aggressive behaviour or social impairment as compared to students with ADHD who did not have these associated difficulties. They found that teachers' stress levels varied widely and were only moderately correlated with students' actual behaviour. Greene et al. (2002) concluded that teacher stress was a highly individualized phenomenon which was transactional in nature, and depended on both teacher and child characteristics.

Hepperlen, Clay, Henley, Barke, Hehperlen et al. (2002) used a Student-Teacher Tension Checklist (STTC) to assess how much tension ADHD related classroom behaviours caused teachers. They found that the average teacher reported experiencing moderate levels of tension in response to ADHD related behaviour.
Ozdemir (2006) investigated burnout in teachers of ADHD students in Turkey. She used the Turkish version of The Maslach Burnout Inventory (Ergin, 1992) to compare the burnout levels of teachers who had children with ADHD in their classrooms, to those teachers without children with ADHD in their classrooms. The results showed that there were no significant differences on total burnout, and the emotional exhaustion and depersonalization subscales of the Maslach Burnout Inventory. The personal accomplishment subscale scores of teachers of non-ADHD students were higher than teachers of students with ADHD. She found that gender of the teacher did not significantly contribute to burnout in either group, while age of the teacher significantly affected the personal accomplishment scores of all groups. Younger teachers reported lower personal accomplishment in comparison to older teachers.

Klein (2002) investigated the relationship between elementary school teachers’ level of understanding of ADHD and their perceived level of stress. The findings did not indicate a relationship between teaching stress and knowledge of ADHD. An inverse relationship was found between age of the teacher and knowledge of ADHD with younger teachers being more knowledgeable about ADHD. The teachers in his study were experiencing higher levels of stress than a comparison group.

As described above, there are only four studies that have systematically investigated teacher stress or burnout in relation to children with ADHD. Two of these studies have found that teachers find students with ADHD more stressful to teach than average children. The only study on teacher burnout found that teachers of children with
ADHD had lower personal accomplishment than those teachers without these children in their classrooms. The fact that these studies are reporting teacher stress or lowered personal accomplishment in relation to children with ADHD is important. As described before, some of the effects of burnout include reduced empathy and tolerance for students and decreased teaching effectiveness. Given that adaptive teacher-child interactions are related to students’ development, achievement and functioning (Hersh & Walker, 1983; Lynch & Cicchetti, 1992; Pianta, 1994; Pianta & Steinberg, 1993; Pianta, Steinberg, & Rollins, 1995; Sroufe, 1989), it is important to gain greater understanding of teacher stress and burnout in relation to ADHD.

1.4 Cross-Cultural Research on ADHD

Most research in child psychopathology has been conducted in North America or Western Europe. The findings have often been applied to other countries without careful consideration of their applicability. Researchers have warned that we risk enshrining a mono-cultural science because so much of psychological research is based in the West (Kennedy, Scheirer, & Rogers, 1984). Many others have agreed that it is important to conduct research in other countries and understand their concepts and the meanings and interpretations they give to behaviours. Identical behaviour is often viewed differently in different societies and judgments about whether a particular behaviour pattern represents a serious problem or pathology may be shaped by the cultural context in which the behaviour occurs (Weisz, Weiss, Walter, Suwanlert, Chaiyasit et al., 1988). Thus, there has been a greater push towards more cross-cultural research in psychology in recent decades.
These debates have also had some influence on the discourse surrounding ADHD. On the one hand arguments have been put forward that ADHD is the same all over the world and that one would find very similar prevalence rates worldwide. However, researchers have found widely different prevalence rates worldwide, ranging from as low as 1% to as high as nearly 20% among school age children (Bird, 2007; Faraone, Sergeant, Gillberg, & Biederman, 2003). This suggests that prevalence rates may not be the same all over the world. Nevertheless, some take the position that the reasons for varying prevalence rates across countries are because of different assessment tools, differing definitions of ADHD and methodological differences across studies. Polanczyk, Lima, Horta, Biederman, and Rohde (2007) conducted a comprehensive systematic review of 102 studies from all over the world and calculated a pooled prevalence rate of ADHD of 5.29%. They concluded that the large variability of prevalence rates of ADHD was mainly due to methodological differences across studies. They suggested that geographical location played a limited role in the reasons for the large variability in worldwide prevalence rates, and argued against the view that ADHD was a culturally based construct. Nonetheless, they acknowledged that culture could play some role in the aetiology of the disorder, since the estimates of heritability in the disorder are only 70-80% at best.

There are other researchers who have asserted that ADHD is a culturally based construct. Some even go to the extent of saying that ADHD is a byproduct of the permissive North American culture (Anderson, 1996) or that “it is a fraud propagated by the profit dependent pharmaceutical industry and a high status profession (psychiatry)
looking for new roles” (Taylor & Timimi, 2004). Others such as Luk, Leung, and Ho (2002) contend that conditions such as ADHD are partly biologically and partly culturally caused. In their view, “culture goes deeper than the belief system; it may affect the biological functioning of the individual”.

Although the genetic-biological aetiology of ADHD is now widely accepted, the role of culture in the expression of ADHD is only just beginning to be acknowledged. It is argued that even if ADHD is a genetic condition, social and cultural factors influence perceptions of the disorder, incidence rates and treatment practices. Even Polanczyk et al. (2007) who argued against ADHD being a culturally based construct admitted that environmental and cultural aspects could play some role in the prevalence of ADHD. Curtis et al. (2006) contended that it is important to conduct cross cultural research into how ADHD is identified and how socio-cultural factors influence treatment preferences. They asserted that the way ADHD is conceptualized in a culture has implications not only for treatment practices, but also governmental policies and structural supports, which in turn affect teacher training and practices.

Thus, an important question is how ADHD is perceived in different cultures and the factors that influence its recognition and management. The following section will summarize research in different cultures that has attempted to answer some of these questions.
1.4.1 Cross-Cultural Research on Teachers’ Perceptions

Several studies have examined teachers’ perceptions of the prevalence of ADHD in the classroom in different countries. Teachers’ perceptions of prevalence have not been commonly investigated. This is an important area of inquiry because there may be certain prevalence rates of ADHD in a culture, but whether teachers are able to recognize and identify children with ADHD in the classroom is another matter.

Havey (2007) compared the perceptions of Dutch and US teachers of the prevalence of ADHD in their classrooms. Teachers were asked about the number of students in their class, how many had been diagnosed with ADHD, whether they agreed with the diagnosis and how many additional students they thought might have ADHD. He found that American teachers reported both higher numbers of students with diagnosis and higher numbers who they perceived as having undiagnosed ADHD than did Dutch teachers. Despite the fact that the average size of the classroom was bigger in Holland than the US, Dutch teachers reported fewer diagnosed and perceived cases of ADHD. Havey (2007) raised important questions in his study, for example whether Dutch and US children behaved differently, or if US and Dutch teachers displayed differing levels of tolerance towards behaviours associated with ADHD. He also raised the possibility of students with ADHD being over-identified in the US and under-identified in the Netherlands. Compared to an estimated rate of ADHD in the US of 3-5%, American teachers in his study were identifying 9% of students with ADHD in their classrooms. He argued that more cross-cultural research needed to be done before these questions could
be answered satisfactorily and called for more research on the diagnosis and perceptions of ADHD in different countries (Havey, 2007).

Haynes, Hook, Macaruso, Muta, Hayashi, et al. (2000) compared the prevalence rate of students with learning disabilities based on reports from U.S. and Japanese teachers. Their results showed that U.S. teachers identified 4.0% of their students whereas Japanese teachers identified 1.5%. Their results were similar to the Dutch study above in so far as there were differences in the perceptions of teachers in different countries, pointing to a much higher perceived rate in the U.S. than in other countries. Their research also explored a range of other perceptions held by American and Japanese teachers. They found that American teachers perceived students with learning disabilities as being weaker in listening, speaking, reading, writing and study skills, whereas Japanese teachers perceived their learning disability students as weaker in social skills.

Mann, Ikeda, Mueller, Thanapum, Tao et al. (1995) asked teachers from five different cultures to view videotapes of children displaying disruptive behaviour. Teachers from Japan, Indonesia, Thailand, China and United States observed videotapes of the children in solitary activities and in group activities with their peers. When observing children in solitary activity, teachers from Japan and the US tended to rate behaviours as less extreme than did teachers from Thailand, China and Indonesia. Weaker differences were found when the children were observed in groups with their peers. The researchers explained differences in teacher ratings as resulting from different cultural standards for appropriate childhood behaviours. In the United States,
individualized expression and creativity are emphasized, while in China emotional control and conformity are valued and expected from preschool onwards. In Thailand and Indonesia, respect, deference and avoidance of 'loud behaviour' towards persons in authority are highly valued. The greater tolerance for disruptive behaviour by Japanese school teachers was attributed to Japan's higher level of contact with Western values and images and a traditional Japanese value of permissiveness toward early elementary school children. They argued that many international prevalence rates of disruptive disorders cannot be compared, not only because different assessment tools are used, but also because of different standards of culturally appropriate behaviour. They suggested that comparisons of prevalence studies of any disorder should not be undertaken before understanding cross-cultural differences in the interpretation of the behaviours of interest.

In an older study, Weisz et al. (1988) compared perceptions of Thai and American adults of overcontrolled (e.g. shyness, fear) and undercontrolled (e.g. disobedience, fighting) problems. They found that Thai adults, when compared to American adults, rated both problems as less serious, less worrisome, less likely to reflect personality traits and more likely to improve with time. Thai adults expressed less concern than Americans. The authors contended that the results were in line with the tenets of Thai Buddhism which most of the population followed. The teachings propose that everyone experiences dissatisfaction and that all conditions are in a state of flux. Also, an individual's behaviour is not seen as reflecting an enduring personality. Weisz et al. (1988) suggested that such teachings, if taken seriously might mitigate adults' distress over child problems. They also suggested that Thai adults were not as widely exposed to
child psychopathology as American adults, which is why they might not be too concerned about the behaviours. Another finding of the study was that Thai adults were more likely than Americans to report that the undercontrolled child was more in need of help.

In another study Weisz et al. (1987) compared the behaviour problems reported by Thai and American adults in mental health clinics in their respective countries. They found that overcontrolled problems (like somatizing, fearfulness, nervous movement, worrying) were reported much more often for Thai than US youth. Undercontrolled problems (like bullying, disobedience, fighting, lying, arguing) were more often reported for US than Thai youth. They found support for what they described as the problem suppression-facilitation model. According to this, cultural patterns directly affect the incidence of over and undercontrolled problems. Thus, because Thai culture discouraged undercontrolled behaviour, Thai youngsters may be more likely to develop problems within the overcontrolled range of behaviour. The authors proposed that characteristics of a culture may suppress the development of certain types of child behaviour problems and foster or facilitate the development of others (Weisz et al., 1987).

In another study of cultural differences in the rating of ADHD behaviour, Metcalfe, Lai, and Tsui (2002) found that there were significant differences in the ratings of teachers in mainland China, Hong Kong and the United Kingdom. They found that teachers in the three different countries placed different degrees of emphasis on hyperactive, inattentive and impulsive behaviours. Teachers from mainland China rated the same behaviour as significantly more inattentive and hyperactive than did teachers
from Hong Kong or the United Kingdom. However, teachers from Hong Kong gave lower ratings of impulsivity than teachers from mainland China and United Kingdom, surprisingly. UK teachers appeared more sensitive to the presence of impulsivity than those of mainland China and Hong Kong (Metcalf et al., 2002).

Hong (2008) examined Korean early childhood teachers' understanding of children with ADHD and their experiences with such students in the classroom. Korean teachers reported that the most distinctive characteristic of children with ADHD was their difficulty in controlling their emotions or desires. The teachers reported that the expression of emotions by children with ADHD was more intense, frequent and lasted longer than that of their peers. Hong pointed out that it was interesting how Korean teachers tended to focus more on emotional difficulties than behaviour problems.

Yang and Schaller (1997) studied the relationship between teacher ratings of ADHD and their referral decisions in primary schools in Taiwan. They found that Chinese teachers were able to correctly recognize and classify children who had severe ADHD (3 standard deviations above the mean) and refer these children for services. Teachers agreed that children who scored 2 standard deviations above the mean (severity of ADHD rated as in-between) had problems in inattention, hyperactivity and impulsivity but decided not to refer these children. The researchers concluded that Chinese teachers seemed to be using a conservative criterion for defining ADHD as a disorder, thus impacting their referral decisions.
Thus, there are three important issues that can be raised from the results of these studies. One, teachers' perceptions of prevalence rates in their classrooms may not be in line with the known prevalence rates in a culture. As reported by some studies, teachers in different countries appeared to either over-identify or under-identify children with ADHD in their classrooms. It is important to research teachers' perceptions of the prevalence. If the literature reports that ADHD is prevalent in a culture, but teachers don't recognize attention deficit and hyperactivity type problems, it will have implications for the proper identification and management of these students. Secondly, teachers in different cultures differ in their attitudes toward ADHD behaviour. There appear to be differences in the emphasis placed on attention deficit, hyperactive and impulsive behaviours in different cultures. The same behaviour may be regarded as defiant, hyperactive or naturally rambunctious depending on the cultural context. Thus, it is important to understand how teachers evaluate attention deficit and hyperactivity type problems. Thirdly, even if a behaviour is regarded as serious, it may not necessarily result in a referral or intervention. Factors such as attitudes about mental and behavioural problems, the availability of services and beliefs about the course, prognosis and treatment responsiveness of the problem influence whether professional help is sought. In order to have a meaningful understanding about ADHD, it is important to take into account these issues, as they present in different cultures.
1.4.2 _ADHD and Classroom Management_

Another important area of research has investigated how ADHD is being managed in the classroom and particularly how well equipped teachers feel, and are, in dealing with ADHD.

In a survey of 449 third grade teachers in the US, Ried et al. (1994) reported that regardless of whether or not teachers had training or experience with ADHD, most teachers reported being confident or very confident in their abilities to meet the needs of children with the condition. The teachers were also presented with a list of institutional barriers for optimal management of ADHD and asked to rate their importance. The teachers rated almost all of the barriers as at least somewhat important, although many of those barriers were seldom associated with the management of ADHD (Reid et al., 1994).

In another study in the US, Arcia et al. (2000) reported that teachers held misguided views about ADHD and received very little outside support in terms of community based resources. The teachers were ill-equipped to deal with the demands of teaching children with ADHD and the strategies they employed were reactive rather than proactive. Snider et al. (2003), also in the US, reported that teachers used limited interventions and the most commonly reported ones were communication with parents and punishment.

Kataoka et al. (2004) reported that Japanese teachers and principals were unaware of teaching methods appropriate for students with learning disabilities. Once teachers
identified students with learning disabilities, they were at a loss as to what to do. The methods used to support students were not based on current theories of learning and teaching, but based on the teachers' experiences (Kataoka et al., 2004). They suggested that both principals and teachers needed information about learning disabilities. While seminars and workshops were offered to teachers, they were not mandatory and they suggested that principals encourage teachers to attend them. In addition, the introduction of 'pupil-free days' where 1-2 days would be set aside each term for professional development, the creation of materials for teachers that included information about the nature of learning disabilities and effective teaching methods were also seen as potentially beneficial (Kataoka et al., 2004).

Hong (2008) explored attitudes amongst teachers in Korea about the management of ADHD. He found that the teachers were at a loss as to how to deal with children with ADHD. They tended to blame themselves for being unable to control the situation and provide appropriate guidance and care for these children. The teachers reported that children with ADHD received limited support for their education and treatment from home, school and society. Hong (2008) strongly argued that expecting teachers who had little knowledge about ADHD and who worked with more than 30 children in their classroom, to guide the learning and life of children with ADHD reflected indifference of the government. He suggested ways in which ADHD could be better managed, for example including information about ADHD in teacher training programs, training special education teachers to assist classroom teachers in developing effective teaching
methods, and creating support systems through close collaboration among home, school and other professionals.

Efron, Sciberras, and Hassell (2008) in Australia, examined how parents felt about the way their child's ADHD was being managed in the school. They found that parents frequently perceived the schools to be inadequately equipped to support the needs of children and felt teachers had poor knowledge of ADHD. Only half of students with ADHD received extra assistance and 23% had repeated a school year. In addition, over one third of children with ADHD in their study had been suspended. The authors indicated that the figures did not speak well of the resources available in schools to manage challenging students.

Most of these studies found that teachers were either at a loss at how to deal with ADHD or were using strategies that were not optimal for the management of ADHD. It was also pointed out that it was not fair to blame teachers for their lack of knowledge, or their limitations with regard to behavioural management when the responsibility for educating teachers and providing support lay with training institutions and schools.

In addition to the management of ADHD in the classroom, another relevant issue that has been discussed in a limited number of studies is the acceptability of various classroom interventions to teachers. Most empirically supported psychosocial treatments for ADHD require adults other than consultants to implement and support interventions
(DuPaul & Stoner, 2003). The effectiveness of the interventions depends on the extent to which teachers find them workable and are able to implement them in the classroom.

Curtis et al. (2006) compared the perceptions of US and New Zealand (NZ) teachers of four classroom interventions (medication, response cost, classroom lottery and daily report card) for ADHD. They found that teachers in the US regarded medication to be more acceptable, effective and timely than NZ teachers. The NZ teachers gave all of the four interventions a lower preference rating than did US teachers. The researchers attributed the differences in treatment acceptability to US teachers’ greater knowledge and working experience with ADHD. Also, teachers in the US worked within a system that commonly utilized student categories to allocate special education services (Individuals with Disabilities in Education Act Amendments, 1997) while NZ teachers had been trained in a model that promoted non-categorical systems for the allocation of special education services (Thompson et al., 2000).

Another study on teachers’ acceptance of treatment for ADHD, particularly in regard to stimulant medication, was conducted by Snider et al. (2003) in US. The backdrop for the study was the concern that the production of amphetamines had increased by 5767% from 1993 to 2001 (U.S. Drug Enforcement Agency, 2002) and that teachers in the US appeared too quick to recommend medication to parents. Given these concerns, they explored teachers’ knowledge and opinions of stimulant medication for ADHD. They found that teachers in their study (both general and special education teachers) did not have much knowledge about stimulant medication and were
‘surprisingly uninformed’ about the long term side effects and risks. Despite not having much knowledge, the teachers were positive about the effects of stimulant medication on school related behaviour. This was especially of concern to the authors because of the pivotal role that teachers played in the diagnosis and referral of children with ADHD to professionals. They contended that because of the circular nature of the referral and diagnostic process, a referral would often result in a diagnosis and treatment with stimulant medication.

There are different kinds of interventions for ADHD, including classroom based ones. It is important to investigate which interventions are being used in classrooms and how well they are implemented. There are few studies that explore this aspect from the teachers’ perspective. Interventions need to be supported and implemented by teachers in order to be effective. Teachers might not believe in or support the intervention because of misguided views. They might also not find it workable in the classroom situation for various reasons. They might find the intervention time consuming, feel that they are not trained, or feel that that the problems are beyond their capacity or responsibility. Many factors determine whether interventions will be applied correctly and consistently. These need to be researched in order to understand where obstacles lie and provide opportunities for remediation. This would also help provide useful input to teacher training programs. A better understanding of these issues would also have implications for theory and research on the topic.
1.4.3 ADHD and the Larger Educational and Cultural Context

Some cross-cultural research has also attempted to take into account broader educational and cultural contexts in relation to ADHD. Researchers have looked into how these contextual issues relate to the conceptualization, diagnosis and treatment of ADHD.

Johanna Einarsdottir (2008) comprehensively described these issues as they related to ADHD in Iceland. She cited a tremendous increase in the diagnosis and treatment of ADHD in Iceland in the recent decades. Quoting a study comparing the prescription rates of Methylphenidate in different countries, she reported that Iceland exceeded even the United States, while other Nordic countries had the lowest prescription rates. She discussed how the Icelandic cultural context, industrialization, globalization and urbanization related to the changes in diagnosis and medication that had taken place in the last few decades. The inconsistency between Iceland and other Nordic nations was attributed to Iceland’s location between the continents of Europe and North America, which allowed it to easily experience cultural influences from both continents. In addition, she reported that Icelandic scholars pursued their academic study abroad to a greater extent than others of Nordic descent, which resulted in a greater North American influence for Iceland. Educational policy issues were also thought to be influential factors in the increasing numbers of diagnosis of ADHD in Iceland. If a child was diagnosed with a disorder, the school received money for extra support from the municipalities. Thus there was a potential incentive to diagnose more children with ADHD in order to bring more money to schools. (Einarsdottir, 2008).
Einarsdottir (2008) used semi-structured interviews to explore the views and experiences of sixteen Icelandic early childhood teachers with children with ADHD. Most teachers clearly noticed the increase in numbers of children who were diagnosed with ADHD and were aware of debates in the media regarding controversies about medication. Her research suggested that most Icelandic teachers were positive about the diagnosis and felt it allowed them to respond to the behaviour in a more specific fashion instead of handling it as bad behaviour, lack of discipline or fault of the child. Teachers pointed out that the transition from playschool to primary school was especially difficult for children with ADHD because of the big gap in the pedagogy and structure between these two educational levels. The primary school teachers, especially, criticized recent changes in the educational system stating that primary school was becoming more demanding for children because of the longer school days, larger groups and more emphasis on academics. These changes, in their opinion were particularly difficult for children with behavioural problems and explained the increasing numbers of diagnoses of ADHD. Teachers often felt helpless and overwhelmed by the increasing demands made on them and the children. Einarsdottir (2008) took into account educational and cultural perspectives in explaining increases in diagnosis and medication in relation to ADHD.

Kataoka, Van Kraayenoord, and Elkins (2004) researched teachers’ and principals’ perceptions of learning disabilities in the Nara Prefecture of Japan. The prefecture was especially selected because the prevalence of learning disabilities had not been established nor had any support system been put in place. The researchers analysed five factors as being potentially meaningful representations of views about the causes of
learning disabilities. Factor 1 (changes in the family and social situation) related to family situations, social issues, children’s and parents’ life-styles and the attitudes of students themselves. Factor 2 (insufficient knowledge of and support for LD) related to the lack of awareness of issues related to learning disabilities by administrators and insufficient support. Factor 3 (teachers' abilities and professional development) related to limitations in teachers' teaching skills and the management skills of both principals and teachers, the lack of awareness of issues related to learning disabilities and the lack of appropriate training for teachers. Factor 4 (teachers' situation) contained items that reflected the participants' busy lifestyles and their stress. Factor 5 (governmental issues) related to the education system, including curriculum guidelines and provision for screening and individual testing. They found that Japanese teachers regarded the teachers' situation as being the most important cause of learning disability. The authors suggested that teachers worked very long hours, had several duties other than teaching and the general shortage of teachers all made it difficult to meet the needs of individual students. They also found that government control of education and family and social factors were not regarded as important factors by principals and teachers. Where teachers and principals differed the most was in relation to the importance they assigned to factors 2 and 3. Teachers regarded insufficient knowledge and support for learning disabilities to actually be a cause of LD and were more concerned with the practicalities of how to teach such children. Principals focused on broader issues, including the connection between school and community and encouragement of professional development for teachers. It is interesting that the authors described these factors as the causes of learning disabilities.
Both these studies take a more holistic approach to ADHD/learning disabilities in their culture. They take the cultural as well as educational and institutional perspectives into account.

1.4.4 ADHD in India

So far, cross-cultural research in several countries including some Asian countries and Iceland has been examined. When turning the attention to India, it is clear that not a lot is known about ADHD and its recognition and management at all. However, before discussing the meagre research literature on this topic, the Indian education system will be introduced.

There are about 5.5 million teachers who teach 202.5 million children in about 1 million schools in India (Rajakumar, Kumar, Uppal, & Devikar, 2005). There are government, private and state schools which are open to all children. The medium of instruction is English in most schools except government schools. Private schools charge monthly tuition and generally cater to the higher strata of society. Government schools also may charge tuition on a sliding scale. Although parents enjoy freedom of school choice, their financial situation ultimately determines where they enrol their children.

The Indian government introduced "Sarva Shiksha Abhiyan" (SSA) which means Universal Elementary Education. Under this scheme, the government aimed to provide free and inclusive education to all children by the target date of 2010. It wants to ensure that all children irrespective of gender, disability and class can take advantage of the Indian education system. However, many individuals have asserted that more needs to be
done by way of implementation of the SSA and there are many challenges in transferring this philosophy to the field. Although the Indian government supports inclusive education, there is a concern that most schools are not equipped to support children with special needs. The classroom sizes are often quite large with at least 40-50 children per class. There is limited awareness about learning disabilities among teachers, parents and the general public. Most teacher training programs do not address the topic of learning disabilities adequately. Also, many schools do not have enough counselors or special educators to support the needs of all children. Thus, very few schools are truly inclusive. It ultimately depends upon the schools' willingness and capability to provide services and support.

There is very little research related to ADHD in India. Apart from a few studies on the prevalence of ADHD in India, no research was found on the perceptions, diagnosis and treatment of ADHD in India. This is surprising because one study has reported a prevalence rate of 29.2% among children in the age group of 11-12 years in India (Bhatia, Nigam, Bohra, & Malik, 1991). Given this high reported rate, more discourse on it at least in the Indian professional and research literature was expected. However, very few published studies relating to ADHD in India were found.

The oldest study that could be found was published in the year 1982 and was conducted in primary schools in New Delhi (Chawla, Sahasi, Sundaram, & Mehta, 1982). The aim of the study was to identify hyperactive children in the primary school population and do a medico-psycho-social history and psychometric evaluation in order
to establish aetiology. The sample consisted of 10 teachers from public and government schools who were given a checklist of 16 behaviours all of which were considered by the authors to be representative of hyperactive behaviour. These 16 behaviours were: excitable, quarrelsome, destructive, easily irritable, intelligent but poor in studies, refusal to follow teachers' instructions, irregular attendance in school, plays too much in the class, hums tunes or makes odd noises, plays with objects in class, comes to school in clean clothes but spoils his dress, disturbs/interferes with other children and complains of vomiting or giddiness in school. Ten teachers reported on a total of 2160 children in their schools. Children displaying eight or more symptoms were regarded as hyperactive and were studied in greater detail by obtaining family histories and psychometric testing.

Out of the 2160 children, 101 had a score of 8 or above and were regarded hyperactive, which was a prevalence rate of 4.7%. The boy to girl prevalence ratio was 4.47 : 1. There were no significant differences in the prevalence rates of hyperactivity in boys, between public and government schools. For girls, public schools had a significantly higher prevalence rate than government schools. Eighty-five out of the 101 children and their families underwent further testing. The authors reported that the fathers' occupation was significantly related to hyperactivity in boys, with it being more common in labourers or businessmen. The authors attributed this to child rearing practices "especially to the evaluation of the importance and role of academic education by different occupation strata in the achievement of life goals". Another conclusion of this study was that the occurrence of psychopathology in the psychosocial environment of these children was not common.
Another study in New Delhi (Bhatia et al., 1991) was conducted between 1985 and 1988 in a paediatric outpatient department of a public hospital. One thousand children aged 3 to 12 years were screened for Attention Deficit Disorder with Hyperactivity (ADDH) as described in DSM-III. Out of the 1000 children, 112 met the criteria for ADDH. It was not clear what screening measure was used to initially select the 112 cases and diagnose the disorder. A comparison group of 112 children were randomly selected from paediatric outpatients. Children with ADDH, the comparison group, and one parent were interviewed in detail. A number of psychological tests including intelligence and cognitive tests were administered to the children. Parents were asked to complete the parent form of the Conner’s Rating Scale (Conner’s, 1973). The rate of ADHD was found to increase with age from 5.2% in those aged 3-4 years, up to 29.2% in those aged 11-12 years. There were four times as many boys as girls with ADDH. On the Conner’s parent rating scale, the ADDH group had higher total scores than the comparison group. The ADDH and comparison group were compared on biological and psychosocial factors. Children with ADDH had a higher rate of complications during pregnancy and delivery. In addition, delayed development, temper tantrums, enuresis, tics, broken homes, persistent parental discord and psychiatric illness in parents were all more common in children with ADDH than in the comparison group. ADDH was also more common in children belonging to a lower class. The authors called for clinicians to be aware of these factors and consider multiple diagnoses rather than ADDH alone.

Another study similarly found a high prevalence rate of ADHD among paediatric outpatients in Delhi (Bhatia, Choudhary, & Sidana, 1999). Children attending Outpatient
Psychiatry Clinics were screened for ADHD as per the DSM-IV criteria. Of the 362 children attending the outpatient clinic, 64 were found to have ADHD (17.7%). The prevalence of ADHD was found to increase with age, 31.7% in the ages of 9 to 10 compared to 34.3% in the ages of 11-12 years. ADHD was also more common in children belonging to a lower class and there was a higher incidence of family problems in the homes of children with ADHD.

Malhi and Singhi (2000) screened children referred for psychosocial evaluation by the Department of Paediatrics of a tertiary care hospital in Chandigarh, India. Out of the 245 children, 20 were found to meet the DSM IV criteria for ADHD (prevalence rate reported to be 8%). Their intelligence and social maturity was measured using various tests. In addition, parents completed the Conners Parent Rating Scale and school teachers completed the Conners Teacher Rating Scale. The mean age of children with ADHD was 6 years and 8 months and the mean IQ was 85. There was a boy to girl ratio of 5:1. Ten children met the criteria for the hyperactive subtype, 7 were primarily inattentive, 3 met the criteria for the combined subtype. Sixty percent of children with ADHD were reported to have academic difficulties with 20 percent having repeated a class. A higher proportion of ADHD-AD had repeated a class as compared to the hyperactive or combined subtype. Three fourth of the children (especially ADHD-CT and HI) were reported to have peer difficulties like being rejected, not being liked, not having a single good friend. The authors concluded that ADHD was a highly prevalent psychiatric disorder of childhood associated with clinically significant impairment which needed to be assessed thoroughly.
The most recent study of ADHD in India was conducted by Wilcox, Washburn and Patel (2007) in the western city of Goa. This was a qualitative study that involved in-depth interviewing of 24 parents of children diagnosed with ADHD, and analysing the explanatory models of ADHD employed by these parents. Children with ADHD had been diagnosed at a community based Child Development Centre (CDC) in Goa. Most families were from middle to higher class socio-economic background. The researchers conducted semi-structured interviews and covered topics such as socio-demographic information about the family; explanatory models for the child's problem; nature, onset and effects of the problem; help seeking behaviour and coping mechanisms; how parents explanatory models changed as they interacted with doctors, teachers and other people and how they viewed the effectiveness of these interactions. The data was analysed using qualitative methodology.

Wilcox et al. (2007) obtained a number of results from these interviews. Firstly, despite the CDC which the parents had consulted and received a diagnosis of ADHD from, utilized a biomedical model, very few parents accepted the label ADHD or the notion that their child had an illness. These parents recognized that their child had a problem and reported significant adverse impact of the child's behaviour but were reluctant to accept a bio-medical explanatory model. Secondly, the research found that parents were resistant to treating their children with medicines but were more likely to pursue educational and religious treatments. Thirdly, the parents consulted the CGC (which was a bio medical specialist agency) as a last step, preferring to consult other professionals, lay advisors or experts. Fourthly, parents in this sample were more concerned about the educational problems of their children, rather than the specific
symptoms of ADHD. Fifthly, parents reported a decrease in blame of the child and self-blame as they interacted with the CDC. The authors offered a few implications of these results. They suggested that practitioners needed to find interventions that were both effective and acceptable, and target behaviours that had the most salience for parents for example educational performance. In addition, it was suggested that outreach programs should be aware that parents were unlikely to consult physicians directly for their child’s behavioural problems, and hence the school needed to be the primary referral source to the CDC. Decrease in blame of the child as a focus of treatment by mental health practitioners in India was also suggested.

These were the only studies that could be found after a lengthy and systematic search using Medline, Psychinfo and Indian sources. A few of these studies have reported high prevalence rates. However, most of these studies, except two, have used clinic populations and determined the prevalence rates based on the number of children who met the criteria for ADHD, out of the number of children who were referred. Hence, the prevalence rates these studies describe are of ADHD among children attending Paediatrics or Psychiatry outpatient departments and not in the community or in classrooms. Unlike a lot of other countries, ADHD is not highly debated in the Indian media or in the government. The high prevalence rates reported by some in the literature are not reflected in the public discourse about ADHD. A lot of unanswered questions remain in relation to ADHD in India.
This thesis set out to answer some of the many questions that can be raised about ADHD in the Indian subcontinent. It presents two studies, the first of which is a pilot study. Since so little was known or could be learnt directly from research, the pilot study was developed in order to provide an initial picture of the school and mental health context. It explores broad aspects related to ADHD like its awareness, recognition, assessment and treatment. The second study specifically focuses on teachers and examines their experiences with children with ADHD in their classrooms.
CHAPTER 2:
OVERVIEW OF ADHD IN INDIA

2.1 Introduction

Very little is written about ADHD in India, except for three clinic based, one school based and one community based study (Chawla et al., 1982; Bhatia et al., 1991; Bhatia et al., 1999; Malhi et al., 2000; Wilcox et al., 2007). The clinic studies were based on how children presented themselves in psychiatric clinics, and in most studies parent reports were used. Two of these (Bhatia et al., 1991; Bhatia et al., 1999) reported higher prevalence rates than what has been reported in some other countries. The school based study (Chawla et al., 1982) was conducted in the early 1980s and did not offer information about whether and how children with ADHD were identified, assessed and what treatments were used. The most recent study by Wilcox et al. (2007) suggested that parents resisted bio-medical explanatory models of their child’s ADHD and preferred educational or religious interventions. They suggested that the school needed to be the point of referral to clinics or Child Development Centres. This being the case, there were no studies either on how ADHD was being managed in schools or whether teachers were aware and knowledgeable about the condition.

Given that so little has been written about this topic, it was decided that a pilot study would be conducted to gain an overview of ADHD in India. This would involve interviewing relevant people both in and outside the school system who could comment on a range of pertinent issues related to ADHD in India, because of their direct or indirect involvement with children. An ecological perspective (Broffenbrenner, 1979) was taken
in selecting these stakeholders. Thus, mental health professionals, teachers, school
counselors, school principals and parents of children with ADHD were considered key
people who should be interviewed. These five groups of people can influence outcomes
for these children, either directly or indirectly. In addition, a good assessment and
intervention for ADHD should involve these five groups of people, to a lesser or greater
degree. Having them discuss assessment, intervention and other issues would provide an
understanding of whether and how children are identified, diagnosed and the type of
interventions that are used both within and outside the school.

It was decided that in order to obtain an overview of ADHD in India, the pilot study
would cast a wider net by asking broad questions in different areas. The main aims of the
study were as follows:

1. To explore awareness about ADHD in Indian schools, particularly among
teachers.
2. To understand how children with ADHD are identified, assessed and diagnosed.
3. To research the interventions (pharmacological and psychological) used for
ADHD by professionals, in and outside the school.
4. To explore the involvement of different people in the implementation of
interventions, and the liaison between them.
5. To understand the experiences and challenges faced by different stakeholders in
the process of assessment and intervention, as well as their opinions of what needs
to be done to support children with ADHD and their families better.
2.2 Methodology

The approval for the research project was sought from the Ethics Committee of the Australian National University. After the approval was granted, schools in New Delhi were contacted inviting principals, teachers and counselors to participate in the study. The schools chosen for this study were English speaking, public and private schools, which catered to the middle and higher socio-economic classes. Psychiatrists, psychologists and special educators in New Delhi were also contacted directly or by mail inviting them to participate in the research. The data was obtained through face to face interviews. As an Indian citizen, the author did not require permission or approval from any committee or agency prior to data collection.

The research participation was discussed in detail with all subjects. Prior to obtaining consent, doubts or concerns about the study were clarified. The interviews were recorded using an audio recorder. The interviews took from about 45 minutes to an hour to complete and most participants offered to be interviewed only once due to time constraints. The recorder was brought back to the School of Psychology, at the Australian National University and stored in a locked cabinet, in accordance with the requirements of The Ethics Committee. This was followed by transcription and qualitative analysis.

2.2.1 Description of the Sample

The sample consisted of five broad categories of people: teachers, mental health professionals, school counselors, principals and parents of children with ADHD. These people were chosen because their work requires them to be involved at some level with children with ADHD. The involvement can be direct, as in the case of teachers, or more
indirect, as in the case of school principals. Thus, directly or indirectly, these five categories of people can or actually do impact on children with ADHD, by way of their activities or scope of work.

Following is a brief description of the professionals in each category:

1) *Teachers*: Seven teachers were approached out of which six (who will be labelled as T1 to T6 in the results) participated in the interviews. All six belonged to different schools in New Delhi. The mean number of years of teaching experience was 15 years. All participating teachers were female.

2) *School Counselors*: Five school counselors were approached out of which four counselors (C1 to C4) agreed to participate in the research. All four counselors were female, and from different schools in New Delhi. The number of years of counseling experience was 2, 5, 6 and 23 years respectively.

3) *School Principals*: Eight school principals in New Delhi were approached out of which three principals (P1 to P3) agreed to take part in the interview. Two were female and one male. The mean length of working experience was 12 years.

4) *Mental Health Professionals*: Five mental health professionals (M1 to M5) from New Delhi were approached, all of whom participated in the interview. There was one male and four females. This category included one psychiatrist, three psychologists and one special educator. The mean number of years of working experience was 17 years.

5) *Parent*: Five parents of children with ADHD were approached out of which only one parent (mother) was prepared to be interviewed. The details of the parents were obtained from mental health professionals, who had indicated that
most parents would not be willing to participate in the study. Issues of stigma, labeling and acceptance were brought up regularly by most stakeholders in the interviews. These might have influenced the low rates of participation by parents. The parent who agreed to be interviewed was a teacher in a private school in Delhi. She had a young son who had a diagnosis of ADHD provided by a mental health professional in New Delhi. The mother reported a long struggle with the acceptance of her son’s ADHD and said that she was at the stage where she had come to terms with it.

2.2.2. Description of Interviews

The interviews were semi-structured and open ended in nature. All interviews were conducted in English. All the participants were asked similar questions although they varied depending on the profession of the interviewee. Questions focused on a variety of topics:

1) Knowledge and Awareness about ADHD: One of the first areas of inquiry was to explore if teachers were aware and knowledgeable about ADHD and what their sources of information on the topic were e.g. media or teacher training or journals etc. As a first step, if teachers demonstrated awareness about ADHD, it would provide an initial indication of whether schools were recognizing this childhood condition or were at least aware of it. Mental health professionals (MHPs) and school counselors were asked to discuss their experiences and opinions of whether schools were aware and sensitized about ADHD, to recognize and refer children for assessments.
2) *Assessment and Diagnosis of ADHD:* The next step was to explore how ADHD was actually diagnosed. The areas of inquiry were referral patterns for ADHD, professionals who were involved in assessments (for example paediatricians, school counselors, psychologists, psychiatrists or special educators), what tools or methods were used (e.g. rating scales, diagnostic tests, classroom observation, home visits etc.) and who were called upon for inputs before making a diagnosis (e.g. school teacher or parent). Another question was also the extent of feedback about the diagnosis provided by MHPs or counselors to teachers and parents.

3) *Intervention for ADHD:* The interviews sought to explore what interventions were in use for children with ADHD in India. The interviews explored which interventions (including medication) MHPs offered for children with ADHD, whether they liaised with schools for these or offered treatment in their set-up only. Similarly, school counselors were asked about interventions (including type, frequency, follow-up, evaluation of efficacy) and the extent of teacher, parent or MHP involvement in the process. Similar questions were asked from teachers to gauge what strategies they were provided with, and how they were actually dealing with children with ADHD in their classes. In this manner, perspectives of different stakeholders were sought to examine whether interventions suggested by different people were actually being followed through in the school setting, especially in classrooms. School principals were also asked about the services available for children with ADHD in their school. The parent was asked to
describe her experiences of interventions for her son, both within and outside the school.

4) **Liaison between different stakeholders:** A few questions focussed on liaison between different people in the assessment and intervention process. It could be expected that adequate diagnosis and management of children with ADHD would require at least four of the stakeholders (MHP, counselor, teacher and parent) to co-ordinate or follow-up with each other. Whether this was actually the case and on whom the responsibility for liaison rested, was asked of each of the four categories of persons. Well developed referral and intervention systems can be expected to have policies and procedures for communication and co-ordination. Questions on liaison were included to gain an impression about how well developed or well co-ordinated these systems were in and outside the schools.

5) **Challenges in the process of Assessment and Intervention:** Each interviewee was asked to describe the challenges (if any) s/he faced in relation to children with ADHD and their diagnosis or management. A reason for asking about challenges was to give an opportunity to interviewees to talk about what obstacles (if any) they faced and what needed to be done to better support children with ADHD. Directly asking about challenges would also provide an opportunity to talk about issues that might not otherwise come up in other discussions about awareness, diagnosis and intervention for ADHD.
The questions were not always phrased exactly the same, even within a particular
category. This allowed for greater flexibility and opportunities for the interviewee to
respond in detail. This also allowed the interviewer to respond to the participants and
tailor subsequent questions to the information provided. Effort was made to be responsive
to the information that was being elicited by the interviewee and to maintain a good
dialogue. At the same time, it was made sure that the above five topics were covered in
sufficient detail during the interview. For some interviewees, this was a sensitive topic
and effort was made to maintain rapport and be empathic. This interview method as much
as possible gives control of the interview to participants to maximize their investment in
the process by allowing them to tell their story (Patton, 1980). It also has the potential of
minimizing social desirability bias and retrieving maximally valid data (Gilchrist, 1992).

2.2.3. Transcription and Analysis of Interviews

Each interview was audio taped and later transcribed by the researcher. Each
transcript was read and reread a number of times for the purpose of conducting a content
analysis. Firstly, the views and experiences of each category of persons were examined,
coded and analysed. Passages in the transcripts were manually coded according to the
broad areas relating to ADHD in India (awareness, diagnosis, intervention, liaison and
challenges) and according to recurrent themes that emerged. The experiences of each
category of persons were compared with the other categories of stakeholders. Recurrent
themes and commonalities as well as differences and contradictions were analysed using
phenomenological strategies (Creswell, 1998; Morse & Richards, 2002).
2.3 Findings of the Study

The results will be described in the following order. The first two sections will describe the awareness of, recognition, assessments and diagnosis of ADHD. The next two sections will look at medication and other interventions for ADHD. The last section will describe what interviewees felt needed to be done to support children with ADHD better.

2.3.1 Awareness of ADHD

The study initially set out to investigate knowledge and awareness about ADHD in schools. Teachers were asked questions that gauged their awareness and understanding of ADHD. Mental health professionals and school counselors were also asked about their opinions of the extent of awareness of childhood conditions like ADHD in Indian schools.

Most teachers, except one reported that they had heard about ADHD. On a scale of 0 to 100 (where 0 = do not have any knowledge about ADHD and 100 = very knowledgeable about ADHD) on an average, teachers felt their knowledge of ADHD was about one-third of what they should know (32.5). Most of the teachers said that they had heard about the condition from attending workshops conducted or arranged by counselors in their schools. None of them reported being taught about ADHD in their teacher training. When asked what might be the causes of ADHD, three teachers reported that it “might” be genetic or because of pollution or eating habits. None of these three teachers were very certain of the causes. Two teachers reported not knowing about the causes.
One of these teachers reported that she had not heard about ADHD. The other reported that since the school counselors were the only ones handling these children, they were "tackling the causes". One teacher put ADHD down to the child's upbringing, with working parents not spending enough time with children, not allowing them to socialize and children thus having no outlet for their excessive energy. When asked about their understanding of what a child with ADHD was like, teachers reported that children with ADHD had difficulties with concentration, attention and completing tasks; got distracted easily, were not able to follow instructions, would fidget and not sit for a long time. Symptoms of inattention were more commonly reported than symptoms of hyperactivity.

School counselors were asked about the level of awareness of ADHD among teachers in their schools. Most reported that teachers were becoming more aware of ADHD and other conditions because of counselors and mental health professionals organizing workshops about childhood disorders in schools. As a result, teachers were reported to be referring children more often, which they would have previously labelled as naughty or lazy or dumb. It was also reported that with more awareness, there was a tendency to label many overactive children as hyperactive and thus having ADHD. Academic problems in general, were reported to be the most common reason for referral to a counselor. Counselors reported that children who performed poorly in tests or exams would be more likely to be referred than those who performed averagely or well in academics. This was attributed by some counselors to an emphasis on academic achievement in the Indian schools.
Mental health professionals were asked if ADHD was adequately diagnosed, under-diagnosed or over-diagnosed in Indian schools. All mental health professionals said that it was under-diagnosed because of a lack of awareness and understanding, both from the schools and parents. They reported that children with ADHD were often labelled by schools as naughty, lazy or their upbringing blamed because of not recognizing or diagnosing the condition. Another reason mentioned for the under-diagnosis was parents’ lack of awareness and acceptance which made parents hesitant to either seek a diagnosis or share it with the school. Two professionals said that there was over-diagnosis as well, because, with growing awareness, schools were labelling very active children as hyperactive and referring them for assessments. However, most felt that it was largely under-diagnosed but, with growing awareness, more children were being diagnosed than was the case before. The opinions of counsellors and mental health professionals appeared to be similar with respect to awareness and recognition of ADHD in Indian schools.

2.3.2 Assessment for ADHD

The study aimed to explore the kinds of assessments conducted for the diagnosis of ADHD in India. It was of interest to know who conducted the assessments, what methods were used for this purpose and who was involved in the process of assessment and feedback. Professionals inside and outside the school system were asked about their extent of involvement in the assessment as well as what it entailed. They were also asked about the feedback from the assessment, including who it was shared with. In addition, challenges encountered in the process of assessment were explored.
**MHP's Assessments:** Mental health professionals (MHPs) outside the school system appeared most often called upon by parents and school counselors for the assessment of ADHD. This involved psychological testing within their setup and usually entailed an assessment of the child's IQ. In addition, the Conners rating scale (Conners, 1989) was used by all five MHPs for the diagnosis of ADHD. They reported that they obtained information from the parent and teacher for this purpose. They reported that teachers were sent the Conners rating scale to fill out. Neither school nor home visits for the purpose of assessment were reported by mental health professionals except by one who said that only when information obtained was inadequate to make a diagnosis, was a school visit conducted.

**School Counselors Assessments:** School counselors were also involved in assessments for ADHD. Teachers often referred children to school counselors if they were concerned about them. All counselors reported doing an informal assessment but referring the parent to an outside mental health professional for an official diagnosis of ADHD for their child. There were three main reasons reported for this. Firstly, parents tended to be more satisfied with an objective, third party assessment. Secondly, The Board of Education (which conducts national level exams for grade 10 and 12) allowed concessions only if assessments were from government recognized child guidance centres. Thirdly, some counselors reported not being qualified to make a diagnosis of ADHD. Although none of the four school counselors reported doing a formal assessment, they played a key role in encouraging parents to get their child assessed. The informal assessments conducted by counselors entailed using checklists of symptoms,
speaking to and observing the child in the counselors' room as well as obtaining information from the teachers. Classroom observation to assess the severity was mentioned by three out of four counselors. When asked about the extent of feedback provided to teachers, three counselors reported that they shared the recommendations and diagnosis with the concerned teachers. One counselor did not provide any feedback to teachers.

_Teachers Involvement in Assessment and Feedback:_ Teachers were asked about the extent to which they were involved in the assessment process by school counselors, mental health professionals or parents. Interestingly, none of the six teachers reported an outside mental health professional contacting them for input regarding any child in their class. While most teachers reported being kept in the loop by the school counselor in so far as their own input into the assessment process was concerned, only two teachers (T2, T5) reported being given detailed feedback about the diagnosis. One teacher (T3) did not have any counselors in her school and said that she did not know about ADHD nor had she come across such children in her 15 years of teaching experience. Two teachers (T1, T4) said that feedback was not detailed and in many cases they were not made fully aware about the condition of the child. One (T6) teacher reported that the school counselor would not tell them about the exact diagnosis because teachers did not know about ADHD and might inappropriately label the child.

_Challenges in Assessment and Diagnosis of ADHD:_ Fear of labelling, stigma and non-acceptance were recurrent themes, particularly when counselors and mental health
professionals discussed the challenges they encountered in the process of assessment. One mental health professional (M1) reported that families often came to him for assessment and management as a last resort, when they had been given an ultimatum by the school or when things had reached boiling point and they could not cope anymore. A key challenge reported by counselors was that in many cases parents had to be pushed to get their children assessed:

_Counselor (C1): "Continuously I am meeting them (parents) and I am trying to show them the results, where the child is placed. I'm not directly conveying the symptoms but I am trying to convey to the parents about the practical performance of the child. One parent said she would get him assessed but she has not appeared after that. She still has to come back. Let us see." _

_Counselor (C2): "It is a huge challenge. A child is now in class 11 or 12 and it was only in class 10 that he was ready for assessment. This is when I told the mother that the kid needs extra time to complete his three hour paper. If you don't get him assessed there is no provision for exemption of time otherwise. We have lost on all that and it is a challenge. Mum kept saying it's his eyes, it's his eyes." _

These two counselors reported feeling frustrated at the time lost in obtaining a diagnosis and subsequently being unable to initiate timely interventions for these children. Another related challenge was that parents did not always inform schools about their child's diagnosis, which appeared to be related to the theme of labelling.
Teacher (T6): “The schools are not involved. We don’t even know about it. If the parent is contacting a psychologist he will never bring it to the notice of the teacher because as I told you, in India, the children are labelled. Psychiatrist means the child is abnormal, and no parent wants the child to be labelled.”

It appeared that not only some parents but even one counselor and one MHP (although this MHP was not interviewed by the researcher but was reported on by the parent) were concerned about the child being labelled:

Counselor (C3): “We don’t believe in labelling. Nor do the teachers. We just say that the child is more energetic. So we need to see how we can lessen or reduce the energy. We don’t tell the child about the diagnosis either. It would demoralize the child as we want his well being. We don’t want the child to lose his self esteem and confidence”

Parent: “You see what had happened was that even after my son had been diagnosed, the MHP refused to give me a report for a very long time. Very strange. When I asked them, it is such a strange thing that they said, that ‘what is mistakenly ADHD, could also not be that’. I don’t know what played behind their telling me. They said ‘are you sure it wont label your child?’ I said – label? I firstly don’t belong to that school of thought that I think it is a taboo subject and you know he is not a drug addict or any such thing. It is a condition, where is the problem? I need to see the way forward now. They were very lackadaisical in giving me the reports and it went on for over one or two months. I lost a lot of precious time. Because how can I go to the principal and talk to
her? She is not going to entertain me without a proper record of what is supporting my cause.”

The parent reported the diagnosis helped them in getting back to her son’s school and eliciting support and concessions for her son. She reported that while previously he was misunderstood and punished, with the help of the assessment report, she was able to get the school to understand his condition and provide support. She also reported that it was a struggle for her to make them understand and bring about some changes and she had to take it upon herself, without much outside help.

Thus, it appeared that assessments for ADHD were mostly carried out by mental health professionals outside of the school system. These assessments appeared to be helpful in starting the process of obtaining support in some schools and hence parents were encouraged by counselors to get their children assessed. However, as many counselors and MHPs reported, some parents were reluctant to get their children assessed thereby losing time or did not always get back to the school with the reports because of non-acceptance or fear of stigmatization. This fear appeared to be shared by counselors and MHPs in a few cases.

2.3.3 Medication

The study set out to explore if and how medication was used as treatment for ADHD in India. Medication for ADHD is sometimes the first line of treatment and is commonly used in many Western countries. It was of interest to know if this was the case in India as well. The interviewees were asked a range of questions about medication for
ADHD. These included their preference for medication as a treatment option, whether they recommended it to parents and the attitude of parents towards this line of treatment.

MHPs differed in their opinions about medication as a treatment option. Three MHPs regarded medication to be the first line of treatment for ADHD, along with psychological therapy. Two MHPs reported that medication was never the first line of treatment. These two MHPs also recommended medication for severe ADHD and not mild to moderate cases:

*Mental Health Professional (M4): "When the hyperactivity is just too high, and severity is there and impulsivity is very high, so much so that there is lot of aggressive behaviour and hitting the other children in the class room centre, then we look into the medication aspects, but that comes as a last resort."

School counselors appeared to be less likely than mental health professionals to recommend a psychiatric evaluation for medication, with many either ambivalent about it or reporting that the call for medication was best left to the parent or the outside professional. School teachers either were not aware of medication as a treatment option for ADHD or reported not knowing enough about its benefits or hazards to have any opinion about it.

Nearly all of the mental health professionals reported that parents were unwilling to medicate their children for ADHD. In fact, this was one of the commonly reported challenges faced by professionals in dealing with families. A few reasons that
professionals cited for the negative attitude families held toward medication were that parents tended to go for other lines of treatment like psychotherapy, homeopathy or ayurveda, which were thought to have fewer side effects than western medication. Another reason reported was the fact that the medication had to be given for a long period of time and there were concerns that it would lead to lasting damage. These concerns were also confirmed by the parent who spoke about her hesitation in relation to medicating her son for ADHD:

Parent: “They were asking me to explore using medicines. But I had a lot of inhibitions in doing that. Then I consulted one or two other people who were specialists in this field. The doctors told me that the medicines will help his attention span. I thought there are lots of adverse effects – I had studied on this – you know e.g. nausea, unsettling stomach, and sleeplessness. He has already got some of those problems – he has a very bad constitution and stomach infection that he is already prone to. He has digestion problems; he is very thin – I don’t want to cause more havoc inside his system. So I am not going to be using medication for ADHD. I spoke to an educator from the UK. I asked him about the pros and cons. And he said no; once you give him medication, it has to be for life, because essentially what we are doing is getting the system used to that particular combination. It has to be constantly in your blood stream because all the neuro-transmitters in your blood stream begin to work based on the chemical we are giving. I don’t want to do that.”
All MHPs reported that in spite of these parental attitudes, they shared their opinions about the efficacy of medication with parents. If parents were opposed to it, most of them said they did not push parents. They subsequently asked parents to try medication alongside their (parents’) preferred mode of treatment. Or, after a few months of psychological or other forms of treatment, if there was no significant improvement, then parents were encouraged by MHPs to try the option of medication.

To conclude, it appeared that medication was not a commonly utilized treatment for ADHD because of resistance to it from Indian parents. Most professionals were aware of this and hence did not actively advocate for it.

2.3.4 Other Interventions for ADHD

The study further explored other kinds of interventions utilized for ADHD. The interviewees were asked about the type of intervention they employed for the child with ADHD and who were involved it. They were questioned about the challenges they encountered in implementing interventions and how satisfied they were with its delivery.

*Interventions offered by MHPs:* There was a broad range of interventions offered by MHPs for ADHD. One mental health professional’s (MHP) intervention focused on activities that worked on the attention span of the child (M4). Another (M1) worked in a multidisciplinary team with psychiatrists, occupational therapists, speech therapists, special educators, psychologists and claimed to tailor the intervention to the needs of the child. One MHP (M5) liaised with a neurologist or paediatric psychiatrist for medication
if ADHD was moderate to severe. She described intervention at her level as behaviour therapy, providing strategies to the parent and child regarding management of routine, diet, social and organizational skills. She also gave recommendations to teachers regarding the placement of the child in the class, breaks and reported regularly liaising with the school. One MHP (M3) ran a special education centre where children received one to one instruction in special education methods. Children came to the centre after classes in the regular school. She also reported liaising with psychiatrists for medication and liaising with schools for the purpose of sensitizing teachers, requesting accommodations and concessions. Another MHP (M2) was primarily involved in psychodiagnostics which in the case of ADHD involved conducting assessments and providing recommendations to teachers. These were included as a part of the assessment report and not offered in direct liaison with the teacher. She also reported referring the child for a psychiatric evaluation for medication if needed.

*School Counselors Interventions:* School counselors were similarly asked about interventions employed by them. Interventions offered by school counselors to parents entailed telling them to have a set routine for the child and encouraging them to teach their children socially desirable and appropriate behaviour. Diet monitoring was recommended by one counselor (C3) who said that ADHD was also related to the consumption of high energy foods. It is worth noting that none of the counselors liaised with outside professionals with regard to interventions.

Counselors’ intervention with the child entailed providing them with activities to enhance attention span, teaching them exam writing skills, assigning a “buddy” to them
who could help them out and "confidence building". Accommodations and concessions provided to children included giving them extra time to complete tests, giving them frequent breaks, lesser written work, easier examination papers and providing them with writers and photocopies of their peers' work. These concessions were negotiated with teachers and depended on the willingness and permission of the headmistress or principal. Special educators worked closely with children in schools where there were teams of special educators or a separate learning centre. However, this was not very common as only two out of the four schools (to which the counselors belonged) had a special educator. Of these, in one school, special educators only worked with children with low IQ and not ADHD. Some interventions commonly used by counselors involving teachers were sensitizing them about ADHD, asking them to permit free movement of the child, encouraging teachers to be patient, praise, reward, encourage and not punish the child.

*Teachers' Classroom Interventions*: Teachers differed widely in the intervention strategies they employed. One teacher (T6) said that she did not have any involvement in the intervention nor was she informed about the diagnosis and the child was "tackled in confidence" by the counselor. One teacher (T3) said that there was no counselor in her school and reported using a strict, loud voice to handle disruptive or inattentive children and asking parents to "take control" of their child. She said that at times these children would have to repeat a grade. Another teacher (T2) reported that the counselor played a role in sensitizing them about the child's problem and encouraged teachers to be more gentle and tolerant of the child. Another strategy also told to this teacher was to
encourage other children in the class to be more charitable towards the child with ADHD. One teacher (T4) reported that she had been told by the counselor to encourage the child, give golden stars for good behaviour and responsibilities in the class. She also mentioned that children were seen by the counselor, but was not aware of what the counselor was doing with them. One teacher (T1) reported that she had not been provided with any strategies and said that there was no support or feedback by the counselor, who handled the child and parents on her own. One teacher (T5) reported that in her school, Individual Education Plans (IEPs) were in place for identified children with learning disabilities. Once identified, the children went to special educators for their classes but remained in the mainstream for other activities. This teacher was encouraged to give individual attention to the child, repeat instructions and allow the child to walk in the class. She reported that she felt supported by the counselor in terms of management and feedback.

Challenges in Intervention Implementation: A few school counselors reported not being fully supported by teachers in implementing interventions for children with ADHD. Some mentioned that teachers took a long time to understand the condition. In addition, they reported that teachers were hesitant to offer concessions to students with ADHD because they felt that the children were not rightfully deserving of it or would take advantage:

Counselor (C1): “It takes time because nothing is visible clearly when we talk about ADHD. Teachers take a lot of time to understand. They may feel that the child is probably moody. (Teachers think) Only when he wants, then he will study. They feel that
the child takes part in games and activities. Teachers and others also feel that if we give too much relaxation to the child, he will take advantage. Gradually, with a lot of dialogue with them and with great effort from us and from parents they start applying (strategies) automatically.

Counselor (C2): “Sometimes the teachers feel that the kid is doing fine. He is just getting away with doing lesser work. That is pretty much the typical ADHD kid. They feel he just does not want to do it. We have ongoing meetings with the teachers to discuss about reducing written work content and increasing the time for work and why are the instructions not being followed. The minute you allow an exemption it works wonders for that kid but the teachers get stressed out. It is an ongoing battle.”

Teachers, on their part reported that they experienced challenges in implementing interventions suggested to them. The most common was the large student numbers in the class which usually ranged from 35 to 50 children. It made providing individual attention to one or two children difficult, with the demands of completing the syllabus and other duties. In this context, one teacher reported that interventions were the counselor's responsibility and teachers were too hard pressed for time to take on duties other than teaching. Another reported that in the absence of follow-up, whether teachers consistently or wholeheartedly applied interventions boiled down to their willingness in wanting to support these children. Teacher hesitation to offer concessions or the child not rightfully deserving of them were recurrent themes when teachers discussed challenges in implementing interventions:
Teacher (T5): "Most children at some level are extremely hyper. If we allow one child to walk around because he is an autistic or he is something, it becomes very hard. If we have one child who gets these breaks because he needs them, there are 29 others who are asking for it. So I guess you have to deal with it at that point and say you cannot."

Teacher (T2): "We tend to be a little more tolerant and encourage the child about their good work but we cannot encourage too much as other children will stop doing work. So you have to be very clear how you are praising the child, whether on one to one basis or in front of the class."

Teacher (T5): "I sometimes feel that we end up mollycoddling a lot of these children and they are never pushed to do any of the things that they should rightfully do. I think that gentle and constant reminders and different means of doing it will reach them at some level and they will come out of it and come around. So that would be my expectation. I don't want to live with this that I will need to remind the child always. I would want to remind him a couple of times and at some level I would like him to do it as well."

Other challenges in intervention related to the amount of responsibility held by school counselors. All the counselors in this study worked in big schools and were responsible for primary, middle and high school. Most of them were the only counselor employed by the school and had other duties like taking life skill classes, in addition to their counseling role. They were also key players in terms of maintaining a liaison with
the parent, teacher and at times the mental health professional and special educator. Although they appeared to have an important role in implementing interventions in schools, it seemed questionable if they were able to do a lot. In this context, a teacher reported that the counselor did not follow up with the teachers on whether they were implementing the strategies told to them, and usually assumed they were.

*Parent's Experience of Intervention:* The parent of the child with ADHD reported not being fully satisfied with the support offered by her son’s school. As mentioned previously, the mother reported that having the official diagnosis made it easier for her to gain concessions from her son’s school. However, she reported having to do the groundwork of convincing and explaining to the school principal about her son’s condition before he could gain some concessions. She reported that the school counselor played a major role in sensitizing teachers and “bringing about a change in their thinking process”. In spite of the support offered, the mother felt that her son’s needs were not being fully met and considered shifting him to a school where specialized and individual education methods were in use:

*Parent: “They (current school) have given some concessions. What ideally is done abroad which I know of, is that the child should not be overworked in terms of writing copious amounts of pages and information down on paper. It can be recorded, all that is not done. NO way; it’s not heard of here. The whole way of looking at a situation in a more creative way and seeing what are the other ways of learning, incorporating new learning strategies for these children or teaching strategies for the teachers*
themselves (is not heard of in the current school). They are quite lost with all of that. It is still going all in the same old pattern. So that is the barrier that I will face because the school itself has no background of ADHD at all"

There appear to be a number of conclusions that could be drawn from this section. Mental health professionals, counselors and teachers were involved to a lesser or greater degree in the intervention process. Interventions were in place in some schools for children with ADHD. School counselors or parents (if aware, accepting and determined) played a key role in getting them implemented and liaising with other players, both in and out of the school system. However, the interventions did not appear to be well co-ordinated between different people, with important players like teachers often left to their own devices.

2.3.5 What can be done?

The five groups of people (MHPs, counselors, teachers, principals and parent) were asked what everyone could do to better support children with ADHD. Following are listed the five groups and what everyone suggested could be done by that group to support them or children with ADHD.

Mental Health Professionals: School counselors reported that MHPs needed to lobby with government agencies for services and supports for these children. It was reported that children with ADHD were often labelled dyslexic (because ADHD was not recognized as a disability or disorder by the Board) so that the Central Board of
Education could give them various concessions or exemptions in Grade 10 and 12 examinations. They suggested that MHPs could play a role in making the community and education boards aware of childhood disorders. One MHP reported that professionals outside of the school tended to disconnect after providing the assessment report. She suggested that they needed to explain to parents about the condition in detail and guide them thereafter:

*Mental Health Professional (M5):* "At least discuss with the parent what the condition is, what can be done and how help can be got and guide them. Usually they are not guided. Parents go from pillar to post carrying the diagnosis papers, expecting the school to understand, which the school doesn’t and so I think there is a disconnect. A professional or clinical psychologist sitting in a hospital is giving a diagnosis and he is not even aware of what the school can give or cannot give, whether it has a counselor or not. Who does the parent go to, with that piece of paper? At times when the diagnosis is done, the paper is with the teacher and she just throws it somewhere and it may not land in the right hands. So guidance has to be given. Therefore I feel there is a definite disconnect."

This was also echoed by the parent:

*Parent:* "First and foremost diagnose the problem and maybe give advice and therapy if need be. But active participation would mean that MHPs extend their role beyond just clinical psychology and go out there and actually see what is happening to
these kids. If such extension activities take place there is a lot of progress that many more schools are going to make and so many kids are going to be looked after”

School Counselors: Most mental health professionals reported that in spite of the important role played by school counselors in liaison and intervention, their role was not clearly defined by schools. MHPs reported that counselors often had to take on substitute classes or other responsibilities and hence their role needed to be better defined and targeted:

Mental Health Professional (M1): “School counselors function from the periphery and that is what happens in Indian schools. Often the counselor is not a very powerful entity and they are sent children who are badly behaved and children are often told that if you don’t behave yourself, you will be sent to the counselor. They are seen more and more as a punishment rather than help. Whereas I think the counselor should have a much more potent role right from the management, policy, intervention, awareness building and helping the ongoing process of assessment and management”

The most common suggestion from teachers was that counselors could be in more frequent liaison with them. The parent of the boy with ADHD mentioned that the counselor in the school was her “pillar of strength” and played a big role in sensitizing teachers, making sure accommodations were given and encouraging and supporting her child. She said that the pivotal role that counselors played, needed to be recognized because their importance was often downplayed by teachers. She also said that
counselors could be more accessible if they were not given other responsibilities like teaching.

*Teachers:* MHPs reported that teachers needed to be aware of conditions such as ADHD, and be open and accepting of children with different needs. They also said that it was important for teachers to be open to giving concessions to these children. Two counselors reported that the onus for liaising with parents and counselors was on the teachers. The other two counselors said that teachers needed to be aware and follow recommendations given to them. The parent reported that teachers could focus on strengths of the child, instead of weaknesses all the time. One principal reported that teachers needed to be more inclusive and take more onus for these children, rather than having the counselor or special educator take sole responsibility.

*School Principals:* Most mental health professionals had strong views on what school principals could do. They reported that principals needed to be sensitized about childhood disorders and make sure teachers were aware as well. One MHP said that principals needed to be trained themselves and “not think it is beneath their dignity to sit in a workshop” (M4). Most also reported that principals needed to be inclusion-sensitive and have policies in place that support interventions for children with ADHD and other disorders:

*Mental health Professional (M1):* “Make sure there is enough number of staff who can make a system there. The biggest thing that a principal can do is develop a
system in place. Rather than just employ one counselor who is ineffective, you have to look at the whole system. What do the teachers believe? They need workshops and programs by which they can become aware and pick up children who have difficulties, rather than punishing or admonishing them and calling the parents and blaming them for their behaviour. They can find a method or way to help these children in school. They can make sure that a referral system is in place.”

One counselor (C4) reported that principals could help by putting pressure on teachers to follow recommendations. Another (C1) reported that principals could help by calling professionals to conduct workshops to educate and sensitize teachers. In addition they could allow the counselors to implement interventions. One teacher (T2) reported that if principals could be tolerant towards these children, they would not question or pressurize teachers if the child was not doing well.

Parents: MHPs and counselors reported that parents needed to be consistent in following treatment instructions provided to them. Two counselors reported that parents needed to co-ordinate with MHPs and the school. Teachers reported that parents needed to be in regular contact with them. One principal reported that parents needed to accept that their child had a condition.

Principal (P3): “Parents need to be involved, trust us, we will work out things because I don’t think we can push them, and ask them to learn acceptance, because
acceptance takes time. I would say that be involved with your kids, just support them, and support us. We are willing to do the ground work and need to be supported”

In conclusion, most of the groups had suggestions about how other people in the system could support them or children with ADHD better. Many people in the five groups felt that much more needed to be done. There was also some disagreement between different groups about the issue on whom the onus for liaison and co-ordination rested.
2.4 Discussion

This pilot study was undertaken to gain initial insights and an overview of ADHD in India, which is an under-researched topic. Very little was written, apart from one school based study, on community based study and three other clinic based studies that involved children attending paediatric outpatients departments (Chawla et al., 1982; Bhatia et al., 1991; Bhatia et al., 1999; Malhi et al., 2000; Wilcox, 2007). For the purpose of this research, it was decided that key people would be interviewed about ADHD, including parents, teachers, principals, school counselors and mental health professionals. All of these were thought to be important participants in the children’s ecosystem who could affect them directly or indirectly, by way of what they were doing or not doing. Interviews were open-ended and focused on a number of topics including awareness, referrals, assessment, medication and other interventions for ADHD in India. The discussion that follows will frequently utilize the following terms: teachers, counselors, principals, MHPs and schools. These, for most part will refer to the persons who participated in this study and the schools that they were involved with, and may not generalize to all teachers, counselors, MHPs, principals or schools in New Delhi or India.

2.4.1 Awareness of ADHD

The study initially set out to investigate awareness of ADHD among teachers in Indian schools. The aim was to explore whether teachers were aware and knowledgeable about ADHD and if they could recognize these children in their classrooms. Perspectives of people, both in and outside the school system were analysed.
The impressions gained from the interviews were that teachers in this study were not very knowledgeable about ADHD. Although most teachers had heard about the condition, they were not confident about its causes and often linked ADHD to eating habits, pollution, working parents not spending time with children and children not having an outlet for excessive energy. Very few teachers linked ADHD to genetic causes. Teachers tended to associate symptoms of inattention with ADHD, more often than symptoms of hyperactivity. Thus, although most teachers had heard about ADHD, they had limited knowledge or held misconceptions about its causes. It appeared that the sources of teachers’ knowledge about childhood disorders were workshops in their school. Counselors played a role in educating teachers about ADHD by organizing these.

School counselors and mental health professionals shared the opinion that children with ADHD were largely under-diagnosed and teachers were not knowledgeable, often labelling these children as dumb, lazy or naughty. They also agreed that there was greater awareness of childhood conditions like ADHD in schools at present, than a few years ago. But, with growing awareness many felt that teachers had a tendency to “over-diagnose” and too readily label very active children as hyperactive or having ADHD.

From these initial results, it appears that most teachers are aware about ADHD, but not very knowledgeable. In fact, many hold misconceptions about its causes. This is of concern because symptoms of ADHD are often manifested in the classroom and teachers can play an important role in referring these children for assessments.
teachers believe that family, pollution or eating habits cause ADHD, then they might not see a very big role for psychological or psychiatric assessments and interventions. Thus, if a teacher believes that dietary factors cause ADHD, then s/he might recommend diet modification to parents, rather than refer the child to a counselor. Or, if teachers believe that children will outgrow the condition, then they might not see a role for any intervention. A few studies in different countries have also found that teachers lack knowledge or hold misconceptions about ADHD (Jerome et al, 1994; Sciutto, Terjerson & Bender Frank, 2000; Barbaresi & Olsen, 1998). Lack of teacher knowledge has also been identified as one the greatest obstacles in attending to the needs of children with ADHD (Pfiiffer & Barkley, 1990). Not only can lack of knowledge or misperceptions impact on recognition of these children, but it can also influence attitudes towards intervention. Before turning to interventions, the next section will consider how ADHD is assessed and diagnosed in these Indian schools.

2.4.2 Diagnosis of ADHD

The next step was to research how ADHD was diagnosed in India. How children with ADHD were picked up for assessments, which professionals conducted assessments, the diagnostic tools used for this purpose and who were involved in this process was explored.

It appeared that teachers often referred children to school counselors, who in turn referred parents to MHPs for assessments of their children. Counselors played an important role in encouraging parents to get their children formally assessed. Formal
assessments for ADHD were mostly conducted by professionals outside the school system. This was one of the main roles of the MHP because school counselors reported that they were either not qualified enough to diagnose ADHD or reported that parents preferred to go to MHPs for this purpose. The Conners rating scale was the most commonly reported tool used by MHPs to assess ADHD. IQ testing was also conducted as a part of the assessment. None of the professionals mentioned utilizing the Diagnostic and Statistical Manual of Mental Disorders (DSM) or International Classification of Diseases-10 (ICD-10) criteria for making a diagnosis.

While MHPs were called upon for formal assessments, school counselors often conducted informal assessments of children. They obtained teachers’ inputs for their assessments but did not always provide teachers with detailed feedback about the diagnosis or its implications for the child’s classroom learning or behaviour. Some teachers were informed about this in detail, while others had a vague idea or did not know at all. There appeared to be three reasons for teachers not fully knowing about the child’s condition. Firstly, some parents were reported to not share this information with schools. Secondly, some school counselors or MHPs did not inform teachers because of a fear of labelling. Thirdly, counselors’ heavy responsibilities and lack of time was another reason reported for them not being able to share detailed information with teachers.

There were some factors that pointed to the fact that ADHD might be under-diagnosed or diagnosed late in India. Firstly, teachers often brought children to the notice of the counselor, who in turn initiated the process of assessment. For teachers to start the
process, it would be important that they themselves recognize the signs and symptoms of ADHD. As reported in the previous section, although teachers were aware of ADHD, they were not very knowledgeable about it, which may lead to under-diagnosis. This may be particularly true for children in schools where there are no counselors. Secondly, many parents did not easily accept that their child had a condition or disability, which was the most common challenge reported by interviewees. It appeared that parents had to be pushed by counselors to get their children assessed and often crucial time was lost in the process. These families were reported to go for assessments as a last resort, when the behaviour of the child was destructive and they could not cope anymore, or the schools had given them an ultimatum. This is in agreement with the results obtained by Wilcox et al. (2007) in their study of parents of children with ADHD. Parents in their study agreed that their children had a problem which caused significant distress, but resisted the label ADHD or the notion that their child had an illness.

Acceptance and labelling were recurring themes, including when a parent reported that there was a delay in her receiving the assessment report, with the MHP asking her if her child would be labelled. The fact that a few people including teachers, parents, counselors and MHPs seemed to be treading carefully around labelling would imply that there is a degree of stigma in Indian society about childhood conditions that are psychological or psychiatric. There were some schools in which teachers and principals were sensitized about these conditions, and had services (like learning cells, counselors and special educators) in place and encouraged an atmosphere of openness. However, there were also other schools where this was not the case and there were either
no counselors or special educators, or there were only a few who were hard pressed for
time or did not encourage open discussions about children's psychological or psychiatric
conditions with teachers. This potentially could lead to under-diagnosis in some schools.
The lack of openness may also impact on parents sharing information about their
children's problems or conditions with the schools.

To conclude, the mental health professionals outside of the school system appear
to be commonly called upon for official assessments and diagnosis of ADHD. There is a
strong possibility that ADHD is a condition that is diagnosed late or under-diagnosed for
a number of reasons. These include a lack of awareness, openness and services in some
schools, stigma of mental illness and fear of labelling and parents' struggle with
acceptance.

2.4.3 Medication for ADHD

The interventions employed for the treatment of ADHD in India were explored.
Since medication is an empirically supported and commonly used treatment for ADHD in
many countries, it was investigated if it was used and advocated for, by professionals in
India as well.

Most mental health professionals were in agreement that parents were resistant to
medicating their children for ADHD. It appeared that school counselors were also aware
of these parental attitudes to medication, with most of them reporting that the call to
medicate was best left to the outside professional or the parent. School teachers either
were not aware of medication as a treatment option for ADHD, or reported not knowing
enough about its benefits or hazards to have any opinion about it. Although most MHPs
believed in the efficacy of medication and shared its potential benefits with parents, they did not push them a great deal for medicating their children. In fact, some parents were encouraged to try medication if or when they (parents) felt that other treatments were not working. Some professionals believed that medication was effective for severe cases of ADHD and hence did not recommend it for mild to moderate cases. Parental resistance to medication appeared related to the fact that it had to be given for a long period of time, concerns that it might have significant and lasting side effects and cause damage to the body and the preference for other lines of treatment like homeopathy, ayurveda or psychotherapy.

Research literature has attested to the benefits of medication in reducing the symptoms of ADHD (Barkley, 2006). Stimulants particularly have been reported to improve academic achievement, productivity and accuracy of classwork, attention span, reading comprehension and complex problem solving (Douglas, Barr, O’Neil, & Britton, 1986; Balthazor, Wagner, & Pelham, 1991). Medication is a widely used and in many cases the primary treatment for ADHD (Castle, Aubert, Verbrugge, Khalid, & Epstien, 2007; Safer, Zito & Fine, 1996). There are also debates in some countries that children are being overmedicated. Krain, Kendall and Power (2005) have also reported that despite its efficacy, adults and children find psychosocial treatments more acceptable than medication. The results of the pilot study indicated that medication was not found to be a commonly used treatment for ADHD in India. These results were similar to Wilcox et al, (2007) who found that parents in Goa, India were resistant to medicating their children and preferred educational or religious interventions. This being the case, it
would be important for psychological treatments to be in place and implemented effectively in Indian schools. The next section will look at other interventions that are being utilized for these children.

2.4.4 Other Interventions for ADHD

The study explored the kinds of interventions used for ADHD in India. It was clear from the previous section that medication, which is sometimes a primary treatment in western countries, was not a commonly used or accepted treatment. It was of interest to know which treatments were acceptable and in use, as well as who was involved in the implementation. Another issue was how well the intervention was co-ordinated between different people.

There were a range of interventions offered by mental health professionals (psychologists, psychiatrist and special educator) including special education, medication, family therapy, behaviour therapy, management of diet and routine and attention span enhancement. The major role of the MHPs appeared to be psychodiagnosics. Not all of them went beyond providing a diagnosis or therapy in their setup, to actually liaise with the school. A few MHPs, after making a diagnosis, made sure that their clients were receiving intervention from the school and that school personnel were aware and sensitized about the condition. Others did not extend beyond providing a diagnosis and some recommendations to the school teacher in the report. Liaison also was reported to be dependent on how receptive they felt the school would be to their involvement, and open to interventions in general.
School counselors used a range of interventions which involved teachers, children and parents. Parents were encouraged to have a set routine for their children, monitor their diet and teach them socially desirable behaviour. The use of classroom accommodations and concessions appeared to be quite common, with counselors ensuring that frequent breaks, photocopies of their peers work, writers for exams were provided to children and the child had a classmate or “buddy” that could help with school work. Interventions involving teachers included making them aware of the child’s condition, encouraging them to praise, encourage and not punish the child. While it could be said these aspects of behaviour therapy were utilized, it is questionable if this could be described as a formal intervention. Indeed, when questioned, teachers appeared to be using limited strategies.

There were challenges in implementing the interventions as well. Firstly, many teachers appeared to not willingly or consistently apply strategies suggested to them. Secondly, counselors reported that teachers took a lot of time to understand ADHD and did not willingly give accommodations because they felt that the children were not deserving of it. Thirdly, large student numbers in classrooms made it harder for teachers to take out extra time and resources to cater to one or two children, with so many others to look after, as well as the existence of pressure to complete the syllabus. All this is of concern because children spend most time with mainstream teachers, especially in the case of schools where special educators or learning centres are lacking. To be fair, class sizes in India are large (with 35 to 50 children per class) and teachers do not have a great
deal of exposure or training about ADHD. This might very well affect their treatment compliance. According to Riemers, Wacker, and Koeppl's (1987) model of treatment acceptability, increasing problem and treatment understanding progresses to greater treatment acceptability, compliance, effectiveness and integrity. In the case of these teachers, neither did they have a great deal of understanding about ADHD nor were they even made aware of the condition in some cases. They were also not trained or followed up with regularly, in relation to the intervention. Many in fact, were left to their own devices. It might then follow that the interventions would be questioned or not consistently applied.

At a broader level, the availability and effective implementation of interventions depended heavily on principals' sensitivity, awareness and willingness to support children with ADHD, by investing in resources such as more counselors, special educators and learning cells. Many schools did not have special educators and counselors were few in number and were responsible for all twelve grades (with big student numbers in each class). Most of them had additional responsibilities and it is contentious if they are able to achieve a lot. Consistent with this, a parent of a child with ADHD believed that the support extended by her son's school was limited, and that his needs were not being met because of lack of specialized teaching methods and Individual Education Plans.

It has been asserted that treatment of ADHD must be long term, requiring multimodality, creativity and perseverance (Goldstein & Goldstein, 1998; Rapport,
Most researchers have advocated for the use of stimulant medication with a combination of behaviour therapy and academic interventions. Studies like The Multimodal Treatment Study of Children with Attention Deficit/Hyperactivity Disorder have demonstrated that all three forms of intervention have merit, to varying degrees (MTA Co-operative Group, 1999 and 2004). Most behaviour therapy programs include token economies, response cost, behavioural contracts, time out and home based contingencies (Abramowitz & O’Leary, 1990; Barkley, 1990). Most of these would require active involvement, time and effort from teachers for their successful implementation. Since ADHD is a condition which has been reported to be associated with problematic family interactions, difficult peer relationships, low self-esteem and psychopathology in adulthood, there is a strong rationale for implementing informed, responsible intervention strategies for this disorder in schools (DuPaul, 1991). Despite this, a number of studies have found that ADHD is not being managed well in schools, with teachers lacking knowledge or using strategies not optimal for the management of ADHD (Arcia et al., 2000; Hong, 2008; Kataoka et al., 2004; Ried et al., 1994). Some studies which have taken parental perspectives into account have also found that parents were dissatisfied with the way their children’s ADHD was being managed in schools (Efron et al., 2008). Concannon and Tang (2005) described the amount of behavioural assistance available to the children in schools as “pitifully inadequate”.

The same could be said about these schools in New Delhi. There were indications that complete, co-ordinated and specialized treatments for ADHD were lacking in many schools. Interventions appeared to be in bits and pieces, with limited co-ordination or
follow up. There was also limited follow up on whether interventions were being applied correctly and consistently or any evaluation of their efficacy. Environmental modifications were more commonly utilized and the use of behaviour therapy was limited. Most schools in this study also did not have resources to meet the needs of children with learning disabilities or ADHD. It would be too much to expect one counselor to intervene with the child, parent, and teacher as well as maintain a liaison and follow-up with all of them, including the MHP, and take classes. It is easy to lay the blame on one party or another but at a broader level, the school system, starting from the principal and administration needs to be inclusion-sensitive and have resources in place for these children. Only three schools in this study had policies on how these children would be dealt with. There is much more that needs to be done in terms of early identification and management of these children.

The researcher holds a strong view that identification, diagnosis and intervention for ADHD is important for these children, in spite of recognizing that there is a degree of stigma or denial of mental illness in the Indian society. Naming and diagnosing has been considered validating in some contexts, while in other contexts it has been associated with stigma, alienation, social isolation, shame, suicide and so on. If children with ADHD are not identified and diagnosed, there may be a likelihood of them being labelled inappropriately as naughty, lazy, dumb or rude. Given the academic and social impairments (Barkley, 2006) that have been reported to be associated with this condition, in the researcher’s opinion, not naming and diagnosing could be potentially more damaging than naming, diagnosing and treating. Schools and professionals may differ in
the degree to which they are willing and able to support children with ADHD in India, by way of adequate referral and intervention systems. There are indications that there are some diagnostic and intervention processes for children with ADHD in India. Whether these processes actually translate into children being diagnosed and effectively managed is another issue.

2.4.5 What can be done?

The interviews sought suggestions from each person as to what each of the five groups of people could do to support children with ADHD better. The main suggestions for MHPs were to go beyond their role of psychodiagnosis and be visiting consultants to the school to make sure interventions were in place or advocate for them. Also, with their professional expertise, they could raise awareness about childhood conditions in society and lobby with government agencies for services. The main suggestion for counselors was to liaise more frequently with other “stakeholders”. The need for their role to be better defined and targeted was also suggested, because many people recognized that they were often given responsibilities that cut short time from counseling and liaising. Suggestions for teachers were that they could be more understanding and sensitive towards children with ADHD and be willing to give accommodations and take the onus for children with ADHD. In addition, the need for teachers to liaise was suggested by counselors’, which was interesting because many teachers felt that was counselors’ responsibility and not theirs. The most common suggestion for principals was to be sensitized about ADHD and make sure there were referral and intervention systems to support these children. Other groups of people like parent, counselor, teacher and even
the MHP depended upon the principals' receptiveness to have or implement interventions. Another suggestion for principals was to organize training for teachers which would help in raising awareness of childhood conditions and the early recognition of children with ADHD. Most common suggestions for parents were to accept their child's condition, consistently apply interventions and liaise more frequently with schools and outside professionals.

The fact that much more needed to be done by every person involved with the child was quite clear. Interviewees came up with useful suggestions about what everyone else could do. However, there was also a degree of shifting of responsibility to other players, particularly in regards to liaison between different people. As mentioned before, treatment for ADHD needs to be multimodal, long term and requires perseverance (Rapport, 1992). While medication may not be the primary intervention in India at the moment because of its limited acceptance, it is crucial that behaviour therapy be properly implemented in schools and at home. At the moment, sadly this does not appear to be the case, with many children with ADHD either being under-diagnosed and/or not adequately treated. Children with ADHD also require specialized education and assistance for their families. The lack of special educators in many schools means that parents would have to seek special education services outside, which usually come at a considerable cost. The fees for services like special education or psychological assessments and therapy are footed by parents because there is limited government funding for these in India. The fact that children with ADHD have to be possibly wrongly diagnosed as dyslexic by professionals, in order to gain concessions or accommodations from the Board of
Education, implies that it is also not recognized as a disorder. Professionals will need to advocate for its recognition more actively in schools and society at large.

To reiterate, given the impact that ADHD can have on family interactions, academic functioning, peer relationships and self-esteem, there is a strong rationale for implementing informed, responsible intervention strategies for this disorder in schools (Du Paul, 1991). A lot more than was suggested needs to be done by every group of persons involved to ensure optimal outcomes for children with ADHD. Most of the stakeholders would need to seriously invest in these children to ensure that they do not fall through the cracks. Mental health professions, because of their professional expertise, and principals, because of their position of authority and influence in the running of their schools, can have an enormous impact on these children. Starting from increasing awareness in schools and in the community, to collaboration, service building, teacher training and support, and targeted counselor utilization, MHPs and principals can have a major influence on the outcomes for children. This is not to say that teachers or counselors do not influence outcomes for these children, but that MHPs and principals because of their expertise or influence can raise awareness and develop intervention systems, in which counselors and teachers can work effectively. The onus lies heavily on these two stakeholders (MHP and principal), both of which will need to stretch beyond their traditional roles to ensure that children with ADHD do not fall by the wayside.
2.5 Limitations of the Study

There were a number of limitations of the present study. There is a sample bias in that a convenience sample was used. The study was conducted in New Delhi, which is a metropolitan city and the results may not generalize to other states or rural India. In addition, the teachers, counselors and principals were from English speaking, public schools which catered for middle to higher socio-economic class students. Thus, the results do not generalize to government schools because the lowest socio-economic strata of society were not represented. In addition, the pilot study also had low rates of participation from parents and principals. Future research should utilize a more diverse sample including a wide range of ages, educational and working experience and geographical location.

Another limitation of the study was that the interviews explored a wide range of topics related to ADHD in India, but did not examine those topics in greater depth. Given that most interviewees offered no more than an hour to be interviewed and that very little was known or written before in India about this topic, it was considered more important to gain a broad overview of a range of questions related to ADHD, rather than prematurely focus the inquiry on a limited issue. Future research can follow up on and examine these all questions in more depth.

2.6 Summary and Implications

A number of important, but preliminary findings were gained from the pilot study. Although there is growing awareness, teachers in the schools were not very
knowledgeable about ADHD. With growing awareness and sensitization, more children were reported to be diagnosed than was the case before. Formal assessments for ADHD were mostly conducted by mental health professionals outside of the school. It was highly probable that ADHD was under-diagnosed or diagnosed late because of stigma, lack of awareness or acceptance or proper systems in some schools. Interventions for ADHD were limited, particularly in schools and there were not enough staff or resources to support and implement the interventions effectively.

This study highlights the importance of research on ADHD in different cultures. As seen from these results, there are different issues that emerge when researching ADHD in India. Not only does it appear to be under-diagnosed but also under-medicated and under-treated. Cultural, educational and social factors all may play a role in its recognition, diagnosis and management. This indicates that findings from other countries cannot be directly applied without understanding the ecological systems in India. Given that this was a pilot study, these are preliminary findings and there needs to be more research on the diagnosis and treatment of ADHD, especially how it is managed in schools in India. It is also important to research the perspectives of teachers because interventions ultimately need to be supported by them, and as seen in this study, there are obstacles in this regard. Parental perceptions of the management of ADHD in schools should also be more commonly investigated to gain a better understanding of whether children’s needs are being met in schools. Lastly, the experiences of children with ADHD at home and in schools in India also should be researched, given that is no research into the perspectives and experiences of these children in the Indian subcontinent.
CHAPTER 3:

CHILDREN WITH ADHD AND THEIR TEACHERS

IN INDIAN SCHOOLS

3.1 Introduction

The first (pilot) study aimed to gain an initial overview of some important issues related to ADHD in India. The pilot study was necessary because very little was written about ADHD in India in the research or professional literature. The five studies that were found in the research literature were conducted in the 1980s, 1990s and 2000’s (Chawla et al., 1982; Bhatia et al., 1991; Bhatia et al., 1999; Malhi et al., 2000; Wilcox et al., 2007). Not a lot could be gained from these studies in terms of how children with ADHD were recognized, diagnosed or managed, both in and outside schools. The pilot study was thus qualitative, using open-ended questions with a view to understanding the perspectives of individuals within the ecological system of the child. It did not focus on any one group of persons because it would have been premature, without first having some understanding of the Indian systems and issues pertinent to ADHD in general.

The pilot study provided an initial picture and shed some light on the awareness, diagnosis and treatment of ADHD in India. It also raised a few concerns about the recognition and management of these children, especially in schools. Firstly, medication, one of the effective interventions for ADHD did not appear to be commonly used. Secondly, there were indications that children with ADHD might not be recognized and provided with formalized or empirically guided interventions in schools. Given that
pharmacological treatment for ADHD did not appear to be acceptable to Indian parents and specialized services for children with ADHD seemed limited, school based interventions could have the potential to play a big role in India. However, there were indications that many children were not recognized, teachers were not very aware about ADHD and children who had a diagnosis were not managed adequately because of limited resources and lack of well developed referral or intervention systems. Thirdly, it appeared that teachers were not very willing to invest extra time and energy on these children. However, these were initial impressions based on a very small sample of interviewees. These preliminary findings strongly suggested the need for conducting a second, more systematic study which focussed on the school system, in particular, the teachers.

Teachers come in contact with children with ADHD in the school setting on an almost daily basis. This setting is where the problematic behaviours of these children have been reported to be commonly manifested, often leading to academic and social impairments. Teachers can provide valuable information on how these children present themselves in classrooms and in what way they are different to average children in the class. In addition, teachers can provide information about their diagnosis and interventions like Individual Education Plans (IEPs) or other academic interventions available for these children in schools. Having a much bigger sample of teachers systematically report on these children would test out some of the impressions gained about these issues in the pilot study.
Another reason for focussing on teachers was to explore whether Indian teachers found children with ADHD demanding. If Indian teachers do not find these children to be demanding or do not report being stressed by them, there can be some justification for children to not be identified or diagnosed in Indian schools, especially given the stigma of mental illness. Research on ADHD in different cultures has suggested that teachers in different countries or cultures may differ in the extent to which they find behaviours associated with ADHD to be problematic (Havey, 2007; Mann et al., 1995; Weisz et al., 1988; Weisz et al., 1987). There is no research on Indian teachers on whether they find children with ADHD problematic or demanding or stressful to deal with. This is a relevant area of inquiry because an understanding of the demandingness of these children as perceived by teachers can be used to develop interventions or supports for both children and their teachers.

The final reason for focussing on teachers in this study was to examine the impact of dealing with children with ADHD on teachers. Teachers can not only affect, but also be affected by students they come in contact with, which is often less acknowledged. It could be expected that many of the behaviours associated with ADHD would have these children come in direct contact with teachers, more frequently than other children. These contexts are more likely to have a negative quality to them. The behaviours exhibited by these children may be challenging for teachers to deal with and may exert extra demands on their time, energy, attention and resources. Having to deal with challenging behaviours on a daily basis can be a burden for some teachers and may affect their feelings of accomplishment or efficacy. Given the potential for negative interactions and
attitudes towards these children, with the possibility of stress, teacher burnout and lowered self-efficacy, there are justifications for conducting more research on the impact of children with ADHD on their teachers.

These were some of the reasons for a decision to focus on teachers in the second study. This entailed having a much bigger sample of teachers reporting on children with symptoms of ADHD in their class, their diagnosis, medication and other interventions for these children in their schools. In addition, teachers would be asked in detail about their need for professional development and what kind of professional assistance they wanted with these children. The next step would entail an investigation of the impact of dealing with the children on teachers themselves. A better understanding of these issues related to ADHD could aid in creating awareness and the timely recognition and management of these children. In addition, by taking the perspectives of the teachers into account, it was hoped that the research would help in supporting teachers in terms of developing policies and teacher training and support programs. Following were the aims of the second study.

3.1.1 Aims of the Study

1. To study the presentation and subtypes of ADHD in Indian classrooms, as reported by teachers.

2. To compare children with teacher-identified attention deficit and hyperactivity type problems with average children in the class.

3. To investigate diagnosis, medication and Individual Education Plans (IEPs) or special education plans in relation to children with ADHD type problems.
4. To investigate the frequency of demands placed on teachers by children with ADHD and average children in the classroom.

5. To examine patterns of teacher stress, burnout and teaching self-efficacy in relation to children with ADHD type problems and average children in the classroom.

6. To research the type of support received and requested by teachers in relation to children with ADHD type problems in the classroom in India.

3.1.2 Hypotheses

1. The present study did not set out to determine prevalence rates but rather, as a first step expected that there would be children with ADHD in Indian classrooms that teachers could report on. It set out to explore what type of ADHD teachers would most frequently report on, but did not develop any hypothesis on this.

2. It was hypothesized that teachers would report that children with ADHD displayed symptoms of inattention, hyperactivity and behaviour problems significantly more often than average children in the class.

3. Based on the indications from the pilot study, it was expected that many children who displayed attention deficit and hyperactivity type problems would not have a diagnosis that teachers could report on. It was also expected that very few children would be on any medication for ADHD or have specialized interventions like IEPs available for them in the school.

4. Although there have not been any Indian studies on this, it could be expect that because of the nature and frequency of their problematic behaviours, children with ADHD would exert extra demands on teachers more frequently than average children in the class. It was also expected that teachers would be more stressed by
children with ADHD and would find behaviour problems (oppositional and conduct problems) associated with ADHD to be more stressful than hyperactivity or inattention problems. It was also expected that stress associated with children with ADHD would be significantly predictive of burnout and lowered self-efficacy.

5. It was also expected that teachers would be receiving limited support in managing children with ADHD. From the pilot study, it was also expected that teachers would not request extra support in managing these children.
3.2 Methodology

3.2.1 Procedure

The approval for the research project was sought from the Ethics Committee of the Australian National University. After the approval was granted, principals of schools in New Delhi were sent letters inviting primary school teachers in their schools to participate in the study. Primary school teachers were selected for the study for two reasons. Firstly, ADHD has been more commonly reported in primary school children. Symptoms of ADHD have been reported to become especially evident when children start school, with some decline in prevalence and intensity as children grow older (Costello, Mustillo, Erkanli, Keeler, & Angold; 2003; Graetz, Sawyer, Hazel, Arney, & Baghurst, 2001). Secondly, this study focussed on teacher stress and burnout associated with dealing with children with ADHD. Primary school teachers have children in their classes for most of the day, unlike in high school where children change classes through the day. A primary school teacher can potentially get more stressed because of having to deal with the child with ADHD for a longer period of time. Researching stress related to these children may be more relevant to primary school teachers in comparison to high school teachers. For these reasons, only primary school teachers were considered for the study.

Class teachers from grade 1 to 6 were contacted in person, either individually or in a group to discuss the research participation. A questionnaire was distributed to teachers after obtaining written consent for participation. The researcher was present to answer queries and clarify any doubts. All teachers returned the questionnaire directly to the researcher, rather than through mail. The questionnaires were brought back to the
School of Psychology, Australian National University and stored in a locked cabinet, in accordance with the requirements of the Ethics Committee.

It was decided that the term Attention Deficit and Hyperactivity Type Problems would be used instead of ADHD. The main reasons for this were that teachers might not be aware of the term ADHD or the children might not have received a formal diagnosis. In addition, given that there appears to be a stigma around mental illness in India, it was not considered appropriate to use diagnostic labels upfront, without fully knowing the implications they might have for the children.

3.2.2 Participants

Thirty five school principals in New Delhi were approached, out of which 17 agreed to have teachers in their school participate. In addition to the data collected from schools in New Delhi by Ms. Nandini Sethi, three schools in Bangalore were approached by Ms. Pratibha Nagabhushan to offer participation in the research. The final sample consisted of teachers from 20 schools, 17 from New Delhi and three from Bangalore.

3.2.3 Sample Description

The class teachers were given a checklist of 18 ADHD symptoms based on the DSM IV-TR criteria. Teachers were explained what each symptom meant and asked if any child in their class displayed some of the symptoms in the checklist, consistently over a period of six months. Teachers who reported that a child in their class displayed five or more symptoms of inattention or five or more symptoms of hyperactivity were selected
for the study. Teachers who reported that a child in their class displaying nine or more symptoms of inattention or hyperactivity combined were also considered for the study. These teachers were then provided with a more detailed questionnaire to fill up. There was no independent assessment of whether the teacher identified children actually displayed the symptoms attributed to them. The impairment and the consistency of symptoms across settings could not be measured.

One hundred and thirty four questionnaires were distributed to teachers out of which five questionnaires were not returned to the researcher. The sample comprised of 134 teachers from schools in New Delhi and Bangalore. Out of the 129 teachers who returned questionnaires, 19 were eliminated because of missing data. The final sample comprised of 110 teachers from 20 schools. The participation rates in schools varied across the sample. The lowest participation rate was in a school where only three teachers participated. The highest participation was in a school where 12 teachers participated in the study.

Of the 110 teachers, there were 108 females and 2 males. The ages of teachers ranged from 22 to 58 years. Teachers were generally well qualified with 50% having a Bachelors Degree, 45.5% having a Masters Degree and 4.5% having a Graduate Diploma or certificate course in teaching. Their teaching experience varied from 0.5 to 32 years with a mean of 12.2 years. A majority of the teachers in the sample were class teachers. Out of the 110 teachers, 71 did not report other responsibilities in addition to teaching. Thirty nine teachers reported other responsibilities in addition to teaching, for example organizing extra-curricular activities, coordinator, welfare, deputy, IT etc.
Of the 110 teachers, 17 taught grade 1, 20 taught grade 2, 21 teachers were from grade 3, 17 teachers from grade 4, 28 teachers from grade 5 and 7 teachers from grade 6. The 110 teachers mostly picked male students to report on. There were 101 males and nine female students that teachers reported on.

Of the 110 teachers, 76 had no training specific to teaching and managing students with ADHD, 21 teachers had a “little training” and 13 had “some training”. None of the teachers endorsed having a lot of training on ADHD.

3.2.4 Description of Questionnaire

1. Teachers were given a list of 32 behaviours (see Appendix C) which included nine symptoms of inattention and nine symptoms of hyperactivity-impulsivity, which were based on the DSM IV-TR criteria for ADHD. There were 18 symptoms of behaviour problems common in primary schools, which were chosen by reviewing the criteria for Oppositional Defiant Disorder and Conduct Disorder. The behaviour problems chosen were those that were thought to be age appropriate and observable by teachers. Teachers were asked to report how often the target child (child selected on initial screening based on teacher endorsing a number of symptoms of attention deficit and hyperactivity type problems) displayed each behaviour. They were given a choice of four categories: once a term or less, once or twice a month, once a week, or nearly every lesson. They were also asked to rate how stressful they found each behaviour displayed by the target child. Teachers rated their stress on a scale of 0 to 10 where 0 = not
stressful at all and 10 = extremely stressful for you. For brevity, the target child will be referred to as the child with teacher identified ADHD in the thesis, although was referred to as the child with attention deficit and hyperactivity type problems in the questionnaire. After rating the frequency and stress of the 32 behaviours for the target child (ADHD), teachers were asked to select an average child in the same class. Teachers were free to pick any average child in their class as long as it was the same gender as the target child. Most teachers reported that the average child they selected was not necessarily the most intelligent or least problematic, rather it was someone who was similar to many other children in the same classroom. Teachers likewise rated the frequency of the 32 behaviours and stress associated with each of those behaviours displayed by the average child. Thus, each teacher reported on one child with teacher identified ADHD (or attention deficit and hyperactivity type problems) and one average child in their class. No two teachers reported on the same child. In addition, no two teachers reported on the same classroom.

2. Diagnosis and Medication: Teachers were asked a number of questions on diagnosis and medication related to the target child (child with teacher identified ADHD or attention deficit and hyperactivity type problems). These including whether the child had a diagnosis, what was the diagnosis and who provided it. In addition, teachers were asked to report on whether the child was on any medication, including which type of medication and what dose or time of the day was it taken.
3. Demands on Teachers: Eight questions measured the demands placed on teachers by children with teacher identified ADHD and average children. These were drawn from a recent study undertaken in Canberra by Dr. Bernd Heubeck. The same sets of questions were used for the Indian study in order to enable comparisons when data is collected from other countries in the future (See Appendix D for the list of demands).

4. Teacher Self-Efficacy Scale: A revised version of the teacher self-efficacy scale, developed by Schwarzer, Schmitz, and Daytner (1999) was used (Appendix F). It is a one dimensional scale that measures one factor, namely Self-Efficacy. It investigates four different job skills within the teaching profession: job accomplishment, skill development on the job, social interaction with students, parents and colleagues and coping with job stress. All of these four areas were thought to be of vital importance for successful teaching, with teachers expecting to hold different self-efficacy expectations for each of these. The authors administered the inventory three times to approximately 300 German teachers. Chronbach’s alpha in the three samples was found to be between .76 and .82. The test-retest reliability was .67 for the period of one year and .65 for the period of two years.

5. The Maslach Burnout Inventory (MBI) was used to measure burnout in teachers (Appendix E). It is a widely used measure of burnout which was introduced in 1981 by Maslach and Jackson. They defined burnout as a three dimensional
syndrome that occurs among individuals who work in some capacity with people (Maslach & Jackson, 1981). The three dimensions are as follows,

a) Emotional Exhaustion which is a feeling of being emotionally overextended and drained by one’s work,

b) Depersonalization which is an unfeeling and impersonal response toward people who are usually the recipient of one’s service and instruction, and

c) Reduced Personal Accomplishment which is a decline in one’s feeling of competence and achievement in one’s work.

The MBI does not provide a single burnout score, rather, a high score on the first two subscales and a low score on the Personal Accomplishment subscale are interpreted as indicative of a high level of burnout. In terms of the psychometric properties of the inventory, the authors originally reported internal consistency coefficients for the three subscales ranging from .71 to .90 and high test-retest reliability as well (Maslach & Jackson, 1986). Several recent studies using confirmatory factor analysis have found the three factor structure suggested by Maslach provided the best fit, even if some items loaded on more than one factor (Byrne, 1991; Enzmann et al, 1995). Worley, Vassar, Wheeler, and Barnes (2008) did a meta-analysis of 45 exploratory and confirmatory factor analytic studies of the MBI and found substantial support for the three factor model of burnout.

The Maslach Burnout Inventory has been used to study burnout across professions (Leiter & Schaufeli, 1996). In a recent study, Richardson and Martinussen
(2004) tested the factorial validity of the Maslach Burnout Inventory among 1590 human service workers including teachers, physiotherapists, child welfare workers, social workers, nurses, nurse’s aids and social rehabilitation workers in Norway. They found support for the three factor structure of the MBI in the total sample as well as across all seven occupations. The internal consistencies of the three subscales were .90 for Emotional Exhaustion, .66 for Depersonalization and .77 for Personal Accomplishment. The test-retest reliability indicated stability of scores over a six month period. The test-retest correlations reported for teachers were .72 for Emotional Exhaustion, .55 for Depersonalization and .59 for Personal Accomplishment. The MBI has also been used to study burnout in different countries. Kokkinos (2006) used the MBI on a sample of 771 Greek teachers and found support for the three factor structure. Other researchers have also used and tested the MBI in different countries including the Netherlands (Schaufeli, Daamen, & Van Mierlo, 1994), Ireland, Great Britain and New Zealand (Green, Walkey, & Taylor, 1991) and found it suitable. The current study decided to use the MBI based on its widespread use in other countries, despite the fact that Indian comparison data was not available.

5. Supports for Teachers: A number of questions explored the supports available for students in the school (e.g. Individual Education Plans or other special education plans). In addition, the supports received and needed by teachers were also investigated. These questions were also drawn from the recent study by Dr. Heubeck in Canberra.
3.3 Results

The results will be described in the following order. The first three sections will examine ADHD in Indian classrooms including the presentation, the chosen subtypes, diagnosis and medication related to ADHD. The next three sections will focus more specifically on ADHD and teachers. These sections will examine the demands on teachers, stress and burnout. The final section will examine supports available, as well as requested by teachers in the schools.

3.3.1 Presentation and Subtypes of ADHD

The study initially set out to investigate indications of the presentation and subtypes of teacher-identified ADHD in a sample of children in 110 Indian classrooms. Teacher reports of children with teacher-identified ADHD (type problems) and average children were analysed to determine how many displayed enough symptoms to potentially fit the study’s criteria for ADHD. The study’s criteria for ADHD were six or more symptoms of inattention or six or more symptoms of hyperactivity or ten or more symptoms of hyperactivity and inattention combined. The impairment and the consistency of symptoms across settings could not be measured. The children who appeared to fit the symptom criteria for ADHD were further classified into the three subtypes of ADHD.
The results showed that out of the 110 children with teacher reported ADHD type behaviours, 32 met the study’s criteria for the inattentive subtype, 14 met the criteria for hyperactive subtype and 57 met the criteria for the combined subtype of ADHD. There were 7 children identified with ADHD type problems, who did not clearly meet the criteria for any of the three subtypes but displayed some symptoms (Table 1). Out of these seven children who did not meet the symptom criteria for ADHD, four were reported by teachers to display 9 symptoms of inattention or hyperactivity/impulsivity combined. They experienced more symptoms than the comparison average child chosen by their teachers. Three other children were reported to display 5 or 6 symptoms of inattention or hyperactivity. They again experienced more symptoms than the comparison average child. Thus, these children were retained in study.

Of the 110 average children, 91 did not meet the study’s criteria for ADHD, 7 met the criteria for the inattentive subtype, 6 met the criteria for the hyperactive subtype and 6 met the criteria for the combined subtype of ADHD (Table 1). These 19 children were

<table>
<thead>
<tr>
<th></th>
<th>Inattentive Subtype</th>
<th>Hyperactive Subtype</th>
<th>Combined Subtype</th>
<th>Did not meet criteria</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children with ADHD</td>
<td>32</td>
<td>14</td>
<td>57</td>
<td>7</td>
<td>110</td>
</tr>
<tr>
<td>Average Children</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>91</td>
<td>110</td>
</tr>
</tbody>
</table>
retained in the study because as the following analysis shows, the teacher-identified children with ADHD displayed an equal number or more symptoms.

Seven teacher-identified average children met the symptom criteria for the inattentive subtype of ADHD. The corresponding teacher-identified children with ADHD also met the criteria for the inattentive subtype of ADHD and displayed an equal number if not more symptoms of inattention.

Six teacher-identified average children met the symptom criteria for the hyperactive subtype of ADHD. Three of the corresponding teacher-identified children with ADHD also met the criteria for the hyperactive subtype and displayed an equal number, if not more symptoms of hyperactivity. The other three corresponding teacher-identified children with ADHD met the criteria for the inattentive subtype of ADHD. Also, each of these six children with teacher-identified ADHD displayed more symptoms of inattention or hyperactivity combined than the corresponding average children.

Six teacher-identified average children met the criteria for the combined subtype of ADHD. Five of the corresponding teacher-identified children with ADHD also met the criteria for the combined subtype and displayed an equal number if not more symptoms of inattention and hyperactivity. The remaining child with teacher-identified ADHD met the criteria for the hyperactive subtype and displayed a few symptoms of inattention as well.
3.3.2 Comparison of Inattention, Hyperactivity/Impulsivity and Behaviour Problems between Children with ADHD and Average Children

Teacher identified children with ADHD type problems and average children were compared on the ratings of inattention, hyperactivity/impulsivity and behaviour problems. For each child, ADHD and average, the mean frequency ratings of inattention, hyperactivity and behaviour problems were calculated to investigate if children with teacher-identified ADHD differed significantly from average children. For this purpose, the mean was calculated by adding, for example, the frequency ratings on the 9 inattention items (frequency ratings of 0 to 3, where 0 = displays the symptom once a term or less, 1 = displays the symptom once or twice a month, 2 = about once a week and 3 = displays the symptom nearly every lesson) for every child, and dividing it by 9. In this manner, the mean frequencies of inattention, hyperactivity and behaviour problems was calculated both for children with teacher-identified ADHD and average children and then compared by means of t tests.
Table 2

Comparison of Teacher-Identified Children with ADHD and Average Children on Inattention, Hyperactivity and Behaviour Problems.

<table>
<thead>
<tr>
<th></th>
<th>ADHD</th>
<th>Average</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>t</td>
<td>df</td>
<td>p</td>
</tr>
<tr>
<td>Inattention</td>
<td>20.0</td>
<td>4.7</td>
<td>8.7</td>
<td>4.5</td>
<td>19.4</td>
<td>109</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td>17.4</td>
<td>7.1</td>
<td>8.5</td>
<td>5</td>
<td>12.2</td>
<td>109</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Behaviour</td>
<td>16.5</td>
<td>9.6</td>
<td>7.0</td>
<td>6.2</td>
<td>9.6</td>
<td>109</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Teacher-identified ADHD and average children were compared on inattention using a paired sample t-test. The mean on the inattention rating scale for ADHD children was 20.04 with a standard deviation of 4.68. The mean inattention rating for average children was 8.68 with a standard deviation of 4.58. The results showed that the teacher identified children with ADHD were described as significantly more inattentive than average children, $t = 19.46$, $df = 109$, $p < .001$ (2-tailed).

Teacher-identified children with ADHD and average children were compared on the hyperactivity rating scale using a paired sample t-test. The mean hyperactivity rating for teacher identified children with ADHD was 17.44 with a standard deviation of 7.14. The mean hyperactivity rating for average children was 8.48 with a standard deviation of
5.00. The results showed that teacher identified children with ADHD were rated significantly more hyperactive than average children, $t = 12.20$, $df = 109$, $p < .001$ (2-tailed).

Teacher-identified children with ADHD and average children were further compared on the behaviour problems rating scale using a paired sample $t$-test. The mean behaviour problem rating for teacher identified children with ADHD was 16.52 with a standard deviation of 9.65. The mean behaviour problem rating for average children was 7.05 with a standard deviation of 6.19. The results showed that teacher identified children with ADHD were rated as having significantly more behaviour problems than average children, $t = 9.63$, $df = 109$, $p < .001$ (2-tailed).

A Bonferroni Correction was applied to the series of 3 tests. The overall significance level of the three tests was kept at 0.05. On applying the Bonferroni correction, $p$ was set to 0.016 for each test. Thus, teacher identified children with ADHD type problems were significantly more inattentive, hyperactive and displayed more behaviour problems than average children.

### 3.3.3 ADHD Diagnosis and Medication

The study set out to investigate the number of children with teacher identified ADHD type problems that had a diagnosis and were on medication. The nature of the diagnosis as well as the professionals who made the diagnosis was also explored.
Out of the 110 teacher identified children with ADHD type problems, 26 were reported to have been diagnosed by a medical or other professional as suffering from ADHD or other condition. There were 73 teacher identified children with ADHD type problems whom the teachers reported as not having any diagnosis. In terms of percentages, 25.5% of children who met the study’s criteria for ADHD had a diagnosis, 71.6% had not received a diagnosis. For 2.9% of children, teachers did not know whether they had received a diagnosis or not.

Of the 26 children who were reported to have received a diagnosis, 12 had a diagnosis of ADHD, 1 had a diagnosis of Attention Deficit Disorder and 3 had a diagnosis of learning disability. There were 10 children who had received “some” diagnosis, but teachers did not know the exact diagnosis. Teachers reported that four children had received a diagnosis by psychologists, six by school counselors, four by psychiatrists, four by doctors and one by a special educator. One teacher did not know from whom the diagnosis was received, while the remaining six teachers did not report on the source of the diagnosis.

Eight children were reported by teachers to be on medication. Only one teacher reported on the type of medication that the child was taking. This child was reported by the teacher to have a diagnosis of ADHD and was reported to be taking Omega-3. Seventy four children were not on medication and for 15 children, teachers did not know if they were on medication. Thirteen teachers did not respond to this item. Of the eight
children who were on medication, four had a diagnosis of ADHD. For the remaining four children who were on medication, teachers did not know the diagnosis.

3.3.4 Demands on Teachers by Children with Teacher-Identified ADHD and Average Children

Teachers were asked a series of eight questions (a-h) that explored the nature and frequency of demands placed on them, (teacher identified) children with ADHD and average children. Teachers rated the frequency of demands on a 5 point scale (where 1 = never, 2 = rarely, 3 = sometimes, 4 = often and 5 = very often/constantly/daily). The frequency of demands was compared using paired sample t-tests.

a) Teachers were asked how often the teacher-identified child with ADHD and the average child were able to pay attention without being prompted. The mean frequency rating for teacher-identified children with ADHD was 2.57 with a standard deviation of .83. The mean rating for average children was 3.66 with a standard deviation of .76. The results showed that average children in the class were able to pay attention without the teacher prompting them significantly more often than teacher-identified children with ADHD, $t = -10.29$, $df = 108$, $p < .000$ (2-tailed).

b) Teachers were asked how frequently the (teacher-identified) child with ADHD and the average child required assistance to accurately complete their academic work. The mean frequency rating for teacher-identified children with ADHD was 3.93 with a standard deviation of .87. The mean rating for average children was 2.7 with a standard deviation
of .67. The results showed that children with teacher-identified ADHD required assistance to complete their work significantly more frequently than average children, \( t = 11.22, df = 108, p < .001 \) (2-tailed).

c) Teachers were asked how often the (teacher-identified) child with ADHD and the average child distracted them in their teaching. The mean for teacher-identified children with ADHD was 3.70 with a standard deviation of 1.05. The mean for average children was 2.33 with a standard deviation of .75. The results showed that children with teacher-identified ADHD distracted teachers from their teaching significantly more often than average children, \( t = 12.09, df = 104, p < .001 \) (2-tailed).

d) Teachers were asked how often they needed to prepare separate or adjusted work for the (teacher-identified) child with ADHD and the average child in the class. The mean for teacher-identified children with ADHD was 3.16 with a standard deviation of 1.27. The mean for average children was 1.76 with a standard deviation of .80. The results showed that teachers needed to prepare separate work for (teacher identified) children with ADHD significantly more often than average children, \( t = 11.32, df = 106, p < .001 \) (2-tailed).

e) Teachers were asked how often they needed to repeat their instructions or explanations before the (teacher-identified) child with ADHD and the average child in the class learned what they were teaching. The mean for teacher-identified children with ADHD was 3.26 with a standard deviation of 1.07. The mean for average children was 2.36 with
a standard deviation of .66. The results showed that teachers needed to repeat their
instructions significantly more often for teacher-identified children with ADHD than
average children, \( t = 7.62, df = 108, p < .001 \) (2-tailed).

f) Teachers were asked how often they needed to manage the behaviour of the teacher-
identified child with ADHD and the average child before they could start to teach their
lesson. The mean for teacher-identified children with ADHD was 3.57 with a standard
deviation of 1.19. The mean for average children was 2.32 with a standard deviation of
.74. The results showed that teachers had to manage the behaviour of children with
teacher-identified ADHD significantly more often than average children, \( t = 9.7, df =
107, p < .001 \) (2-tailed).

g) Teachers were asked how often the teacher-identified child with ADHD and the
average child made them question their competence or authority in the class. The mean
for teacher-identified children with ADHD was 2.59 with a standard deviation of 1.21.
The mean for average children was 1.84 with a standard deviation of .78. The results
showed that children with teacher-identified ADHD made their teachers question their
authority or competence significantly more often than did average children, \( t = 6.57, df =
107, p < .001 \) (2-tailed).

h) Teachers were asked how often they needed to remove the child with (teacher-
identified) ADHD and the average child in order to be able to teach the lesson. The mean
for teacher-identified children with ADHD was 2.09 with a standard deviation of 1.12.
The mean for average children was 1.37 with a standard deviation of .62. The results showed that teachers had to remove teacher-identified children with ADHD from the class significantly more often than average children, $t = 6.25$, $df = 108$, $p < .001$ (2-tailed).

A Bonferroni Correction was applied to the series of 8 tests (a-h). The overall significance level of the entire series of 8 tests was set at 0.05. On applying the Bonferroni correction, $p$ was set at 0.006 for each test. Thus, all the demands placed on teachers by children with teacher-identified ADHD were rated as significantly greater than those made by average children.

### 3.3.5 Teacher Stress in relation to Teacher-Identified Children with ADHD and Average Children

Patterns of teacher stress related to teacher-identified children with ADHD and average children were investigated. It was expected that the type of child would influence teacher stress ratings, with teacher-identified children with ADHD proving to be more stressful for teachers than average children. The type of behaviour was also expected to influence teacher stress, with teachers being most stressed by behaviour problems, followed by hyperactivity and inattention.

A mixed model analysis was conducted. The dependant variable was stress. There were 2 independent variables-

(i) Child Type: ADHD or Average child, and
(ii) Behaviour Type: Inattention, Hyperactivity or Behaviour Problems

These were analysed as fixed effects. The interaction between Child Type and Behaviour Type was also analysed.

Table 3

Tests of Effects on Stress

<table>
<thead>
<tr>
<th>Source</th>
<th>Numerator df</th>
<th>Denominator df</th>
<th>$F$</th>
<th>$p$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childtype</td>
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<td>635</td>
<td>199.9</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Behtype</td>
<td>2</td>
<td>635</td>
<td>17.07</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Childtype * Behtype</td>
<td>2</td>
<td>635</td>
<td>2.88</td>
<td>&lt;.01</td>
</tr>
</tbody>
</table>

The results of the mixed model analysis showed significant main effects of child type and behaviour type on stress. The interaction of child type and behaviour type was also significant. The estimated means for child type and behaviour type are presented in Tables 4 and 5. The pairwise comparisons for behaviour type are presented in Table 6.

Table 4

Estimated Marginal Means: Child Type

<table>
<thead>
<tr>
<th>Child Type</th>
<th>$M$</th>
<th>SE</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADHD Child</td>
<td>4.34</td>
<td>.117</td>
<td>635</td>
</tr>
<tr>
<td>Average Child</td>
<td>1.99</td>
<td>.118</td>
<td>635</td>
</tr>
</tbody>
</table>
The results show that teachers were significantly more stressed by teacher identified children with ADHD than average children. The effect size (Cohen’s d) was .79

Table 5

*Estimated Marginal Means: Behaviour Type*

<table>
<thead>
<tr>
<th>Behaviour Type</th>
<th>$M$</th>
<th>$SE$</th>
<th>$df$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inattention</td>
<td>3.61</td>
<td>.143</td>
<td>635</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td>3.39</td>
<td>.143</td>
<td>635</td>
</tr>
<tr>
<td>Behaviour Prob.</td>
<td>2.49</td>
<td>.144</td>
<td>635</td>
</tr>
</tbody>
</table>

Table 6

*Pairwise Comparisons: Behaviour Type*

<table>
<thead>
<tr>
<th>Behtype</th>
<th>Behtype</th>
<th>Mean Difference</th>
<th>$SE$</th>
<th>$df$</th>
<th>$p$ value</th>
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</thead>
<tbody>
<tr>
<td>Inattention</td>
<td>Hyperactivity</td>
<td>.22</td>
<td>.204</td>
<td>635</td>
<td>ns.</td>
</tr>
<tr>
<td>Inattention</td>
<td>Behprob</td>
<td>1.13</td>
<td>.205</td>
<td>635</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td>Behprob</td>
<td>.90</td>
<td>.205</td>
<td>635</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

The results showed that teachers found inattention somewhat more stressful than hyperactivity, although the difference was not significant. Teachers found inattention
significantly more stressful than behaviour problems. The effect size was \( d = 0.31 \).

Teachers found hyperactivity significantly more stressful than behaviour problems. The effect size (Cohen's \( d \)) was 0.25.

The obtained results for behaviour type were opposite to what was expected. It was expected that teachers would find behaviour problems and hyperactivity more stressful to deal with, rather than inattention. It was suspected that these results might be due to teachers reacting to the frequency of the behaviour, rather than the behaviour per se. To test this out, the frequency of behaviour was controlled. A mixed model analysis was conducted again, this time using frequency as a covariate variable. The frequency of inattention, hyperactivity and behaviour problems was computed. This was done by calculating the mean frequency of inattention, hyperactivity and behaviour problems for both the child with teacher-identified ADHD and the average child. The dependant variable was stress. The fixed and interaction effects of child type and behaviour type were determined (after controlling for frequency).
Table 7

Tests of Effects on Stress (Frequency Controlled)

<table>
<thead>
<tr>
<th>Source</th>
<th>Numerator df</th>
<th>Denominator df</th>
<th>$F$</th>
<th>$p$ value</th>
</tr>
</thead>
<tbody>
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<td>.001</td>
</tr>
<tr>
<td>Behtype</td>
<td>2</td>
<td>535.26</td>
<td>8.29</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Freq (Covariate)</td>
<td>1</td>
<td>583.28</td>
<td>667.05</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Childtype * Behtype</td>
<td>2</td>
<td>527.64</td>
<td>0.65</td>
<td>ns.</td>
</tr>
</tbody>
</table>

The results of the mixed model analysis showed significant effects of child type, behaviour type and frequency on stress. The interaction of child type and behaviour type was not significant. The estimated means for child type and behaviour type are presented in Tables 8 and 9. The pairwise comparisons of behaviour type are presented in Table 10.

Table 8

Estimated Marginal Means: Child Type with Frequency Controlled

<table>
<thead>
<tr>
<th>Child Type</th>
<th>$M$</th>
<th>$SE$</th>
<th>$df$</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADHD Child</td>
<td>3.34</td>
<td>.137</td>
<td>144.25</td>
</tr>
<tr>
<td>Average Child</td>
<td>2.97</td>
<td>.138</td>
<td>146.64</td>
</tr>
</tbody>
</table>

The results showed that teachers were significantly more stressed by children with teacher identified ADHD than average children. The effect size (Cohen’s $d$) was .22
Table 9

Estimated Marginal Means: Behaviour Type with Frequency Controlled

<table>
<thead>
<tr>
<th>Behaviour Type</th>
<th>M</th>
<th>SE</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inattention</td>
<td>2.98</td>
<td>.139</td>
<td>153.15</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td>3.07</td>
<td>.138</td>
<td>147.20</td>
</tr>
<tr>
<td>Behaviour Prob.</td>
<td>3.41</td>
<td>.142</td>
<td>164.08</td>
</tr>
</tbody>
</table>

Table 10

Pairwise Comparisons: Behaviour Type with Frequency Controlled

<table>
<thead>
<tr>
<th>Behype</th>
<th>Behype</th>
<th>Mean Difference</th>
<th>Std.Error</th>
<th>df</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inattention</td>
<td>Hyperactivity</td>
<td>-.09</td>
<td>.09</td>
<td>526.71</td>
<td>ns.</td>
</tr>
<tr>
<td>Inattention</td>
<td>Behproblems</td>
<td>-.43</td>
<td>.11</td>
<td>543.81</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td>Behproblems</td>
<td>-.33</td>
<td>.10</td>
<td>538.59</td>
<td>.001</td>
</tr>
</tbody>
</table>

The results showed that teachers found behaviour problems significantly more stressful than inattention. The effect size (Cohen’s d) was 0.24. Teachers found behaviour problems significantly more stressful than hyperactivity. The effect size (Cohen’s d) was
0.19. Teachers found hyperactivity more stressful than inattention although the difference was not significant.

Thus, the overall results in this section show that teachers are more stressed by children with teacher identified ADHD than by average children. When the frequency of behaviour was not controlled, significant main effects of child type and behaviour type were found. Teachers reported to be more stressed by inattention, followed by hyperactivity and then behaviour problems. This pattern was reversed when the frequency of behaviour was treated as a covariate. Teachers were significantly more stressed by behaviour problems in comparison to inattention and hyperactivity. In addition, the type of child and behaviour were still found to have significant main effects on stress although these reduced when frequency was controlled. Frequency of behaviour had the biggest main effect on teacher stress. The interactions between type of child and behaviour were not significant.

3.3.6 Teacher Burnout and Self-Efficacy

The study further set out to examine teacher burnout and self-efficacy in relation to children with teacher identified ADHD and average children. It was expected that stress in relation to behaviours displayed by children with teacher identified ADHD would be associated with signs of burnout and decreased self-efficacy.

The reliabilities of the three subscales of the MBI and the Teaching Self-Efficacy Scale were calculated. The Cronbach Alpha for Self-Efficacy was .79. For Emotional Exhaustion the Cronbach Alpha was found to be .71, for Depersonalization, .54 and for
Personal Accomplishment, the Cronbach Alpha was found to be .68. Since the Cronbach Alpha for the Depersonalization is low, it may affect the results related to this subscale.

The means and standard deviations for Self-Efficacy and the three dimensions of burnout, Emotional Exhaustion, Depersonalization and Personal Accomplishment are presented in Table 11.

Table 11

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion</td>
<td>11.7</td>
<td>7.35</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>3.50</td>
<td>3.34</td>
</tr>
<tr>
<td>Personal Accomplishment</td>
<td>8.61</td>
<td>6.29</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>42.8</td>
<td>3.74</td>
</tr>
</tbody>
</table>

Predictors of teacher burnout and self-efficacy were investigated using regression analysis. Self-Efficacy, Emotional Exhaustion, Personal Accomplishment and Depersonalization were analysed as dependant variables. The independent variables hypothesized to contribute to burnout and self-efficacy were:

1. Stress associated with inattention problems in children with teacher-identified ADHD.
2. Stress associated with hyperactivity-impulsivity problems in children with teacher-identified ADHD.

3. Stress associated with behaviour problems in children with teacher-identified ADHD.

4. Stress associated with inattention problems in average children.

5. Stress associated with hyperactivity-impulsivity problems in average children.


7. Additional stressors outside of school that teachers had to cope with (these were coded on a scale of 1 to 6 where 1 = extreme stress and 6 = no stress at all).

A multiple regression analysis was conducted which involved a analysing the predictor variables together, rather than each predictor separately. The predictor variables were assumed to be not independent of each other, and hence were analysed together. The correlations between the predictor variables will be described below.
Emotional Exhaustion

The correlations between the dependent variable, Emotional Exhaustion and the independent variables are presented in Table 12.

Table 12

Correlations between Emotional Exhaustion (EE) and Predictor Variables

<table>
<thead>
<tr>
<th></th>
<th>EE Outside Stress</th>
<th>(l) ADHD</th>
<th>Average</th>
<th>(Hy) ADHD</th>
<th>Average</th>
<th>(Beh) ADHD</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE</td>
<td>- .14</td>
<td>.28</td>
<td>.23</td>
<td>.17</td>
<td>.16</td>
<td>.25</td>
<td>.25</td>
</tr>
<tr>
<td>Outside Stress</td>
<td>-.11</td>
<td>-.11</td>
<td>-.04</td>
<td>-.15</td>
<td>-.08</td>
<td>-.05</td>
<td></td>
</tr>
<tr>
<td>ADHD (l)</td>
<td>.50</td>
<td>.60</td>
<td>.45</td>
<td>.47</td>
<td>.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average (l)</td>
<td></td>
<td>.49</td>
<td>.94</td>
<td>.54</td>
<td>.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADHD (Hy)</td>
<td></td>
<td>.46</td>
<td>.62</td>
<td>.37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average (Hy)</td>
<td></td>
<td></td>
<td>.47</td>
<td>.82</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADHD (Beh)</td>
<td></td>
<td></td>
<td></td>
<td>.51</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Outside Stress: Additional Stress outside of the school.
ADHD (l): Stress associated with inattention in children with teacher-identified ADHD.
Average (l): Stress associated with inattention in average children.
ADHD (Hy): Stress associated with hyperactivity in children with teacher-identified ADHD.
Average (Hy): Stress associated with hyperactivity in average children.
ADHD (Beh): Stress associated with behaviour problems in children with teacher-identified ADHD.
Average (Beh): Stress associated with behaviour problems in average children.
Table 13

Regression Analysis of Emotional Exhaustion

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>Std.Error</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional stresses outside school</td>
<td>-1.28</td>
<td>.92</td>
<td>-.13</td>
<td>-1.40</td>
<td>.16</td>
</tr>
<tr>
<td>Stress related to inattention (ADHD child)</td>
<td>.59</td>
<td>.42</td>
<td>.17</td>
<td>1.40</td>
<td>.16</td>
</tr>
<tr>
<td>Stress related to inattention (average child)</td>
<td>1.52</td>
<td>1.28</td>
<td>.39</td>
<td>1.18</td>
<td>.23</td>
</tr>
<tr>
<td>Stress related to hyperactivity (ADHD child)</td>
<td>-.12</td>
<td>.43</td>
<td>-.04</td>
<td>-.27</td>
<td>.78</td>
</tr>
<tr>
<td>Stress related to hyperactivity (average child)</td>
<td>-1.95</td>
<td>1.19</td>
<td>-.48</td>
<td>-1.64</td>
<td>.10</td>
</tr>
<tr>
<td>Stress related to behaviour problems (ADHD child)</td>
<td>.31</td>
<td>.43</td>
<td>.09</td>
<td>.71</td>
<td>.47</td>
</tr>
<tr>
<td>Stress related to behaviour problems (average child)</td>
<td>.74</td>
<td>.80</td>
<td>.18</td>
<td>.92</td>
<td>.35</td>
</tr>
</tbody>
</table>

Note: R = .381, R² = .145, Adjusted R² = .081 Standard error = 6.97

The results show that none of the variables uniquely predicted Emotional Exhaustion. All variables jointly predicted 14.5% variance in Emotional Exhaustion. To better understand the main variables that contributed to this prediction of variance, and whose removal would lead to a significant reduction in the power of prediction, a backward elimination technique was used. One by one, the variables with the smallest t values were removed to see the effect on the predictability of the dependant variable. This was done for all the four dependant variables. Using backward elimination, stress associated with inattention problems in both children with teacher-identified ADHD and average children was found to contribute to the prediction of 8.5% of the variance in emotional exhaustion.
Personal Accomplishment

The correlations between the dependant variable, Personal Accomplishment and the independent variables are presented in Table 14.

Table 14

<table>
<thead>
<tr>
<th></th>
<th>Outside Stress</th>
<th>(I)</th>
<th>(Hy)</th>
<th>(Beh)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ADHD</td>
<td>Average</td>
<td>ADHD</td>
<td>Average</td>
</tr>
<tr>
<td>PA</td>
<td>-.05</td>
<td>.07</td>
<td>.12</td>
<td>.01</td>
</tr>
<tr>
<td>Outside Stress</td>
<td>-.11</td>
<td>-.11</td>
<td>-.04</td>
<td>-.15</td>
</tr>
<tr>
<td>ADHD (I)</td>
<td>.50</td>
<td>.60</td>
<td>.45</td>
<td>.47</td>
</tr>
<tr>
<td>Average (I)</td>
<td>.49</td>
<td>.94</td>
<td>.54</td>
<td>.86</td>
</tr>
<tr>
<td>ADHD (Hy)</td>
<td>.46</td>
<td>.62</td>
<td>.37</td>
<td></td>
</tr>
<tr>
<td>Average (Hy)</td>
<td>.47</td>
<td>.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADHD (Beh)</td>
<td></td>
<td></td>
<td>.51</td>
<td></td>
</tr>
</tbody>
</table>

Note: Outside Stress: Additional Stress outside of the school.

ADHD (I): Stress associated with inattention in children with teacher-identified ADHD.

Average (I): Stress associated with inattention in average children.

ADHD (Hy): Stress associated with hyperactivity in children with teacher-identified ADHD.

Average (Hy): Stress associated with hyperactivity in average children.

ADHD (Beh): Stress associated with behaviour problems in children with teacher-identified ADHD

Average (Beh): Stress associated with behaviour problems in average children.
Table 15

Regression Analysis of Personal Accomplishment

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>Std. Error</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional stresses outside school</td>
<td>.11</td>
<td>.77</td>
<td>.01</td>
<td>.14</td>
<td>.88</td>
</tr>
<tr>
<td>Stress related to inattention (ADHD child)</td>
<td>.21</td>
<td>.35</td>
<td>.07</td>
<td>.59</td>
<td>.55</td>
</tr>
<tr>
<td>Stress related to inattention (average child)</td>
<td>-2.17</td>
<td>1.07</td>
<td>-.69</td>
<td>-2.02</td>
<td>.04</td>
</tr>
<tr>
<td>Stress related to hyperactivity (ADHD child)</td>
<td>-.45</td>
<td>.36</td>
<td>-.18</td>
<td>-1.24</td>
<td>.21</td>
</tr>
<tr>
<td>Stress related to hyperactivity (average child)</td>
<td>2.7</td>
<td>1</td>
<td>.82</td>
<td>2.7</td>
<td>.008</td>
</tr>
<tr>
<td>Stress related to behaviour problems (ADHD child)</td>
<td>.47</td>
<td>.36</td>
<td>.18</td>
<td>1.3</td>
<td>.19</td>
</tr>
<tr>
<td>Stress related to behaviour problems (average child)</td>
<td>-.02</td>
<td>.67</td>
<td>-.007</td>
<td>-.03</td>
<td>.97</td>
</tr>
</tbody>
</table>

Note: R = .317, R² = .100, Adjusted R² = .033, Standard Error = 5.83

All the variables jointly accounted for 10% of the variability on Personal Accomplishment. Stress associated with hyperactivity-impulsivity and inattention problems in average children significantly contributed to Personal Accomplishment. Using backward elimination, stress associated with hyperactivity and inattention problems in average children was found to contribute to 5.6% of the variance in Personal Accomplishment. These two predictor variables were also highly positively correlated (.95) with each other.
Depersonalization

The correlations between the dependant variable, Depersonalization and the independent variables are presented in Table 16.

Table 16
Correlations between Depersonalization (DP) and Predictor Variables

<table>
<thead>
<tr>
<th></th>
<th>DP</th>
<th>Outside Stress</th>
<th>(I) ADHD</th>
<th>Average</th>
<th>(Hy) ADHD</th>
<th>Average</th>
<th>(Beh) ADHD</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP</td>
<td>-.22</td>
<td>.16</td>
<td>.27</td>
<td>.12</td>
<td>.29</td>
<td>.24</td>
<td>.23</td>
<td></td>
</tr>
<tr>
<td>Outside Stress</td>
<td>-.11</td>
<td>-.11</td>
<td>-.04</td>
<td>-.15</td>
<td>-.08</td>
<td>-.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADHD (I)</td>
<td>.50</td>
<td>.60</td>
<td>.45</td>
<td>.47</td>
<td>.46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average (I)</td>
<td>.49</td>
<td>.94</td>
<td>.54</td>
<td>.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADHD (Hy)</td>
<td>.46</td>
<td>.62</td>
<td>.37</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average (Hy)</td>
<td></td>
<td>.47</td>
<td>.82</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADHD (Beh)</td>
<td></td>
<td></td>
<td></td>
<td>.51</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Outside Stress: Additional Stress outside of the school.
ADHD (I): Stress associated with inattention in children with teacher-identified ADHD.
Average (I): Stress associated with inattention in average children.
ADHD (Hy): Stress associated with hyperactivity in children with teacher-identified ADHD.
Average (Hy): Stress associated with hyperactivity in average children.
ADHD (Beh): Stress associated with behaviour problems in children with teacher-identified ADHD.
Average (Beh): Stress associated with behaviour problems in average children.
<table>
<thead>
<tr>
<th>Variables</th>
<th>$B$</th>
<th>Std. Error</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional stresses outside school</td>
<td>-.73</td>
<td>.42</td>
<td>-.16</td>
<td>-1.71</td>
<td>.08</td>
</tr>
<tr>
<td>Stress related to inattention (ADHD child)</td>
<td>.07</td>
<td>.19</td>
<td>.04</td>
<td>.37</td>
<td>.70</td>
</tr>
<tr>
<td>Stress related to inattention (average child)</td>
<td>-.13</td>
<td>.59</td>
<td>-.07</td>
<td>-.22</td>
<td>.82</td>
</tr>
<tr>
<td>Stress related to hyperactivity (ADHD child)</td>
<td>-.18</td>
<td>.20</td>
<td>-.13</td>
<td>-.93</td>
<td>.35</td>
</tr>
<tr>
<td>Stress related to hyperactivity (average child)</td>
<td>.65</td>
<td>.55</td>
<td>.35</td>
<td>1.17</td>
<td>.24</td>
</tr>
<tr>
<td>Stress related to behaviour problems (ADHD child)</td>
<td>.29</td>
<td>.20</td>
<td>.20</td>
<td>1.47</td>
<td>.14</td>
</tr>
<tr>
<td>Stress related to behaviour problems (average child)</td>
<td>-.15</td>
<td>.36</td>
<td>-.08</td>
<td>-.40</td>
<td>.68</td>
</tr>
</tbody>
</table>

Note: $R = .379$, $R^2 = .143$, Adjusted $R^2 = .080$, Standard Error = 3.24

The results of the regression analysis indicated that none of the independent variables uniquely predicted Depersonalization. All of the variables jointly predicted 14.3% of the variance in Depersonalization. Using backward elimination, stress associated with hyperactivity problems in average children and additional stress outside of school was found to predict 12.3% of the variance in Depersonalization.
Teaching Self-Efficacy

The correlations between the dependant variable, teaching self-efficacy and the independent variables are presented in Table 18.

Table 18

Correlations between Self-Efficacy (SE) and Predictor Variables

<table>
<thead>
<tr>
<th></th>
<th>SE</th>
<th>Outside Stress</th>
<th>ADHD</th>
<th>Average</th>
<th>ADHD</th>
<th>Average</th>
<th>ADHD</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE</td>
<td>-.00</td>
<td>.13</td>
<td>-.06</td>
<td>.06</td>
<td>-.10</td>
<td>.05</td>
<td>-.10</td>
<td></td>
</tr>
<tr>
<td>Outside Stress</td>
<td>-.11</td>
<td>-.11</td>
<td>-.04</td>
<td>-.15</td>
<td>-.08</td>
<td>-.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADHD (I)</td>
<td>.50</td>
<td>.60</td>
<td>.45</td>
<td>.47</td>
<td>.46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average (I)</td>
<td>.49</td>
<td>.94</td>
<td>.54</td>
<td>.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADHD (Hy)</td>
<td>.46</td>
<td>.62</td>
<td>.37</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average (Hy)</td>
<td>.47</td>
<td>.82</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADHD (Beh)</td>
<td>.51</td>
<td>.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Outside Stress- Additional Stress outside of the school.

ADHD (I): Stress associated with inattention in children with teacher-identified ADHD.

Average (I): Stress associated with inattention in average children.

ADHD (Hy): Stress associated with hyperactivity in children with teacher-identified ADHD.

Average (Hy): Stress associated with hyperactivity in average children.

ADHD (Beh): Stress associated with behaviour problems in children with teacher-identified ADHD

Average (Beh): Stress associated with behaviour problems in average children.
Table 19

Regression Analysis of Self-Efficacy

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>Std.Error</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional stresses outside school</td>
<td>-.02</td>
<td>.49</td>
<td>-.00</td>
<td>-.04</td>
<td>.96</td>
</tr>
<tr>
<td>Stress related to inattention (ADHD child)</td>
<td>.37</td>
<td>.23</td>
<td>.21</td>
<td>1.60</td>
<td>.11</td>
</tr>
<tr>
<td>Stress related to inattention (average child)</td>
<td>.42</td>
<td>.69</td>
<td>.21</td>
<td>.61</td>
<td>.53</td>
</tr>
<tr>
<td>Stress related to hyperactivity (ADHD child)</td>
<td>-.05</td>
<td>.23</td>
<td>-.03</td>
<td>-.23</td>
<td>.81</td>
</tr>
<tr>
<td>Stress related to hyperactivity (average child)</td>
<td>-.51</td>
<td>.64</td>
<td>-.25</td>
<td>-.79</td>
<td>.42</td>
</tr>
<tr>
<td>Stress related to behaviour problems (ADHD child)</td>
<td>.14</td>
<td>.23</td>
<td>.09</td>
<td>.62</td>
<td>.53</td>
</tr>
<tr>
<td>Stress related to behaviour problems (average child)</td>
<td>-.46</td>
<td>.43</td>
<td>-.22</td>
<td>-1.06</td>
<td>.28</td>
</tr>
</tbody>
</table>

Note: R = .255, R² = .065, Adjusted R² = -.006, Standard error = 3.74

The results of the regression analysis indicated that none of the independent variables uniquely predicted self-efficacy. All of the variables jointly predicted 6.5% of the variance in self-efficacy. Using backward elimination, stress associated with behaviour problems in average children was found to be the most important variable in predicting self-efficacy. Stress associated with behaviour problems in average children and stress associated with inattention problems in children with teacher-identified ADHD jointly predicted 4.9% of the variance in self-efficacy. When stress associated with behaviour problems in average children was removed from the equation, the predictive power of the equation dropped to 1.5% of variance.

From the results obtained above, it can be concluded that stress associated with inattention, hyperactivity and behaviour problems in children with teacher-identified ADHD was not uniquely or highly predictive of teacher burnout or self-efficacy. An exception was stress associated with inattention problems in children with teacher-
identified ADHD, which was found to contribute somewhat, although not significantly, to Emotional Exhaustion. Stress associated with inattention, hyperactivity or behaviour problems in average children appeared comparatively more predictive of teacher burnout and self-efficacy.

3.3.7 Supports for Teachers

The nature of the supports for teachers in schools was explored. These included a range of questions including the supportiveness of parents of the children and formal interventions like Individual Education Plans (IEPs). The types of supports needed by teachers were also examined.

*Individual Education Plans:* Teachers were asked if there were Individual Education Plans (IEPs) or any other special education plans for children with ADHD. They reported that 11 children had an IEP, 90 did not have an IEP and 9 teachers were not sure if the child with ADHD had an IEP.

*Supportiveness of Parents:* Teachers were asked how much support they received from the parent with the behaviour or learning problems of the child with teacher-identified ADHD and the average child. Teachers rated support on a 5 point scale (where 1 = no support at all, 2 = a little, 3 = some, 4 = a lot and 5 = complete support). The mean level of support received from the parents of the child with teacher-identified ADHD was 2.90 with a standard deviation of 1.19. The mean level of support received from the parent of the average child was 3.47 with a standard deviation of 1.07. The results
indicated that teachers reported significantly more support from parents of average children than the parents of children with teacher-identified ADHD, \( t = -3.97, df = 108, p < .001 \) (2-tailed).

*Professional Assistance:* Teachers were asked how often they wished they had professional assistance in managing the learning and behaviour problems of both the child with teacher-identified ADHD and the average child. Teachers rated the frequency of wishing for professional assistance on a 5 point scale (where 1 = never, 2 = rarely, 3 = sometimes, 4 = often and 5 = everyday). The mean rating for children with teacher-identified ADHD was 3.24 with a standard deviation of 1.22. The mean for average children was 1.97 with a standard deviation of 1.02. The results indicated that teachers wished they had professional assistance in dealing with children with teacher-identified ADHD significantly more often than average children, \( t = 9.91, df = 107, p < .001 \) (2-tailed).

Teachers were asked how often they had actually asked for professional assistance with children with teacher-identified ADHD and average children. Teachers rated the frequency of asking for professional assistance on a 5 point scale (where 1 = never, 2 = rarely, 3 = two or three times, 4 = more often and 5 = all the time). The mean frequency rating of asking for assistance with children with teacher-identified ADHD was 2.28 with a standard deviation of 1.27. The mean frequency of asking for professional assistance with average children was 1.29 with a standard deviation of .68. The results showed that teachers had asked for professional assistance with children with teacher-identified
ADHD significantly more often than they had with average children, $t = 8.59$, $df = 106$, $p < .001$ (2-tailed).

*Type of Support Requested:* Teachers were asked about the type of support they would like with children with teacher-identified ADHD. There were 13 questions that teachers were asked which assessed the type support needed (a to m). (Table 20)

a) Student going to other classes to give me and my class a break: 80.9% of teachers indicated that they did not require this while 18.2% of teachers agreed that they wanted the student with teacher-identified ADHD to go to other classes to give them a break.

b) More detailed support and understanding from student’s parents: 79.1% of teachers reported that they would like more support and understanding from parents while 20% of teachers did not want this.

c) Detailed assessment of the child’s learning problems: 78.2% of teachers reported that they would like a detailed assessment of the learning problems of the child with teacher-identified ADHD while 20.9% of teachers did not want this.

d) Detailed assessment of the child’s behaviour problems: 87.3% of teachers indicated that they would be helped by a detailed assessment of the behaviour problems of the child with teacher-identified ADHD while 11.8% of teachers did not require this.

e) More support and understanding from colleagues: 60% of teachers reported that they wanted more support and understanding from colleagues while 39.1% of teachers did not want this.
f) Support and understanding from the school administration: 59.1% of teachers stated that they wanted more support and understanding from the school administration while 40% of teachers did not require this.

g) Curriculum Materials: 70% of teachers reported that they would be helped by more curriculum materials while 29.4% of teachers did not require this.

h) Another teacher or assistant to support them at times in the classroom: 42.7% of teachers wanted an assistant at times in the classroom while 56.4% of teachers did not require this.

i) Direct communication with outside professional involved with the child: 56.4% of teachers indicated that they wanted direct communication with outside professionals involved with the child while 42.7% of teachers did not require this.

j) Placement of the child in a special class or unit: 30.9% of teachers stated that they would be helped by putting the child in a special class while 68.2% of teachers did not want this.

k) Professional Development for me to improve my understanding of ADHD: 77.3% of teachers reported that they needed professional development to improve their understanding of ADHD while 21.8% of teachers did not require this.

l) Professional Development for me to improve my behaviour management skills: 72.7% of teachers reported that they needed professional development to improve their behaviour management skills while 26.4% of teachers reported that they did not require this.

m) Other Supports: 3.6% of teachers indicated that they needed other supports in addition to the above mentioned supports while 95.5% of teachers did not require
other supports. The supports described by teachers' included access to psychologists, smaller class sizes and more support from parents to seek professional help.

Table 20

Type of Support Requested by Teachers

<table>
<thead>
<tr>
<th>Type of Support Needed</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student going to other class</td>
<td>18.2</td>
<td>80.9</td>
</tr>
<tr>
<td>More support from parents</td>
<td>79.1</td>
<td>20</td>
</tr>
<tr>
<td>Detailed assessment of child's learning problems</td>
<td>78.2</td>
<td>20.9</td>
</tr>
<tr>
<td>Detailed assessment of child's behaviour problems</td>
<td>87.3</td>
<td>11.8</td>
</tr>
<tr>
<td>Support from colleagues</td>
<td>60</td>
<td>39.1</td>
</tr>
<tr>
<td>Support from administration</td>
<td>59.1</td>
<td>40</td>
</tr>
<tr>
<td>Curriculum materials</td>
<td>70</td>
<td>29.4</td>
</tr>
<tr>
<td>Teacher assistant in the classroom</td>
<td>42.7</td>
<td>56.4</td>
</tr>
<tr>
<td>Direct communication with MHP</td>
<td>56.4</td>
<td>42.7</td>
</tr>
<tr>
<td>Placement of child in special unit</td>
<td>30.9</td>
<td>68.2</td>
</tr>
<tr>
<td>Professional Development (for understanding)</td>
<td>77.3</td>
<td>21.8</td>
</tr>
<tr>
<td>Professional Development (for beh. management)</td>
<td>72.7</td>
<td>26.4</td>
</tr>
<tr>
<td>Professional Development (academic skills)</td>
<td>75.5</td>
<td>23.6</td>
</tr>
<tr>
<td>Other Supports (in addition to above)</td>
<td>3.6</td>
<td>95.5</td>
</tr>
</tbody>
</table>
Teachers indicated their preference for the above supports by answering either No (score 0) or Yes (score 1). The total amount of support needed by each teacher was calculated by adding the total score. The distribution of the 109 teachers (1 teacher did not report on supports) with respect to total support needed is presented in Table 21.
Table 21

**Total Support Requested by Teachers**

<table>
<thead>
<tr>
<th>Total Support</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td>17</td>
</tr>
<tr>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>109</strong></td>
</tr>
</tbody>
</table>

The total number of issues with which teachers wanted support had a mean of 5.82 and a standard deviation of 2.77. Thus, on an average, teachers were requesting nearly six supports.
A factor analysis of the 13 supports was conducted to examine if supports could be divided into categories, depending on what types teachers were requesting. Principal Component Analysis was carried out to extract the main factors. An analysis of the scree plot indicated that the 13 supports loaded on two main factors with Eigen values of 3.34 and 1.86. These two factors could explain 40.04% of the total variance. The correlation between the two factors was .196. Table 22 details the rotated component matrix.
Table 22

Pattern Matrix for Support

<table>
<thead>
<tr>
<th>Type of Support Needed</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student going to other class</td>
<td>.49</td>
<td>-.26</td>
</tr>
<tr>
<td>Support from administration</td>
<td>.67</td>
<td></td>
</tr>
<tr>
<td>Curriculum materials</td>
<td>.59</td>
<td></td>
</tr>
<tr>
<td>Placement of child in special unit</td>
<td>.58</td>
<td></td>
</tr>
<tr>
<td>Support from colleagues</td>
<td>.54</td>
<td></td>
</tr>
<tr>
<td>Teacher assistant in the classroom</td>
<td>.56</td>
<td>.48</td>
</tr>
<tr>
<td>More support from parents</td>
<td></td>
<td>.58</td>
</tr>
<tr>
<td>Detailed assessment of child’s learning problems</td>
<td>.59</td>
<td></td>
</tr>
<tr>
<td>Direct communication with MHP</td>
<td></td>
<td>.40</td>
</tr>
<tr>
<td>Detailed assessment of child’s behaviour problems</td>
<td></td>
<td>.58</td>
</tr>
<tr>
<td>Professional Development (for understanding)</td>
<td>-.23</td>
<td>.76</td>
</tr>
<tr>
<td>Professional Development (for beh management)</td>
<td></td>
<td>.67</td>
</tr>
<tr>
<td>Professional Development (academic skills)</td>
<td></td>
<td>.77</td>
</tr>
</tbody>
</table>

Note: Cut-off of 0.2 for not reporting loadings

As seen in Table 22, Factor 1 entailed teachers’ requesting curriculum materials, support from colleagues, administration and assistant teachers, placement of the child in a special unit and a break from the child. These relate to supports that can be provided by people within the school system. They do not necessarily relate to professional development or the teacher needing to be actively involved in the management of the
child. It also does not entail professional development for understanding ADHD as this is negatively loaded on this factor. Factor 1 can be thought of as School Support.

Factor 2 consists of supports that entailed teachers wanting direct communication with professionals, detailed assessments of the child’s problems, professional development to improve their behaviour management, understanding and ability to teach academic skills to children with ADHD. Parental support also loaded heavily on this factor which might be related to teachers wanting parents to get their children assessed. Factor 2 can be thought of as Professional Development Support. The teacher getting a temporary break, by the child going to another class loaded negatively on this factor.

The overall results indicated that formal interventions for children with teacher-identified ADHD were limited and teachers wanted support in dealing with these children. There were two main categories of supports that teachers requested, which were professional development support and school support. These differed in the degree to which teachers would be involved in understanding and managing children with teacher-identified ADHD. There was a low correlation between the two categories of support.
3.4 Discussion

This study set out to examine Attention Deficit/Hyperactivity Disorder in Indian schools, and with a special focus on teachers. The first (pilot) study provided an overview of the wider context in which teaching takes place. It provided initial insights into issues such as the recognition, diagnosis and interventions for ADHD in India. The results from the first study indicated that ADHD was possibly under-diagnosed in Indian schools and specialized interventions were either limited or lacking. The second study was conducted to systematically examine these by having a much larger sample of teachers report on children displaying ADHD type problems in the class. This (second) study examined if there were children in Indian classrooms who consistently displayed a number of symptoms of ADHD that teachers could report on and differentiate from average children. It further examined if the children displaying symptoms of ADHD had received a formal diagnosis and if they were on any medication. It also examined how demanding teachers were finding these children, if teachers were stressed by them and whether such stress was contributing to burnout and affecting self-efficacy. Lastly, the study investigated if there were Individual Education Plans or other specialized interventions for children with ADHD and the kind of supports teachers were receiving and requesting in relation to these children. Given the limited research literature, this study aimed to make a contribution by bringing into focus and support the needs of children with ADHD and their teachers.
3.4.1 Presentation and Subtypes of ADHD

The study initially set out to investigate the presentation and subtypes of ADHD reported by teachers in Indian classrooms. As mentioned before, there was very limited Indian data on ADHD apart from one school based study, one community based study and three clinic based studies that used samples drawn from outpatient paediatric departments. Two of the clinic based studies reported higher prevalence rates than found in some other countries. This study did not set out to determine prevalence rates in schools. Rather, as a first step, it asked whether teachers could identify children exhibiting symptoms of ADHD and clearly distinguish them from other children in the class.

One hundred and ten teachers reported on 110 children with attention deficit and hyperactivity type problems and 110 average children. Given that there were 45-50 children in most classes, the overall coverage of the study was about 5000 children. The study’s criteria for ADHD which was based on DSM IV-TR was the presence of six or more symptoms of inattention, or six or more symptoms of hyperactivity, or ten or more symptoms of hyperactivity or inattention combined, consistently over a period of six months. Additional criteria like the presence of the behaviour at home, or the impairment caused by the behaviour could not be checked.

Out of the one hundred and ten children with teacher-identified ADHD (type problems) chosen by teachers, the three subtypes of ADHD emerged, with the Combined Subtype being most common, followed by the Inattentive Subtype. The
Hyperactive/Impulsive Subtype appeared least common. Among the average children, there were nineteen children who met the study’s criteria for ADHD as well. For these nineteen average children who met the criteria for ADHD, the corresponding child with ADHD type problems met the criteria as well. Thus, it raises the intriguing question of whether in these nineteen classrooms, ADHD type problems were so common that it became difficult for the teacher to nominate an average child, who was very different in presentation to the teacher-identified child with ADHD.

Children with teacher-identified ADHD type problems and the corresponding average children were also compared on teacher ratings of inattention, hyperactivity and behaviour problems. The children with teacher-identified ADHD type problems were reported to be significantly more inattentive, hyperactive/impulsive and have significantly more behaviour problems than average children.

Thus, what clearly emerged from these initial results was that children in Indian classrooms displayed ADHD type problems that teachers could clearly report on. Overall, these children could also be differentiated from average children in the class by their display of significantly more inattentiveness, hyperactivity/impulsivity and behaviour problems. The children could be divided into the three subtypes of ADHD, based on the symptoms they exhibited. Although the study did not set out to investigate prevalence rates of ADHD, it can be concluded that such children can be easily found in Indian classrooms and be distinguished from average children by teachers.
Although this is a convenience sample and teacher reports were used in the current study, it is interesting to compare the relative frequencies of the subtypes to studies in the West. The literature on ADHD has reported that the Inattentive and Combined Subtypes are more commonly reported in comparison to the Hyperactive Subtype. The Combined subtype has been found to be more prevalent in clinic samples (Faraone et al., 1998) while the Inattentive subtype has been more common in epidemiological studies (Baumgartel et al., 1995; Wolraich et al., 1996). This study found the Combined Subtype to be most common, followed by the Inattentive Subtype of ADHD. Interestingly, in line with other research (Baumgartel et al., 1995; Gaub & Carlson, 1997) the Hyperactive/Impulsive subtype was least commonly reported. This may reflect the actual lower frequency of this subtype because the symptom profile of this group should make it highly visible to teachers, compared to the often less obvious attention problems group.

3.4.2 ADHD Diagnosis and Medication

The number of children with teacher-reported attention deficit/hyperactivity type problems, who had actually received a diagnosis of ADHD and were on medication was investigated. The first study indicated that ADHD was possibly under-diagnosed in India. In addition, it appeared that medication, which is sometimes the first line of treatment in some other countries, was not a commonly utilized or accepted treatment for ADHD in India. These issues were examined again in the second study by having teachers identify children with ADHD type problems in their classrooms and investigating if they had received a diagnosis or were on any medication.
Out of the one hundred and ten children with teacher-identified ADHD type problems, twenty six (23.6%) had received a diagnosis that teachers were aware of. Of these, sixteen had received a diagnosis of ADHD or related diagnosis like Learning Disability. The remaining ten children were reported to have “some diagnosis” although teachers were not aware of what it was. Professionals who made the diagnosis were reported to be psychiatrists, psychologists, school counselors, doctors and special educators. Eight out of the one hundred and ten children were reported to be on medication, which is about 7.2% of the children with teacher-identified ADHD type problems. In addition, only one teacher reported on the type of medication, which in this case was Omega-3 for which there is only very limited evidence of efficacy.

These results showed that less than one fourth of the children who displayed symptoms of ADHD actually had a diagnosis. Even fewer were reported to be on medication for ADHD. There is a possibility that more children had a diagnosis, but teachers were not aware of it. Thus, there were children with teacher-identified ADHD type problems that could clearly be differentiated from average children in the classroom, but either were not reported to have a diagnosis or teachers were not aware of the diagnosis. These results extend the impression gained in the first study which indicated that ADHD was possibly under-diagnosed or diagnosed late in India. In addition, in the first study, a few teachers mentioned that they were not provided with much information or feedback about the diagnosis of the child. Consistent with this, in the second study, there were a number of children who were reported to have a diagnosis but teachers did not know the exact diagnosis. The fact that only 7.2% of them were reported to be on
medication was also in line with the first study that indicated that medication was not a commonly utilized treatment.

There was limited Indian data to compare these results with, apart from the five Indian studies on ADHD reported earlier. These studies reported prevalence rates of ADHD ranging from 5.2% to 34.3%. Given this, it was expected that children with ADHD frequently would be found in normal classrooms, which was the case. However, it is potentially worrying that less than one fourth of the children had actually received a diagnosis that teachers were aware of. It may be of concern because either the teacher-identified ADHD of these children was not being recognized and assessed, or if a diagnosis had been received, teachers were not being made aware of it. Without a diagnosis or awareness about the diagnosis, there is likelihood that these children might get mislabelled, punished or held back in classes. It may also follow that proper interventions will not be implemented for these children.

These results are quite different when compared with the international literature. There are debates in many countries, particularly the United States that children with ADHD are being overmedicated or over-diagnosed (Dawson, 2001; Marks, 2000; Singh, 2002; Singh, 2003; Singh, 2005). As mentioned above, these Indian results showed that in fact, ADHD was likely under-diagnosed. As far as medication was concerned, it was clear that children in India were not “overmedicated” and most likely were under-medicated. This was similar to the Indian study by Wilcox et al., (2007) which found that medication for ADHD was resisted by parents of children. Clearly, the results from other
countries cannot be applied directly to India. The next step was to examine if teachers were finding children with ADHD demanding to deal with.

3.4.3 Demands on Teachers by Children with ADHD and Average Children

The study set out to investigate if Indian teachers found children with ADHD to be more demanding than average children in the class. For this purpose, the frequency with which demands were placed on teachers was compared between children with teacher-identified ADHD and average children.

There were eight sets of demands that teachers reported on. These included prompting children to pay attention, assisting them with completing work, preparing adjusted work, repeating instructions or explanations, having to remove child from the class or manage behaviour before beginning lesson, being distracted in teaching and the child making teachers question their authority or competence. Teachers reported that children with teacher-identified ADHD type problems exerted all these demands significantly more often on them than did average children. Thus, not only were the children with teacher-identified ADHD type problems in the classroom distinguishable from the average children in terms of displaying more inattention, hyperactivity and behaviour problems, but also were placing significantly more demands on teachers.

There have been very few studies that have investigated the demands that children with ADHD place on teachers, separate from stress or burnout. Atkinson et al. (1997)
found that teachers tended to perceive children with ADHD as requiring extra teaching time and effort. It is not surprising that children with ADHD type problems were found to place more frequent demands on teachers. The behaviours typically associated with ADHD include disorganization, distraction, forgetfulness, fidgeting, disruptiveness, interrupting others, failure to remain seated as well as conduct and oppositional defiant symptoms that have been reported to be associated with ADHD. These can be problematic for children in academic settings where great amounts of discipline, rule obeying and application are required. These behaviours can also be challenging for teachers and can increase their workload considerably. Demands like preparing adjusted work, frequent reminding, prompting, repeating instructions, etc., require extra time, effort and individual attention focussed on the child with ADHD. This can take attention away from other children in the class as well as cut short time from teaching. In addition, demands of regularly having to discipline children with ADHD or respond to their behaviour can lead to frustration, lowered patience and tolerance, decreased feelings of competence, exhaustion and negative attitudes towards the children. It can have a negative impact on interactions between children with ADHD and their teachers. This may be particularly true if teachers are not trained or supported by the school in meeting these demands.

Given that these children are reported to be more demanding than other children, how adequately teachers respond to these demands is a highly pertinent question. If they feel stressed by these demands, their own stress may interfere with their ability to teach these children and affect their own well-being.
3.4.4 Patterns of Teacher Stress in relation to Children with ADHD and Average Children

The study set out to examine teacher stress in relation to children with ADHD and average children. Stress experienced by teachers in relation to these children was a relevant topic given that behaviours associated with ADHD can be trying and demanding for teachers. As seen above, in a range of different ways, students with teacher-identified ADHD exert more demands on teachers. Teachers can have different reactions to these demands, which can include stress and burnout. An important reason for examining this issue is that stress can potentially lead to negative outcomes for both teachers and children. If teachers report greater stress in relation to children with ADHD, it can have negative implications for how they manage and support these children. Information about teacher stress can also be used to develop teacher training programs, more targeted to responding to these children. Thus, the next step examined whether teachers were stressed by behaviours associated with ADHD and which behaviours caused more stress.

It was hypothesized that teachers would find children with teacher-identified ADHD more stressful than average children. The influence of the type of child (average or ADHD) as well as the behaviour type (inattention, hyperactivity, behaviour problems) on teacher stress was investigated using a mixed model design. This was examined in two stages, a first stage in which frequency of behaviour was not controlled, and a second stage in which frequency was treated as a covariate.
The results showed that when the frequency of behaviour was not controlled, the type of child and type of behaviour significantly affected teacher stress. Teachers reported significantly more stress in relation to children with teacher-identified ADHD than average children. Surprisingly, teachers reported being more stressed by inattention, followed by hyperactivity/impulsivity and then behaviour problems. After controlling for frequency of behaviour, teachers continued to find children with teacher-identified ADHD more stressful than average children, but the effects on stress decreased. Teachers reported behaviour problems to be most stressful, followed by hyperactivity and then inattention. The frequency of behaviour exerted a very large effect on stress and changed the relationship between which behaviours teachers found more stressful to deal with. This clearly indicated that teachers were mainly reacting to the frequency of different behaviours in their stress ratings.

The frequency of behaviour impacted heavily on teacher stress, independent of the type of child or type of behaviour teachers had to deal with. Regardless of whether it was a child with teacher-identified ADHD or an average child, the more frequently teachers were faced with inattention, hyperactivity or behaviour problems in the class, the more stressed they would become. This is not to say that the type of child or type of behaviour did not impact significantly on stress, but that the frequency of behaviour had a much greater effect on stress.

The type of child variable did show some impact on teacher stress, with teachers finding children with teacher-identified ADHD more stressful. The fact that this was so
even after controlling for frequency or type of behaviour raises the question of whether these children get labelled or stereotyped in some way for teachers to find them more stressful. It would not be easy to say that these children get labelled on the basis of a diagnosis of ADHD in the Indian context, when less than one fourth of them may even have a diagnosis. The DSM-IV requires there to be clinically significant inattention, hyperactivity or both present for at least six months. In addition, the behaviour should be present in two settings and cause impairment in social, occupational and academic functioning. Given that teachers were stressed by children with teacher-identified ADHD type problems, even when the frequency of their behaviours was taken into account, leads to the question of whether they were responding to the social or academic impairment caused by the behaviours. It was hard to answer this question because impairment was not measured in the current research. Alternatively, if the labelling explanation is applied, then these children were labelled in some way (say lazy or naughty or disruptive), even without a diagnosis of ADHD. As they moved through classes, they might have been “known” by teachers or students, as children who cause problems or disruption, and teachers might find them more stressful on the basis of this, in addition to how often they actually displayed these behaviours in that particular teacher’s class.

There is not much previous research to compare these results with, except three studies on teacher stress and ADHD. A related study by Greene et al. (2002) on teacher stress and ADHD found that teachers reported greater stress in relation to children with ADHD (all children had a diagnosis) than average control children. They found that although teachers reported more stress in relation to children with ADHD, there was a
modest correlation between teacher ratings of students’ behaviour and ratings of stress in response to the same behaviour. The Teacher Report Form (Achenbach, 1991) was used to rate students’ behaviour which assessed a variety of child behaviour problems like Aggression/Non-compliance, Anxiety/Depression, Social Withdrawal, Attention Problems, Social Problems, and Delinquent Behaviour. Students with ADHD who evidenced a high level of oppositional/aggressive behaviour or social impairment were rated as more stressful to teach. A low to modest correlation was found between the frequency and severity of the child’s behaviour and stress caused by the behaviour. It should be noted that only students with ADHD were included in this correlation analysis. In line with Green et al.’s (2002) study, this study showed that teachers were more stressed by children with ADHD. Another similar result across the studies was that oppositional behaviour or behaviour problems influenced teacher stress. However, while Green et al. (2002) found that the frequency of behaviour did not have a great impact on stress, this study found that the frequency of behaviour had a very large effect on teacher stress, over and above the type of child and type of behaviour, which in turn had smaller main effects on stress. A reason for the difference in results could be either due to different assessment tools or to the different statistical analyses employed (correlational analysis vs mixed model). It is also important to note that for most of the correlational analyses in Green et al.’s study, average children were not included. In comparison, a mixed model in this study allowed for multiple comparisons including type of child and behaviour with the option of controlling for frequency. The results of this study are consistent with other studies like those of Klein (2002) and Hepperlen et al. (2002) which
also found that teachers reported more stress and tension in relation to children with ADHD than average children.

Thus, these past studies in Western countries have found that children with ADHD can be more stressful for teachers than average children. Patterns of teacher stress have not been fully explored in these studies, in relation to both average children and children with ADHD. This study attempted to take into account some of the limitations of the previous studies and included analysis of both types of children, behaviour patterns and frequency of behaviour. An important result from this analysis was that indeed, in line with previous studies, children with teacher-identified ADHD were more stressful for teachers than average children. In many ways, this is an expected result. Unexpectedly though, this study showed that the frequency of behaviour has the largest effect on stress which is greater than the effect of child type. In other words, regardless of whether there are children with ADHD or average children in the class, the more frequently teachers are faced with inattentive behaviour, hyperactivity/impulsivity or behaviour problems, the more stressed they are likely to become. This is also an implication that can be extended to the 19 classes in which teacher reported average children also met the study’s criteria for ADHD. In line with other studies, behaviour problems proved to be more stressful for teachers than hyperactivity and inattention for both average children and children with teacher-identified ADHD. Lastly, even after controlling for frequency of inattention, hyperactivity and behaviour problems, children with teacher-identified ADHD were more stressful for teachers than average children.
The more stress teachers experience, the greater is the likelihood of negative interactions with students, and the possibility of teachers experiencing some form of burnout. The next section will discuss if stress reported in relation to children with teacher-identified ADHD and average children was predictive of burnout and loss of teaching self-efficacy.

3.4.5 Teacher Burnout and Self-Efficacy

After examining the stress experienced by teachers in relation to children with teacher-identified ADHD and average children, and the behaviours displayed by them, the contribution of this stress to the prediction of teacher burnout and self-efficacy was examined. Teachers have to deal with the demands imposed by these children on an almost daily basis. This can prove quite challenging, especially if teachers do not have additional supports to rely upon or if they are not trained to manage these demands. As seen above, the more frequently teachers are confronted with inattentive, hyperactive or behaviour problems, the more stressed they become. Since children with ADHD are known to display these behaviours consistently, there can be an accumulation of stress overtime, which may lead to exhaustion and a lowered sense of achievement. The current study investigated to what extent the specific stress of dealing with children with teacher-identified ADHD actually translates into the broader experience of teacher burnout and reduced self-efficacy.

Teaching self-efficacy and the three dimensions of burnout of the Maslach Burnout Inventory were analysed as dependant variables. The independent variables were
stress associated with inattention problems in children with teacher-identified ADHD and average children, stress associated with hyperactivity in children with teacher-identified ADHD and average children, and stress associated with behaviour problems in children with teacher-identified ADHD and average children. In addition to these six variables, additional stress outside school was also included as an independent variable.

It was found that these seven variables jointly predicted 14.5% of variance on Emotional Exhaustion. None of the variables uniquely predicted Emotional Exhaustion. Stress associated with inattention problems for both children with teacher-identified ADHD and average children contributed the most to the prediction of Emotional Exhaustion. For Depersonalization, 14.3% of the variance was jointly predicted by all the variables, with none of them contributing uniquely. Stress outside of school and hyperactivity problems in average children were found to contribute most to reports of depersonalization. All the variables jointly predicted 10% of the variance on Personal Accomplishment. Hyperactivity and inattention problems in average children were found to significantly predict Personal Accomplishment. For Self-Efficacy, 6.5% of the variance was jointly predicted by all the variables, with none of them uniquely contributing. Stress associated with behaviour problems in average children was found to contribute most to the prediction of Self-Efficacy.

As seen above, stress associated with children with teacher-identified ADHD alone does not predict burnout. Stress associated with average children and children with teacher-identified ADHD, in addition to stresses outside of the school, all put together
predict more of burnout. Depersonalization was most affected by stresses outside of the school and hyperactivity problems in average children. Emotional Exhaustion was most affected by inattention problems in both children with teacher-identified ADHD and average children. It should be noted here that stress associated with hyperactivity and inattention problems in average children also contributed to the prediction of burnout. An explanation for this could be that one child with ADHD causing stress may not have the same impact as when the problems displayed by the average child become stressful for the teacher. It may be easier to discount or deal with the behaviours of one or two "problem children" in the class, but when the "average child" starts to become stressful, it can be harder to ignore.

Stress associated with hyperactivity and inattention problems in average children significantly predicted Personal Accomplishment. Stress associated with behaviour problems in average children most strongly predicted Self-Efficacy. Here again, it is the stress associated with problems exhibited by average children that appear to affect teachers more. The class performance can be indicators of the teachers' skills and abilities that may not only be evaluated or judged by the teachers' themselves, but also their colleagues and the principal. Thus, when the class as a whole displays problems with inattention or hyperactivity, it can negatively affect teachers' perceptions of their abilities and accomplishments. It also should be noted that all the variables contributed to explaining relatively more variance in the two negative dimensions: Emotional Exhaustion and Depersonalization, rather than the other two positive dimensions: Self-Efficacy and Personal Accomplishment. Thus, stress appears to affect "negative"
emotions more than “positive” emotions. The absence of stress may not necessarily contribute to the feeling of efficacy or accomplishment, which could explain why the independent variables predicted lesser variance in these two dimensions.

The only other study found on teacher burnout and children with ADHD (Ozdemir, 2006), compared the burnout levels of teachers of children with ADHD in their class to those without children with ADHD in their class. No differences were found on the Depersonalization and Emotional Exhaustion subscales of the MBI. The Personal Accomplishment subscale scores of teachers of non-ADHD students were higher than teachers of students with ADHD. Age of teachers affected personal accomplishment as well, with younger teachers reporting lower personal accomplishment. Ozdemir felt that the lack of training about ADHD could be responsible for the lowered personal accomplishment that teachers of children with ADHD experienced. She concluded that high personal accomplishment scores might be related to feelings of self-efficacy in responding to needs of students. Thus, teachers of students with ADHD might consider themselves as lacking knowledge to help students and this idea might lead to feelings of low personal accomplishment. This (second) study found that Personal Accomplishment was not highly predicted by stress associated with children with ADHD. However, there were a few differences between Ozdemir’s study and this one. Firstly, Ozdemir’s study was conducted in Turkey where educational and social contexts might differ. Secondly, she compared the burnout levels of teachers with and without children with ADHD in their classrooms. The current study only looked at teachers of children with teacher-identified ADHD. The contribution of stress to the prediction of burnout was the focus of the current study, rather than burnout itself, which
can be associated with many other factors. Apart from Ozdemir’s study, no research was found on teacher burnout or self-efficacy in relation to children with ADHD.

To conclude, although teachers found children with teacher-identified ADHD more demanding and reported greater stress in relation to them, these stresses were not uniquely predictive of teacher burnout or self-efficacy. Problems with average children in the class appeared comparatively more predictive of burnout and self-efficacy. This being the case, it appears that teachers can cope with having one or two “problem children” in the class and not let it affect their efficacy. However, average children in the class or the class as a whole displaying problems, negatively impacts teacher burnout and efficacy. The implications of this again extend to the 19 classrooms where average children appeared to meet the symptom criteria for ADHD as well. Another consideration is that many other social and organizational factors such as age, work load, salary, supportiveness of colleagues, principal, etc. can be more predictive of burnout. However, burnout in relation to children with ADHD, and not in itself was the focus of this study and hence these factors were not examined. The next section will discuss supports for teachers in the schools.

3.4.6 Supports for Teachers

The study set out to examine the supports available for teachers in relation to students with teacher-identified ADHD. No published research was found on this in the Indian literature. This was a crucial area of inquiry because both children with ADHD and their teachers need to be supported in order to ensure good outcomes for both. A
detailed examination of supports requested by teachers can be helpful in developing policies and teacher training programs, more targeted to dealing with children with ADHD. The first study suggested that there were limited supports for children with ADHD in schools. The second study more formally assessed the supports available and the supports that teachers requested.

The number of children who were on Individual Education Plans (IEPs) was investigated. Out of the 110 children with teacher-identified ADHD type problems, 11 had an IEP. Even out of these 11 children, there were a few who did not have a formalized IEP. Teachers reported that they received significantly more support from the parents of average children than children with teacher-identified ADHD. They also reported that they wished they had professional assistance with managing the learning and behaviour problems of children with teacher-identified ADHD significantly more often than with average children. In addition, they had actually asked for assistance with children with teacher-identified ADHD, significantly more often than with average children. Teachers were asked which supports out of a list of 13 supports they would want. The most commonly needed supports by teachers were more support from child’s parents’, detailed assessment of child’s learning and behaviour problems, more curriculum materials and professional development to improve their understanding and behaviour management of ADHD. There were very high rates of needing these supports: from 70% to 90% teachers asked for these supports. On an average, teachers reported needing nearly six types of supports. Factor analysis of the 13 supports showed that they could be divided into two main categories: School Support and Professional
Development Support. School Support included understanding from people in the school system like colleagues, administration and assistant teachers. It also included having the child placed in a special unit or the child going to another class to give the teacher a break. It did not entail teachers themselves being involved in learning about or managing children with ADHD. The second category, Professional Development Support, involved an extensive investment in supporting the child. Not only did this include wanting to communicate with outside professionals, detailed assessments of the child’s learning and behaviour problems, but also professional development to improve their understanding, academic and behaviour management skills. Support from parents was also included in this type of support. There were indications from the first study that parents had to be pushed by school personnel to have their children assessed, which may be why parental support loaded with this factor. Professional Development support did not entail having a break from the child by the student going to another class, as confirmed by the negative loading on this.

From all these results, it can be concluded that teachers were feeling less supported by the parents of children with teacher-identified ADHD, and in addition, wanted and were asking for more assistance. Teachers were asking most often for assessments for children with teacher-identified ADHD, curriculum materials and professional development to improve their understanding and management of these children. Also, given that very few of the students actually had an IEP, supports for children with teacher-identified ADHD and their teachers were clearly lacking. It can be inferred that teachers were not satisfied with the current level of support received. Also,
the fact that there were high numbers of teachers wanting detailed assessments and professional development would imply that they recognized that children had problems, and wanted help with understanding and dealing with the problems. It also lends support to the results of the first study which indicated that these children are possibly undiagnosed or under-diagnosed and that interventions for ADHD are limited in schools. There was some indication from the first study that teachers might not want to be extensively involved in the management of these children. The second study, however, found that teachers wanted to know about ADHD and undertake professional development to help these children in the class, as evidenced by the high percentage of teachers asking for these.

Studies in other countries have also found that teachers do not feel well-equipped to deal with children with ADHD (Arcia et al., 2000; Hong, 2008; Kataoka et al., 2004; Snider et al., 2003). Parents have also reported that teachers were not knowledgeable about ADHD and schools lacked resources to deal with the needs of their children (Concannon et al., 2005; Efron et al., 2008). This might be more so in the Indian setting where teachers are not exposed to materials on child psychopathology in their teacher training. As reported earlier, none of the teachers in this study reported having a lot of training on ADHD and the majority reported little or no training. Under-diagnosis, limited awareness and supports for students with ADHD and their teachers may potentially lead to negative outcomes for these children. These results are alarming in that they indicate that the needs of children with ADHD are far from being met in mainstream Indian schools. This being the case, this study brings the needs of children and their
teachers into clear focus and allows for a strong case to be made for adequately recognizing and treating these children in schools.

To reiterate, given the effects that ADHD can have on children and their teachers, it is important to adequately diagnose and manage this condition. Medication and psychological therapy, treatments that have originated in the west, have been and continue to be subjected to scientific trials. Given that these treatments have a reasonable good evidence of efficacy, there is a case for ensuring that at the very least, school based psychological or educational interventions be adequately implemented in India. Medication for ADHD has not been found to be an acceptable treatment as is evidenced from this research as well as Wilcox and colleagues (2007) research in Goa, India. Wilcox et al., (2007) made the point that parents of children with ADHD in their study were more likely to attribute causality to psychological models, learning and memory difficulties and blame the self or spouse for ADHD behaviour of their children. Parents were also more likely to seek educational interventions for their children rather than biomedical interventions. In addition, the school tended to be the primary source of referrals to the Child Development Centres as parents were unlikely to seek help directly from physicians for their children’s behavioural problems. Given these considerations, particularly that parents are more likely to seek educational interventions and that the school may be the first port of call, school professionals, especially counselors and teachers need to be firstly aware and sensitized about ADHD. Parents may be more likely to collaborate and be open about their child’s problems if the schools are seen to have staff that are sensitized and supportive of children with behavioural problems and
specials needs. There is need for pre-service and in-service training of teachers so they can be equipped with the necessary knowledge and skills to not only deal with the behaviours of the children but also deal sensitively with issues of denial, labelling, self-blame or blame of child that parents may bring up. There is also a pressing need for school counselors to be actively involved in collaborating with parents and addressing these issues. With the limited number of counselors in most schools and the large student numbers of the schools in India, more mental health and special education personnel are needed to fulfil the needs of children with ADHD, their parents and teachers. To conclude, this study makes a strong case for raising awareness and adequately treating childhood conditions like ADHD in India.
3.5 Limitations of the Study

There were a number of limitations of the second study. Firstly, there is a sample bias in that a convenience sample was used. The study was conducted in New Delhi and Bangalore, which are metropolitan cities and the results may not generalize to other cities or rural India. In addition the teachers were from English speaking, public schools which catered for middle to higher socio-economic class students. Thus, results may also not generalize to government schools because the lowest socio-economic strata were not represented. Future research should utilize a more diverse sample including a wider range of geographical locations. Secondly, there were some teachers who refused to participate because of time or other constraints. These teachers may differ from the ones who were willing to participate. Thirdly, this sample consisted of 98% female teachers and the teachers mainly chose male students with ADHD to report on. Thus, the results may not generalize to male teachers and female students with ADHD. Hence, there might be different outcomes if a more diverse group of teachers were selected. Fourthly, the study also did not investigate how teachers were actually managing these children or responding to their demands on a daily basis. Fifthly, this research was based on teachers’ judgements of children displaying ADHD type behaviour. No independent assessments were carried out to determine if children actually displayed the behaviour that was attributed to them. Sixthly, stresses experienced by teachers outside of the school were not compared with stresses within the school. Future research can take this into account in analysing patterns of stress.
3.6 Summary and Implications of the Research

This research found that there were children with Attention Deficit and Hyperactivity type problems or ADHD in Indian schools whom teachers could differentiate from average children in the class in terms of the frequency and number of inattention, hyperactivity/impulsivity and behaviour problems displayed. However, very few of these children had a formal diagnosis of ADHD and even fewer were on any medication. Even if they were, in many cases teachers did not appear to be aware of it. There were very few children who had formalized Individual Education Plans. Teachers wanted and requested more assistance with these children. They indicated that they needed more professional development, understanding from school personnel and information about ADHD. They reported that they found children with teacher-identified ADHD more demanding in comparison to average children. Teachers also reported to be more stressed by children with teacher-identified ADHD. In addition, the more frequently teachers encountered inattention, hyperactivity and behaviour problems by either ADHD or average children, the more stressed they became. Stress associated with children with ADHD, however, did not contribute uniquely to teacher burnout and lowered self-efficacy.

Both studies, qualitative and quantitative, came to similar conclusions about diagnosis, medication and the management of ADHD, particularly in schools. It is of concern that there may be many children in Indian schools who have ADHD but are unrecognized, possibly labelled inappropriately and not supported adequately. The fact that teachers are reporting significant extra demands and stress in relation to these
children, in addition to limited support and training is alarming. This research highlights the need for greater awareness of ADHD in Indian society, especially among school personnel like teachers and principals. Interventions need to be in place in schools and more specialized staff like counselors and special educators are needed to ensure that interventions are implemented in the classrooms and supported by teachers. If schools are aiming or mandated to be inclusion-sensitive, they must invest in resources for these children. There may be a degree of stigma about childhood conditions or disabilities, which may prevent parents from being open about their child’s condition or struggle with acceptance. However, if schools are seen to be aware, open and supportive of ADHD and other conditions, in addition to being well resourced, it may make it a little easier for parents to accept their child’s ADHD. Clearly, principals and the school administration will need to play a big role in investing in, and supporting these children and their families. Mental Health Professionals will also need to work towards creating awareness in schools, not to mention society at large.

To conclude, these results make a case for further researching ADHD in India. As seen, even if ADHD is the same all over the world, the identification and treatment processes are influenced by the health, educational and societal context. These need to be researched more if children and adults with ADHD are to be supported well in schools and the community. The links between different systems, both inside and outside the school, and how they work together in the treatment of children with mental health problems or disabilities need to be examined. More school based studies would be useful to gain more information about referral patterns, assessment and interventions for these
children. Studies involving classroom observations could be useful to explore how teachers actually deal with these children on a day-to-day basis. Studies should also involve the parents of these children and their experiences with the systems they encounter. Future research can also look at more direct comparisons between India and other countries on issues related to ADHD.
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Appendix A

(Information Sheets and Consent Forms)
INFORMATION SHEET FOR TEACHERS (1rst study)

INTRODUCTION TO THE STUDY

Please read before completing the questionnaire

Background: Many teachers encounter pupils with attention problems and/or impulsivity/hyperactivity in their classrooms. Some of these students may have a formal diagnosis of Attention Deficit Disorder (ADD) or Attention Deficit Hyperactivity Disorder (ADHD), but many do not. Whether they have a diagnosis or not, the difficulties these pupils experiences often pose a considerable challenge to teachers.

The purpose of this study: We invite you to share your experience in teaching these children with us. We want to learn from your first hand knowledge which difficulties arise and what strategies help. We also want to know how what support is available within and outside your school from different personnel to help you with these types of problems. In addition, we would like to know how often you access the support and in what way are you benefited by it. In addition, we would like to learn about your experiences of interacting with the families of these children. The responses will contribute toward the development of a teacher training program.

The international collaboration: This study is being conducted in the Australian Capital Territory by Dr Bernd Heubeck and Ms Nandini Sethi from the Australian National University and is part of a wider international project. This means that the experience of teachers in different countries can be pooled and widely disseminated.

What you are asked to do: You are asked to participate in a taped interview discussing your experiences of the above.

Time: It takes approximately 1 hour to complete the interview and we ask that all questions be attempted. If you have any questions while completing the interview, please do not hesitate to ask for assistance. You are free to withdraw from the study at any time and for any reason.

Confidentiality: All responses will be treated as strictly confidential in accordance with the law and no school, teacher, student, parent, counselor, mental health professional will be identified in the final report. It means that the responses or any information about the students you report on will not be disclosed to the principal, director of the school, parents of the children, school counselor, or any other person or institution. You will also not be identified in the final report. All the data obtained in stored in a locked cabinet at the School of Psychology, Australian National University and the tapes will be erased after the project is over.
For further information: If you have any further questions about this research you can contact Ms Nandini on 0420911218 or email u4380921@anu.edu.au. The research supervisor Dr Heubeck can also be contacted on 6125-0635 or by email Bernd.Heubeck@anu.edu.au.

If you have concerns regarding the way the research was conducted please contact the HumanEthics Officer, Human Research Ethics Committee, Australian National University. Tel: 61257945.
E-mail- Human.Ethics.Office@anu.edu.au
CONSENT FORM FOR TEACHERS (1rst study)

1. I ___________________________ (Please print) hereby consent to take part in the research project entitled "the experiences of Indian teachers and other professionals with ADHD students". I have read the information sheet for this study and understand its contents. I have read the nature and purpose of the research project, so far as it affects me, fully explained to my satisfaction. My consent is freely given.

2. I understand the purpose of this study is to share my experience in teaching children with attention problems and/or hyperactivity.

3. I understand that if I agree to participate in the research project I will be asked to complete an interview. This will take approximately 1 hour.

4. I understand that the interview will be taped.

5. I am aware that my responses will be treated as strictly confidential in accordance with the law and no school, teacher, or student will be identified in the final report. It means that my responses or any information about the students I report on will not be disclosed to the principal, director of the school, parents of the children, counselor, or any other person or institution. I will also not be identified in the final report which is an analysis of data collected from other schools and teachers.

Signed.............................................. Date..............................................
INFORMATION SHEET FOR PARENTS (1rst study)

INTRODUCTION TO THE STUDY

Please read before completing the questionnaire

Background: Some children may have a formal diagnosis of Attention Deficit Disorder (ADD) or Attention Deficit Hyperactivity Disorder (ADHD), but many do not. Whether they have a diagnosis or not, the difficulties these children experience often pose a considerable challenge to parents and professionals both within and outside of the school system.

The purpose of this study: We invite you to share your experience in dealing with your children and accessing support for them. We want to learn from your first hand knowledge which difficulties arise and which strategies help. We would like to learn your experience of the school system in supporting you in the care of your child. In addition we would like to learn what services outside of the school you avail of for your child and their role in supporting you. The responses will contribute toward the development of a teacher training program.

The international collaboration: This study is being conducted in the Australian Capital Territory by Dr Bernd Heubeck and Ms Nandini Sethi from the Australian National University and is part of a wider international project. This means that the experience of teachers in different countries can be pooled and widely disseminated.

What you are asked to do: You are asked to participate in a taped interview discussing your experiences of the above.

Time: It takes approximately 1 hour to complete the interview and we ask that all questions be attempted. If you have any questions while completing the interview, please do not hesitate to ask for assistance. You are free to withdraw from the study at any time and for any reason.

Confidentiality: All responses will be treated as strictly confidential in accordance with the law and no school, teacher, student, parent, counsellor, mental health professional will be identified in the final report. It means that the responses or any information about the students you report on will not be disclosed to the principal, director of the school, parents of the children, school counsellor, or any other person or institution. You will also not be identified in the final report. All the data obtained in stored in a locked cabinet at the School of Psychology, Australian National University and the tapes will be erased after the project is over.
For further information: If you have any further questions about this research you can contact Ms Nandini on 0420911218 or email u4380921@anu.edu.au. The research supervisor Dr Heubeck can also be contacted on 6125-0635 or by email Bernd.Heubeck@anu.edu.au.

If you have concerns regarding the way the research was conducted please contact the HumanEthics Officer, Human Research Ethics Committee, Australian National University. Tel: 61257945. E-mail- Human.Ethics.Offercer@anu.edu.au
CONSENT FORM FOR PARENTS

I ........................................... (Please print) hereby consent to take part in the research project entitled “the experiences of Indian teachers and other professionals with ADHD students”. I have read the information sheet for this study and understand its contents. I have read the nature and purpose of the research project, so far as it affects me, fully explained to my satisfaction. My consent is freely given.

6. I understand the purpose of this study is to share my experiences with dealing with my child’s condition and the support I experience both within and outside the school system.

7. I understand that if I agree to participate in the research project I will be asked to complete an interview. This will take approximately 1 hour.

8. I understand that the interview will be recorded.

9. I am aware that my responses will be treated as strictly confidential in accordance with the law and no school, teacher, counselor, mental health professional, student or parent will be identified in the final report. It means that my responses or any information about the students and others I report on will not be disclosed to the principal, director of the school, parents of the children, counselor, or any other person or institution. I will also not be identified in the final report which is an analysis of data collected from other schools, teachers, counselors, mental health professionals and parents.

Signed........................................ Date........................................
Information Sheet (2nd study)

INTRODUCTION TO THE STUDY

Please read before completing the questionnaire

Background: Many teachers encounter pupils with attention problems and/or impulsivity/hyperactivity in their classrooms. Some of these students may have a formal diagnosis of Attention Deficit Disorder (ADD) or Attention Deficit Hyperactivity Disorder (ADHD), but many do not. Whether they have a diagnosis or not, the difficulties these pupils experiences often pose a considerable challenge to teachers.

The purpose of this study: We invite you to share your experience in teaching these children with us and with other teachers. We want to learn from your first hand knowledge which difficulties arise and which strategies help. We also want your answers to contribute to the development of a new teacher training program that will be offered to all participating schools.

The international collaboration: This study is being conducted in the Australian Capital Territory by Dr Bernd Heubeck and Ms Nandini Sethi from the Australian National University and is part of a wider international project. This means that the experience of teachers in different countries can be pooled and widely disseminated.

What we ask you to do: Complete the attached survey covering the following issues:

1. General Background
2. List of official signs of inattention and/or hyperactivity
3. Inattention and/or hyperactivity in your school
4. Case example of a student with ADHD type difficulties
5. Case example of an average student
6. Teacher stress and your suggestions for teacher training
7. Final comments and contact

It takes approximately 1 to 1.5 hours to complete the survey and we ask that all questions be attempted. If you have any questions while completing the survey, please do not hesitate to ask for assistance. You are free to withdraw from the study at any time and for any reason.

Contribution: Participating teachers will be awarded Rs 250 for each questionnaire completed.
Confidentiality: All responses will be treated as strictly confidential in accordance with the law and no school, teacher, or student will be identified in the final report. It means that the responses or any information about the students you report on will not be disclosed to the principal, director of the school, parents of the children, school counsellor, or any other person or institution. You will also not be identified in the final report. All the data obtained is stored in a locked cabinet at the School of Psychology, Australian National University.

For further information: If you have any further questions about this research you can contact Ms Nandini on 0420911218 or email u4380921@anu.edu.au. The research supervisor Dr Heubeck can also be contacted on 6125-0635 or by email Bernd.Heubeck@anu.edu.au.

If you have concerns regarding the way the research was conducted please contact the HumanEthics Officer, Human Research Ethics Committee, Australian National University. Tel: 61257945. E-mail- Human.Ethics.Offercer@anu.edu.au
Consent Form (2nd study)

CONSENT FORM FOR RESEARCH SUBJECTS

10. I .................................................. (Please print) hereby consent to take part in the research project entitled "the experiences of Indian teachers with ADHD students". I have read the information sheet for this study and understand its contents. I have read the nature and purpose of the research project, so far as it affects me, fully explained to my satisfaction. My consent is freely given.

11. I understand the purpose of this study is to share my experience in teaching children with attention problems and/or hyperactivity.

12. I understand that if I agree to participate in the research project I will be asked to complete a questionnaire. This will take approximately 1 to 1.5 hours.

13. I understand that I will receive 250 rupees for completing the questionnaire.

14. I am aware that my responses will be treated as strictly confidential in accordance with the law and no school, teacher, or student will be identified in the final report. It means that my responses or any information about the students I report on will not be disclosed to the principal, director of the school, parents of the children, counselor, or any other person or institution. I will also not be identified in the final report which is an analysis of data collected from other schools and teachers.

Signed................................................. Date.................................................
Appendix B

(List of Interview Questions)
STAKEHOLDER- TEACHER (no of years as teacher)

KNOWLEDGE ENVIRONMENT QUESTIONS

1. Are you familiar with the term Attention Deficit Hyperactivity Disorder (ADHD)?
2. Where did you learn/hear about ADHD?
3. Have you had any training (could be your teacher training as well) in which you received information about ADHD? Was it just information or did it help you develop your skills? How knowledgeable do you feel about ADHD on a scale of 0 to 100 (0-know nothing about ADHD to 100-you know everything about ADHD).
4. What is your understanding of ADHD?
5. What do you think are the causes of attention deficit hyperactivity type of problems?
6. Do you feel the need to refer children with attention deficit and hyperactivity type problems to the school counselor or someone outside as opposed to something that you can handle on your own?

GENERAL QUESTIONS (before asking questions related to other categories)

1. What kind of problems do you experience with such kids?
2. How often do you face these problems?
3. Given that you teach a class of more than 40-50 students, how does having a child exhibit such problems affect you? In what way?
4. How do you handle these kinds of problems?
5. What are you expectations of such children?

ASSESSMENT AND INTERVENTION QUESTIONS

1. What kind of support is available for these children within the school?
2. Do you access that support? How often do you access that support? When was the last time you accessed the support?
3. Under what circumstances do you access that support? For what kinds of problems do you typically refer children in your class to the school counselor?
4. What happens after you have referred a child to the school counselor?
5. Do school counselors work closely with you in the management of such kind of children? In what way?
6. Do you agree with the diagnosis of ADHD for some children? What else could explain the behavior?
7. How helpful are they to you?
8. What assessments do they do? Do they do in their private offices or come into the classrooms to observe?
9. Are you involved in the assessment in any way? What way?
10. How much feedback do you get about the assessment from the counselor?
11. How helpful is the feedback?
12. Is the Counselor managing the child by herself?
13. Do they come into the class to manage the child?
14. Do they teach you or give you strategies on how to manage the child?
15. How often do they work with the child?
16. How often do you go to the headmistress or principal to get help or speak to them about these children?
17. What is their response?
18. How do you feel supported by the school in your efforts to manage such children?
19. In what way would you like to be supported?
20. How does your school as a whole perceive and handle these kinds of problems?
21. How do the parents come into the picture? Do you contact them? Do they contact you? At PTA meetings or other meetings with the family, typically what do you communicate to the parents of these children?
22. What do you tell them on how to manage the child at home?
23. What is your experience of the families of children with ADHD?
24. What kind of challenges do the families pose to you?
25. Have any of the kids with ADHD been involved with Doctors or psychologists?
26. Did you refer them or find out somebody referred them?
27. Do the doctors or psychologists contact you? What for?
28. What can the following people do to aid in supporting you in the care of the child-
- counselors
- principal
- parent
- docs

1. What do you think would help these children most?

CASE
Can you think of and talk about 1 case in particular where you felt that a child with ADHD was managed well within the school system?
Can you talk about another where things did not go so well?

STAKEHOLDER - SCHOOL COUNSELOR (no years SC)
KNOWLEDGE ENVIRONMENT QUESTIONS

1. What is your educational background? Are you familiar with ADHD? Did that include education about ADHD? What education do you have about ADHD?
2. Did you do internships as a part of your course?
3. Did you work with ADHD children in those internships?
4. When did you first learn about the condition and how to manage it?
5. In what context did you encounter your first child with ADHD?
6. How did you handle the child then?

ASSESSMENT AND INTERVENTION QUESTIONS

1. Typically, for what kind of problems to teachers refer kids to you? Are teachers in your school aware of conditions like ADHD to refer kids with these problems?
2. How do you get involved in the management of a child with ADHD?
3. How do you get a referral?
4. On an average how many children per class do you get referred by teachers for attention deficit and hyperactivity type problems?
5. How many would actually meet the criteria for ADHD?
6. Some teachers say that most kids are hyperactive. Does it make it harder for kids with ADHD to be picked up by teachers? What is your experience?
7. How many counselors are there in your school? Do you need more? Why?
8. Do you have other duties apart from counseling? How much time do you spend counseling and in other duties?
9. Are special educators needed in your school? Why?
10. What do you do if you get a referral from a teacher of a kid with attention deficit and hyperactivity type problems?
11. What kinds of assessments do you do?
12. Do they involve classroom observation?
13. What interventions do you employ? (PROBE-about teachers and parents involvement about these 2 questions)
14. Who all are involved in the intervention?
15. In what way are all these different people involved?
16. What work do you do with the teachers in the management of the child in the classroom?
17. How do teachers respond to your recommendations?
18. How well are they able to implement the recommendations and what difficulties do they face?
19. How often do you meet with the teacher to discuss every child with ADHD?
20. How often/frequently would you see a child with ADHD? What is the intervention at the level of the child, teacher?
21. Do you speak to or involve professionals outside of the school in the care of the child e.g. psychologists, psychiatrists, special educators? If not, why does it not happen?
22. What is the role of the mental health professional outside of the school system in ADHD?
23. What kind of recommendations do they give?
24. How often would you meet them? In there a follow up? How regular is the follow up?
25. Do you consult or refer to psychiatrists regarding medication for these children? (If not, why not?)
26. How regular is the follow up with psychiatrists?
27. What according to you is the best treatment for these children?
28. Do you think medication helps? How much?
29. Have you seen kids that are on medication for ADHD? What kind (allopathic, homeopathic, others)?
30. Are families involved in the assessment and intervention?
31. In what way are families involved in the intervention? What do you tell them on how to manage the child at home?
32. How often do you meet with the family? For what purpose?
33. What challenges do you face getting the families involved?
34. What is your experience of the families of these kids?
35. What challenges do the families pose to you?
36. What needs to be done for these children?

SUPPORT QUESTIONS

1. Do you feel supported by the school as a whole in the management of these children? What system is there for the management of these children in your school?
   1. What particular challenges do you face?
   2. What can the following people do to aid in supporting you in the care of the child:
      - teachers
      - principal
      - parent
      - other professionals
      - doctors

CASE
Can you think of and talk about 1 case which you were involved in where you felt that a child with ADHD was managed well within the school system?
Can you talk about another where things did not go so well?

STAKEHOLDER- MENTAL HEALTH PROFESSIONALS
(no of years in practice)

KNOWLEDGE ENVIRONMENT QUESTIONS

1. What kind of training do you have specific to working with ADHD?
2. Where did you obtain that training?
3. How many children with ADHD have you seen (obtain a timeframe)

ASSESSMENT AND INTERVENTIONS QUESTIONS

1. How do you get involved in the management of a child with ADHD How do you get a referral?
2. Is there a particular section of the society that you normally get referrals for ADHD or work with?
3. Why is that so?
4. What age group do you maximally get referrals for or work with?
5. What types of assessments do you do for ADHD? Who is involved in the assessment? Are teachers involved?
6. What interventions do you employ at the level of the kid?
7. Who gets involved in the (assessment and) intervention? How?
8. Does your management plan include involvement with the school (1.teachers 2.principals 3.counselors 4.special educators etc) in any way? Is it for all cases or a few cases? Why is that so?
9. Do people from the school follow up with you regarding treatment or medication for the child?
10. How often is the follow up?
11. If the follow up is only for few cases, why is that so?
12. How often/frequently would you see a child with ADHD?
13. How long do you continue to manage a child with ADHD?
14. How long is each appointment?
15. Do you speak to or involve professionals outside of the school in the care of the child e.g. psychologists, psychiatrists, special educators,? Why not (if they answer no)?
16. Do you consult or refer to psychiatrists regarding medication for these children? (If no, why not?)
17. What according to you is the best treatment for these children?
18. How well does medication work?
19. How many of the kids are put on medication? What kind? If not, why not?
20. Do families get involved in the assessment and intervention? How?
21. What recommendations do you give families for managing the child at home?
22. What challenges do you face getting the families involved?
23. What is your experience of the families of these kids?
24. What challenges do the families pose to you?
25. How much do you charge for a single session for your work with ADHD children or their families?
26. Do the families pay for the service from their own pocket or is there health insurance that covers the cost?
27. How much is the demand for services like yours?
28. Are kids with ADHD under diagnosed or over diagnosed in Indian schools? What is the reason for it?
29. How adequately are these children being managed in schools?

SUPPORT QUESTIONS
What can the following people do to aid in supporting you in the care of the child-
- teachers
- principal
- parent
- other professionals

CASE
Can you think of one case that was particularly well managed between you and the whole system?
Can you think of another when things didn’t go as well?

STAKEHOLDER- PRINCIPAL (no yrs as principal and as teacher)
KNOWLEDGE ENVIRONMENT QUESTIONS

1. What is the school’s and yours understanding of the condition Attention Deficit Hyperactivity Disorder.
2. Where did you first come across the term?
3. A lot of people say that most kids are naughty or hyperactive and that ADHD is just a term to pathologize kids. Do you subscribe to that?

INTERVENTION AND SUPPORT QUESTIONS

1. What services are available in your school for kids with ADHD?
2. What are the main issues for you as a principal with children like these in your school?
3. Are teachers aware of issues like Learning disabilities (ADHD, Dyslexia)?
4. Are special educational methods for LD’s practiced in your school? What kind?
5. How do teachers in your school manage kids with ADHD in the classroom?
6. How often do teachers come to you seeking help or complaining about such children?
7. What do they typically say?
8. What is your response to them?
9. Do you think it is something they can manage on their own as opposed to something they need help with?
10. If a child with ADHD is not performing well in the classroom, according to you what should be done?
11. Would you think it is reflective of the class teacher’s skill or ability? In what way?
12. How many counselors are in your school? Special educators?
13. What are the main duties of school counselors? Special educators? Do they take classes as well?
14. What is your expectation of counselors for handling problems like LD’s?
15. What are your expectations for these children? Are you willing to give them exemptions? What kind?
16. How would a child with such problems get picked up for a referral to the counselor?
17. Does your school send teachers for training related to mental health problems?
18. Is it mandatory to attend training programs?
19. What kind and how often do these programs run?
20. Do you get the families involved in the management of the child (ask if the families get involved and how, and then who involves them in the first place)? In what way? What do you tell them?)
21. What kind of challenges do the families pose to you?
22. What can be done to help these children?

What can the following people do to aid in supporting you in the care of the child-
- Teachers - school counselors – parent -other professionals

CASE
Can you think of one case that was particularly well managed? ……….Maybe best to keep this question short and open for a start in order to see which players are mentioned Can you think of another when things didn’t go as well?

**STAKEHOLDER- PARENTS (no children, age parent, age oldest child)**

**KNOWLEDGE ENVIRONMENT**

1. What is your source of information about ADHD?
2. Which possible explanations for the child’s behaviour have you considered?
3. Which labels or diagnoses have been suggested to you and by whom?

**ASSESSMENT AND INTERVENTION QUESTIONS**

1. Who all are involved in the care of your child?
2. What do all these different people do to support the management of your child?
3. Would you say that all these people work independently or they consult each other in the management of your child?
4. Are you involved in the assessment? In what way?
5. Are you involved in the management of the child at home? In what way? In consultation with whom?
6. Which of these services do you pay for?
7. How much do they cost?
8. Do you pay for it out of your own pocket or is there insurance or reimbursement of some kind?
9. How long have you been using these services?
10. How often do you see them?
11. How long would they continue to work with you?
12. Have you considered any other services for the management of your child?
13. Is the school (teachers, principal, counselors) aware of your child’s condition?
14. If not, have you communicated to them about it?

**SUPPORT QUESTIONS**

1. Are you a part of any support groups that offer information, support regarding ADHD?
2. How do the teachers respond to knowledge that your child has ADHD?
3. What do they typically communicate to you at PTA or other meetings?
4. Do you feel supported by them?
5. What about the headmistress or the principal?
6. How do the counselors respond to your child’s condition?
7. Do you feel supported by them?
What can the following people do to aid in supporting you in the care of the child-
- teachers
- school counselors
- parent
- other professionals
What would be the best solution in your view?
Appendix C
(list of 32 behaviours and Stress Ratings)

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Stress Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behaviour A</td>
<td>1</td>
</tr>
<tr>
<td>Behaviour B</td>
<td>2</td>
</tr>
<tr>
<td>Behaviour C</td>
<td>3</td>
</tr>
<tr>
<td>Behaviour D</td>
<td>4</td>
</tr>
<tr>
<td>Behaviour E</td>
<td>5</td>
</tr>
<tr>
<td>Behaviour F</td>
<td>6</td>
</tr>
<tr>
<td>Behaviour G</td>
<td>7</td>
</tr>
<tr>
<td>Behaviour H</td>
<td>8</td>
</tr>
<tr>
<td>Behaviour I</td>
<td>9</td>
</tr>
<tr>
<td>Behaviour J</td>
<td>10</td>
</tr>
<tr>
<td>Behaviour K</td>
<td>11</td>
</tr>
<tr>
<td>Behaviour L</td>
<td>12</td>
</tr>
<tr>
<td>Behaviour M</td>
<td>13</td>
</tr>
<tr>
<td>Behaviour N</td>
<td>14</td>
</tr>
<tr>
<td>Behaviour O</td>
<td>15</td>
</tr>
<tr>
<td>Behaviour P</td>
<td>16</td>
</tr>
<tr>
<td>Behaviour Q</td>
<td>17</td>
</tr>
<tr>
<td>Behaviour R</td>
<td>18</td>
</tr>
<tr>
<td>Behaviour S</td>
<td>19</td>
</tr>
<tr>
<td>Behaviour T</td>
<td>20</td>
</tr>
<tr>
<td>Behaviour U</td>
<td>21</td>
</tr>
<tr>
<td>Behaviour V</td>
<td>22</td>
</tr>
<tr>
<td>Behaviour W</td>
<td>23</td>
</tr>
<tr>
<td>Behaviour X</td>
<td>24</td>
</tr>
<tr>
<td>Behaviour Y</td>
<td>25</td>
</tr>
<tr>
<td>Behaviour Z</td>
<td>26</td>
</tr>
<tr>
<td>Behaviour AA</td>
<td>27</td>
</tr>
<tr>
<td>Behaviour BB</td>
<td>28</td>
</tr>
<tr>
<td>Behaviour CC</td>
<td>29</td>
</tr>
<tr>
<td>Behaviour DD</td>
<td>30</td>
</tr>
<tr>
<td>Behaviour EE</td>
<td>31</td>
</tr>
<tr>
<td>Behaviour FF</td>
<td>32</td>
</tr>
</tbody>
</table>
In the next section we ask you to circle the number that best describes how often this student has shown each school behaviour over the past 6 months (or since the beginning of the school year).

At the same time rate how stressful each behaviour has been for you as a teacher. Please show your rating by putting a number from 0 to 10 in the last box where 0 = not stressful at all and 10 means that this behaviour has been extremely stressful for you in your teaching.

Work on one question at a time, first circle your answer for this student and then provide your stress rating (from 0 to 10) for each behaviour before you go on to the next item.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Once a term or less</th>
<th>Once or twice a month</th>
<th>About once a week</th>
<th>Nearly every lesson</th>
<th>How stressful for you?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fails to give close attention to details or makes careless mistakes in schoolwork.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Fidgets with hands or feet or squirms in seat.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Has difficulty sustaining attention in tasks or play activities.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Leaves seat in classroom or in other situations in which remaining seated is expected.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Does not seem to listen when spoken to directly.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Runs about or climbs excessively in situations in which it is inappropriate.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Does not follow through on instructions and fails to finish work.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Has difficulty playing or engaging in leisure activities quietly.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Has difficulty organising tasks and activities.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Is &quot;on the go&quot; or acts as if &quot;driven by a motor&quot;.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Avoids tasks (e.g. schoolwork, home work) that require sustained mental effort.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Talks excessively.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Loses things necessary for tasks or activities.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Blurs out answers before questions have been completed.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Is easily distracted.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Has difficulty awaiting turn.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Is forgetful in daily activities.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Interrupts or intrudes on others.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Once a term or less</td>
<td>Once or twice a month</td>
<td>About once a week</td>
<td>Nearly every lesson</td>
<td>How stressful for you?</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---------------------</td>
<td>-----------------------</td>
<td>-------------------</td>
<td>---------------------</td>
<td>-----------------------</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Loses his/her temper</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Argues with adults</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Actively defies or refuses to comply with adult’s requests or rules</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Deliberately annoys people</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Blames others for his/her mistakes or misbehaviour</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Is touchy or easily annoyed by others</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Is angry and resentful</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Is spiteful or vindictive</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Lies</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Steals</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Breaks things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Threatens others</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Bullies others</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Gets into fights</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Please make sure you have filled in all your stress ratings as well.
Appendix D

(List of Demands)
LIST OF DEMANDS

1. How often is this child able to pay attention without being prompted?

2. How frequently does this child require assistance to accurately complete academic work?

3. How often does this child distract you in your teaching?

4. How often do you need to prepare separate or adjusted work for this child?

5. How often do you need to repeat instructions or explanations before the child this child learns what you are teaching?

6. How often do you need to manage the behaviour of this child before you can start to teach your lesson?

7. How often does this child make you question your competence or authority in the class?

8. How often do you need to remove this child from the class in order to be able to teach the lesson?
Appendix E
(Maslach Burnout Scale)
### Educators Survey

The purpose of the following survey is to discover how educators view their job and the people with whom they work closely. On this page there are 22 statements of job-related feelings. Please read each statement carefully and decide how often you feel this way about your job.

<table>
<thead>
<tr>
<th>HOW OFTEN</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>A few times a year</td>
<td>Once a month</td>
<td>A few times a month</td>
<td>Once a week</td>
<td>A few times a week</td>
<td>Every day</td>
</tr>
<tr>
<td>1.</td>
<td>I feel emotionally drained from my work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>I feel used up at the end of the workday.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>I feel fatigued when I get up in the morning and have to face another day on the job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>I can easily understand how my students feel about things.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>I feel I treat some students as if they were impersonal objects.</td>
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<tr>
<td>6.</td>
<td>Working with people all day is really a strain for me.</td>
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<tr>
<td>7.</td>
<td>I deal very effectively with the problems of my students.</td>
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<tr>
<td>8.</td>
<td>I feel burned out from my work.</td>
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<tr>
<td>9.</td>
<td>I feel I am positively influencing other people’s lives through my work.</td>
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<tr>
<td>10.</td>
<td>I’ve become more callous towards people since I took this job.</td>
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<tr>
<td>11.</td>
<td>I worry that this job is hardening me emotionally.</td>
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<tr>
<td>12.</td>
<td>I feel very energetic.</td>
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<tr>
<td>13.</td>
<td>I feel frustrated by my job.</td>
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<td>14.</td>
<td>I feel I am working too hard on my job.</td>
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<td>15.</td>
<td>I don’t really care what happens to some students.</td>
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<tr>
<td>16.</td>
<td>Working with people directly puts too much stress on me.</td>
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<tr>
<td>17.</td>
<td>I can easily create a relaxed atmosphere with my students.</td>
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<tr>
<td>18.</td>
<td>I feel exhilarated after working closely with my students.</td>
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<tr>
<td>19.</td>
<td>I have accomplished many worthwhile things in this job.</td>
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<tr>
<td>20.</td>
<td>I feel like I am at the end of my rope.</td>
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<tr>
<td>21.</td>
<td>In my work, I deal with emotional problems very calmly.</td>
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<tr>
<td>22.</td>
<td>I feel students blame me for some of their problems.</td>
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<tr>
<td>23.</td>
<td>I know I am indispensable for my difficult students.</td>
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</tbody>
</table>
Appendix F

(Teaching Self-Efficacy Scale)
77. Please use the following rating scale to show how often you feel this way as a teacher:

Never = 1  Rarely = 2  Sometimes = 3  Often = 4  Always = 5

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am convinced that I am able to successfully teach all relevant subject content to even the most difficult students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. I know that I can maintain a positive relationship with parents even when tensions arise.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. When I try really hard, I am able to reach even the most difficult students</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I am convinced that, as time goes by, I will continue to become more and more capable to helping to address my students' needs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Even if I get disrupted while teaching, I am confident that I can maintain my composure and continue to teach well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I am confident in my ability to be responsive to my students' needs even if I am having a bad day.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. If I try hard enough, I know that I can exert a positive influence on both the personal and academic development of my students</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. I am convinced that I can develop creative ways to cope with system constraints (such as budget cuts and other administrative problems) and continue to teach well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. I know that I can motivate my students to participate in new projects</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. I know that I can carry out innovative projects even when I am opposed by skeptical colleagues.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. I know that I can talk to even the most difficult parents and develop a good parent-teacher partnership.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. I know that I can talk to even the most difficult student and develop a good learning partnership with him.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>