

**TEACHERS' BELIEFS ABOUT ADHD:
A MULTIPLE CASE HERMENEUTIC ANALYSIS**

by

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ABSTRACT

This thesis examined seven teachers' beliefs about Attention Deficit Hyperactivity Disorder (ADHD), the influence of their beliefs on practice, and the larger social context from which their beliefs may have developed. A qualitative case study design provided insight into the beliefs and practices of participants. With the use of a hermeneutic analysis, participants' beliefs were situated within a larger social context.

Analysis of the results indicates that participants' believed ADHD was a neurobiologically based disorder. Participants also believed challenging behaviours exhibited by students with ADHD were non-volitional. Changes to curriculum content or teaching strategies were rare. Instead, participants supported treatment with stimulant medication as the main intervention.

An analysis of the larger social context revealed several historical predecessors to participants' expressed beliefs about ADHD. References to ADHD in popular culture may influence the development of teachers' beliefs about ADHD. Educational implications and suggestions for future research are also discussed.

For my parents, Leo and Margaret Foy.

*Though darker now
It is brighter than had you never been*

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QUOTATION

Dear Mr. Spencer (he read aloud). That is all I know about the Egyptians. I can't seem to get very interested in them although your lectures are very interesting. It is all right with me if you flunk me though as I am flunking everything else except English anyway.

Respectfully yours, HOLDEN CAULFIELD.

He put my goddamn paper down then and looked at me like he'd just beaten the hell out of me at ping-pong or something. I don't think I'll ever forgive him for reading me that crap out loud. I would' nt' ve read it out loud to *him* if he'd written it-I really wouldn't. In the first place, I'd only written that damn note so that he wouldn't feel too bad about flunking me.

"Do you blame me for flunking you, boy?" he said.

"No sir, I certainly don't," I said. I wished to hell he's stop calling me "boy" all the time.

"What's the matter with you boy?" old Spencer said. He said it pretty tough, too, for him. "How many subjects did you carry this term?"

"Five, sir."

"Five. And how many are you failing in?"

"Four. And I moved my ass a little bit on the bed. It was the hardest bed I ever sat on.

"I passed English all right," I said, because I had all of that Bewoulf and Lord Randall stuff when I was at the Whooton School. I mean I didn't have to do any work in English at all hardly, except write compositions once in a while. He wasn't even listening. He hardly ever listened to you when you said something.

"Has Dr. Thurmer communicated with your parents yet?"

"No sir", I said.

"And how do you think they will take the news?"

"Well...they will be pretty irritated about it," I said. "They really will. This is about the fourth school I've gone to." I shook my head. I shake my head quite a lot.

"Do you feel absolutely no concern for your future boy?"

"Oh I feel some concern for my future, all right. Sure, sure I do." I thought about it for a minute. "But not too much, I guess. Not too much, I guess."

"You will," Old Spencer said. "You will, boy. You will when it's too late."

I didn't like hearing him say that. It made me sound dead or something. It was very depressing. "I guess I will," I said.

"I'd like to put some sense into that head of yours, boy. I am trying to help you. I'm trying to help you, if I can."

He really was too, you could see that. But it was just that we were too much on opposite sides of the pole that's all

*From the Catcher in the Rye
by J.D., Salinger, pp.10-14.*

CHAPTER 1 INTRODUCTION

The challenges of the student-teacher relationship, and being on “opposite sides of the pole,” continue to face educators in the public school system today. The reasons for being on opposite sides of the pole may have changed considerably since the writing of Salinger’s novel in the mid forties. Today, teachers are expected to intervene on a wide range of educational differences, including the diagnosis and treatment of several learning and conduct disorders. Specifically, Attention Deficit Hyperactivity Disorder (ADHD) has become a prolific explanation for excessively inattentive, hyperactive, and impulsive behaviours.

ADHD is typically defined as a neurobiological disability characterized by developmentally inappropriate impulsivity, inattention, and in some cases, hyperactivity (ChADD, 2002). The criteria outlined by the American Psychological Association (1994) in the Diagnostic and Statistical Manual Fourth Edition (DSM-IV) form the basis for a diagnosis of ADHD. By diagnosis, I mean the identification of a disease by means of a person’s symptoms. The criteria for ADHD include a listing of the hyperactive-impulsive or inattentive symptoms that are believed to cause the impairment associated with the disorder. An example of an inattention symptom is: “often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities.” An example of a hyperactivity symptom is: “often leaves seat in classroom or in other situations in which remaining seated is expected.” Finally, an example of an impulsivity symptom is:

“often blurts out answers before questions have been completed.” According to the criteria outlined in the DSM-IV, symptoms must be present before the age of seven.

To date, ADHD is the most commonly diagnosed behavioural disorder of childhood (Surgeon General, 1999). According to prevalence rates the disorder affects approximately 3-7% of all school-aged children (American Psychiatric Association, 2000). As a result, there may be increased expectations on teachers to refer students for evaluation, provide regular feedback on academic skills and behaviour, and support interventions that include the use of medication (Tait, 2001). In a school setting this may have implications for the functioning of the entire classroom. However, little is known about the influence ADHD may have on the dynamics of teaching and learning in the classroom (Arcia, Frank, Sánchez-LaCay, & Fernández, 2000).

There are a significant number of studies on ADHD in the research literature. However, to date, little is known about teachers' understanding of and practices regarding the identification and management of ADHD (Arcia et al., 2000; Couture, Royer, Dupuis & Potvin, 2003). There is a paucity of research designed to answer such questions as: What implications do teachers' beliefs about ADHD have for classroom practice? For example, if teachers conceive of ADHD to be the result of an organic imbalance in the brain, what does this imply for teaching strategies? Does it follow that a teacher should support the use of medication? Do classroom teachers believe they have the power to improve the learning abilities of students suffering a neurobiological disorder? The answers to these questions may provide further insight into the influence of teachers' beliefs about ADHD on classroom practice.

Teacher Beliefs

According to Cambridge (2004) a belief refers to the feeling of certainty that something exists or is true. Harvey (1986) defines belief as an individual's representation of reality that has enough validity, truth, or credibility to guide thought and behaviour. Nisbet and Ross (1980) define beliefs as "reasonably explicit propositions about the characteristics of objects and object classes" (p. 28). Although definitions of beliefs vary they suggest that one's beliefs may influence behaviour. If so then Pajares's (1992) statement that research on teacher beliefs can and should become an important focus of educational inquiry takes on greater significance. Teachers' beliefs may be the best indicators of the decisions they make in their classroom.

Beliefs can be deeply personal, rather than universal, and unaffected by persuasion. Furthermore, they can be formed by chance, an intense experience or a succession of events, and include beliefs about what oneself and others are like (Pajares, 1992). In other words, beliefs may influence how teachers characterize phenomena and make sense of the world. Nespor (1987) asserted that beliefs, unlike knowledge, do not require general or group consensus regarding their validity and appropriateness. The implication here is that beliefs are by their very nature indisputable, more inflexible, and less dynamic than knowledge systems (Pajares, 1992). Knowledge systems according to Nespor (1987) "are open to evaluation and critical examination; belief systems are not" (p. 318). However, as Schon (1987) asserts teachers can also reflect on beliefs in the same way that they reflect on knowledge and in this regard beliefs and knowledge may be equally available for change.

Knowledge, Attitudes and Beliefs about ADHD

Rather than beliefs, researchers of ADHD and education have focused mainly on teacher knowledge and attitudes toward ADHD (Whalen, Henker, & Dotemoto, 1980, 1981; Jerome, Gordon & Hustler, 1994; Reid, Vasa, Maag, & Wright, 1994; Laurence, Washington, Laine, & Segal, 1999; Scitutto, Terjesen, & Frank, 2000; Bussing, Faye, Leon, Wilson, & Reid, 2002; Vereb & Diperna, 2004). For example, Whalen et al. (1980, 1981) studied teacher-student interactions during a summer school program enrolling boys diagnosed with ADHD.

In their study, Whalen et al. (1980, 1981) focused on teacher interactions with boys diagnosed with ADHD and same gender peers without a diagnosis of ADHD. The researchers used a double blind medication-placebo design such that male participants received either placebo or active medication. The teachers were unaware of students' diagnostic or medication status. Results indicated teachers were more intense and controlling toward the boys who had been diagnosed with ADHD and who received placebos than toward either the boys with ADHD who were medicated or the normally developing comparison controls. The teachers' behaviours did not differ between the subjects with ADHD who were medicated and the controls who were neither diagnosed with ADHD nor medicated. The researchers concluded that teachers treated students differently based on medication status. This led Whalen et al. (1981) to conclude, "medication may redirect the ongoing streams of transactions in the classroom" (p. 1282).

Jerome, Gordon and Hustler (1994) compared American and Canadian teachers' knowledge and attitudes toward ADHD. The study used a self-report questionnaire that consisted of 20 true-false questions about ADHD. The questionnaire was developed to

assess teachers' general knowledge of essential concepts involved in the diagnosis and treatment of ADHD. The results indicate, "teachers on both sides of the border have had little formal training concerning ADHD" (Jerome et al., 1994, p. 565). While most teachers "did well on knowledge-based questions regarding the etiology (causes) and educational implications of the condition 66% still mistakenly identified dietary intake of sugar or additives as a cause of ADHD" (Jerome et al., 1994, p. 563).

Researchers have also looked at the knowledge and attitudes of particular types of teachers. For example, Reid, Vasa, Maag, and Wright (1994) examined teacher perceptions of ADHD to determine differences between perceptions held by special education teachers and mainstream classroom teachers. The results indicated that specialist teachers were more tolerant of ADHD-type behaviours. Also, Laurence, Washington, Laine and Segal (1999) compared the knowledge of recent graduates from teacher training programs with more experienced teachers. The researchers asserted that recent graduates from teacher education programs were more knowledgeable about ADHD than teachers who were trained earlier in their careers (Laurence, Washington, Laine, & Segal, 1999).

Sciutto, Terjesen, and Frank (2000) utilized the Knowledge of Attention Deficit Disorder Scale (KADDS) a survey scale designed to measure specific areas of knowledge about ADHD. One hundred and forty-nine elementary school teachers completed the survey. Researchers developed the scale to measure teachers' knowledge about ADHD on three subscales: (1) general information; (2) symptoms/diagnosis; and (3) treatment. For example, the "symptoms/diagnosis" sub scale has the true/false item: "Children often fidget or squirm in their seat." As well, there are questions designed to measure "don't

know” topics which researchers determined to be unanswerable based on the current research literature. An example from this question set: “Is electroconvulsive therapy an effective alternative treatment for severe cases of ADHD?” There were also items generated to measure “misperceptions”, for example: “Reducing dietary intake of sugar or food additives is effective in reducing symptoms of ADHD” (Sciutto et al. 2000, pp. 119-120). Results indicated that teachers were more knowledgeable about items on the symptoms/diagnosis subscale than they were on the treatment and general information subscales. Teacher self-efficacy, prior exposure to an ADHD child, and years of teaching experience were all positively related to ADHD knowledge (Sciutto et al., 2000).

Bussing, Faye, Leon, Wilson, and Reid (2002) sought to document classroom teachers' understanding of ADHD with self-report measures. The results revealed that most of the participants had taught at least one or two students diagnosed with ADHD in their general education classroom over the previous two years. The researchers maintained that higher rates of exposure to students with ADHD were related to higher rates of self-study of ADHD, suggesting that teachers who experienced the challenges of teaching these students sought out additional training resources. The researchers also claimed that the greatest barriers to effective instruction were class size, time needed for interventions, severity of child's condition and lack of training.

Vereb and Diperna (2004) also utilized the Knowledge of ADHD Rating Evaluation (KARE) a survey developed to measure the relationship between teachers' knowledge of ADHD, treatments for ADHD and treatment acceptability. Forty-seven elementary teachers completed the survey. The results suggested that teachers' knowledge of ADHD, years of teaching students with ADHD and training related to

ADHD were positively correlated with greater acceptance of pharmacological interventions. That is, according to researchers, teachers with greater knowledge, experience, and training were more supportive of medication.

Belief Studies

Whereas the previously reviewed studies assessed teacher knowledge and attitudes in relation to ADHD the following two studies were conducted to analyze teacher beliefs about ADHD and their influence on practice. The first, a study by Arcia, Frank, Sánchez-LaCay, and Fernández (2000), examined the verbal reports of 21 elementary education teachers. The second, a study by Couture, Royer, Dupuis, and Potvin (2003) employed the Attention Deficit Hyperactivity Orientation Scale (ADHDOS), a scale created to measure teachers' beliefs about ADHD. In this study researchers compared Quebec and British teachers' beliefs about, training in and experience with Attention Deficit Hyperactivity Disorder.

In the Arcia et al. (2000) study 21 elementary participants were interviewed by phone using a semi-structured format. The results indicated that teachers reported using a wide range of techniques for addressing disruptive behaviours and underachievement. For classroom management, teachers utilized token economies, preferential seating, and interpersonal techniques. The authors defined interpersonal techniques as follows, “these teachers talked with the children to convince them or pressure them into behaving appropriately” (p. 97). Instructional strategies included one-on-one instruction, peer tutoring, a decrease in workload, and extra instruction after school or during one of the teacher's free periods. Analysis by the authors suggested that participants had a strong preference for “those techniques which did not demand a great deal of their time—thus the

frequent mention of interventions such as preferential seating, writing children's names on the board, and using peer tutors" (p. 97). As well, the researchers concluded that teachers' understanding of the condition of ADHD, and of classroom management options, was very limited. They maintained the techniques that teachers implemented tended to be reactive rather than proactive and were not part of a comprehensive plan of action that could be characterized as a strategy. According to the researchers, the teachers were not well prepared to meet the demands presented by students with ADHD.

The Couture et al. (2003) study was designed to compare the beliefs about ADHD of teachers from Quebec and teachers from Britain. Researchers had 555 respondents complete the Attention Deficit Hyperactivity Orientation Scale (ADHDOS). This survey instrument was designed to measure the beliefs of various people about ADHD. The researchers concluded that teachers' beliefs about ADHD in Quebec and Britain are different, although teachers from both countries have predominant beliefs about ADHD that are of an allopathic medical nature. According to the authors, teachers whose belief patterns fall into this category see ADHD symptoms as a biological problem with no conscious control from the individual. "Those who adhere to this category of beliefs will recommend medical and psychosocial treatments, such as medication combined with therapy and firm discipline" (p. 287).

Summary and Critique

As this review bears out researchers have focused mainly on teacher's knowledge and attitudes toward ADHD. By focusing on these issues researchers have sought to determine the accuracy of participants' claims about ADHD and compare knowledge and attitudes across different groups of teachers. For example, researchers have compared the

knowledge of different countries like Canada and the U.S., specialized and classroom teachers, and recent graduates with experienced teachers. Also, researchers have sought to document teachers' general understanding of symptoms, diagnosis and treatments as well as barriers to effective instruction, and the overall acceptability of medication. The early research of Whalen et al. (1980, 1981) was conducted in a classroom setting.

However, in subsequent studies researchers have relied on questionnaires and self-report measures to access and evaluate teachers' knowledge, attitudes, beliefs, and practices when it comes to teaching students with ADHD. Furthermore, only two studies incorporated direct observation and none incorporated document analysis into research methodologies. Other weaknesses may have been present in past research.

For example, Couture et al.'s (2003) study may have had two limitations in the research methodology. First, as noted by the authors, the statistical procedure implemented to recover participants' responses may have implications for their findings. The researchers distributed a two-part questionnaire to respondents, the first section included 20 questions designed to measure the profile of the subject (i.e., education, teaching experience, training in ADHD, experience with students diagnosed with ADHD, and their views about the usefulness of receiving additional training in ADHD). The second section was designed to measure teacher beliefs about ADHD. Of the 555 questionnaires returned and analyzed in this study, 117 were incomplete. Specifically, respondents did not complete the second section designed to measure teacher beliefs about ADHD. In order to recover as many subjects as possible researchers applied the process of imputation of plausible values using LISREL software. The software was used to locate a response pattern among existing respondents that was similar to the response

pattern for the missing respondent data. Once located the software imputed those same values as data in the incomplete survey. With this strategy 66 of the 117 incomplete surveys were completed.

This statistical procedure presents a significant challenge for interpreting the results. Why did (117) respondents not complete the second section of their questionnaires, the section that was specifically designed to measure teacher beliefs? Statistically generating responses may introduce spurious data that reduces the validity of the findings. It is possible that the missing data, had it been gathered, may have yielded different results.

Second, the reported internal consistency coefficients (e.g., Cronbach's alpha), which are designed to measure inter-item reliability of specific belief categories, were low. That is, the statistical likelihood that the items were measuring the same belief category ranged from 0.53 to 0.69. In the field of measurement, a number of researchers have demonstrated that reliability values of .80 or less contain enough measurement error that correction for low reliability is warranted (Osbourne, 2003). The authors of this study did not make a correction for measurement error. As a result, relationships among items measuring specific beliefs may have been inflated, which may reduce the overall reliability of the results.

Finally, in the study by Arcia et al. (2003), researchers raised social desirability bias as a limitation of previous select response surveys and claim that the use of semi-structured interviews may provide a solution because this approach allows respondents to tell their own stories. An equally viable means of addressing social desirability bias may be direct observation of classroom practice. Employing this research strategy may enable

researchers to verify the accuracy of participant responses with direct observation of classroom practice. It may also serve to corroborate the data gathered from semi-structured interviews and reduce social desirability bias.

The Present Study

The present study adds to the current research on teachers' beliefs about ADHD as it moves beyond an exclusive reliance on self-report measures to examine teachers' beliefs in context. Questionnaires and self-report measures can provide a quick measure of teachers' knowledge and attitudes, however interviews, classroom observations and document analysis are needed to probe more deeply teachers' perspectives and beliefs. Interviews provide the opportunity to move beyond knowledge of ADHD and explore feelings, thoughts and beliefs associated with the disorder. Observations allow for the examination of the process of education as it unfolds in the classroom; and data is gathered as events take place, not before or after they have occurred. As a result, classroom observations are far more likely than other sources of data to provide evidence of linkages between teachers and students, teaching strategies, and classroom practice in general (Anderson & Burns, 1989). Document analysis also may provide a behind-the-scenes look at teacher beliefs and practices unavailable for observation. As well, the interviewer might not ask appropriate questions without leads provided by document analysis (Patton, 2002).

As such, this study of teachers' beliefs about ADHD offers four important methodological advantages over previous studies. First, I incorporated direct observations of participants and their classrooms. Second, I ensured that each participant was working with a student diagnosed with ADHD. I focused on participants' strategies for behaviour

management, development of course content, and assessment and delivery of curriculum. Third, I analyzed student files, which contained a variety of teacher-generated documents including report cards, behavioural reports, and IEPs. These strategies were used to corroborate participants' expressed beliefs from three sources (i.e., interviews, observations, and document analysis) and to determine the influence of their beliefs on practice. Fourth, the present study incorporated high school participants. In previous teacher belief studies researchers only have analyzed the beliefs of elementary school participants (e.g., Arcia et al., 2000, Couture et al., 2003). It may not be reasonable to assume that elementary and high school teacher beliefs are alike. The structure of high school, for example entails a larger number of teachers and students interacting with one another, which may have implications for teachers' beliefs about ADHD. Finally, recognition of the broader socio-cultural context is absent from the research on teacher beliefs (Arcia et al., 2000; Couture et al., 2003). A hermeneutic analysis allowed me to contextualize participants' beliefs and practices within larger historical, cultural, political and economic frames of reference. In this regard, this study may help to identify the possible influence of socio-cultural forces in the development of beliefs about ADHD.

In order to realize these advantages, I utilized a qualitative case study design that incorporated semi-structured interviews, classroom observations and document analysis to provide further insight into teachers' beliefs about ADHD and the connection of their beliefs to their classroom practices. Then, with the use of a hermeneutic analysis, participants' understandings were situated in a larger social context. This was done in an effort to gain some understanding of the background against which participants' beliefs about ADHD developed.

CHAPTER 2 METHOD

In this chapter I first present the purposes of this study, the logic behind choosing a multiple case design, and the procedures for the selection of participants. Then, I provide a detailed introduction to participants, their students, and their schools, as well as a brief description of the city and school district they work in. I finish by describing the sources of data, the process of data collection, and the process of data analysis used in this study. To ensure the anonymity of participants all the names of people and places used in this study are pseudonyms.

Research Design

The three purposes to this study are: (1) to describe participants' beliefs about ADHD; (2) to describe how those beliefs are reflected in practice with children diagnosed with ADHD; and (3) to determine how the larger social context might contribute to the development of their beliefs. For several reasons a multiple case design and hermeneutic analysis best served these purposes. An explanation of hermeneutics and its use in this study is provided later in the chapter on hermeneutic analysis (i.e., see p. 127). Figure 1 provides a methodological overview of the research questions, methodology and data used in this study. First, in four of the horizontal arrows you will find the research questions, and research methodology (i.e., multiple case design and hermeneutic analysis). Second, in the 3 upper box faces are the aspects of participant beliefs, participant actions, and the larger social context I seek to articulate. Finally, in the front

face of each box you will find how I attempt to find answers to each of the research questions.

Multiple Case Design

I chose qualitative methods in this study because qualitative researchers make an effort to understand situations in their uniqueness as part of a particular context and the interactions that take place there. This understanding is an end in itself, so that it is not attempting to predict what may happen in the future necessarily, but to understand the nature of that setting—what it means for participants to be in that setting, and what the world looks like in that particular setting. This type of research strives for depth of understanding (Patton, 1985). A thoroughly detailed and accurate description of teachers' beliefs and practices will allow for an in depth understanding of the relationship between beliefs and practice. This, in turn may allow for informed inferences and conclusions to be drawn about teachers' beliefs about ADHD and their influence on practice. Multiple case design, a type of qualitative research, fits best with my research interests. The reasons it provided the best fit are elaborated below.

Yin (1994) defines a case study as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context especially when the boundaries between phenomenon and context are not clearly evident and when multiple sources of evidence are used” (p. 13). When a study contains more than one case it becomes a multiple case design (Yin, 1994). A contemporary phenomenon like ADHD may require study in the context of the classroom because it is often identified as an educational difference.

There are three reasons why case design was used in this study. First, it can present an advantage over other research designs especially when seeking answers to “how” and “why” questions. Typically questions of how are more explanatory because they deal with operational links that need to be traced over time (Yin, 1994). The multiple case component of this study is guided by two “how” questions: (1) How do teachers conceive of ADHD? (2) How are teachers' beliefs reflected in classroom practice? To accurately capture and reflect how teachers conceive of ADHD I need to document and explain their beliefs over time. A case design enables this to occur. I am looking for more than a brief description of ADHD from participants. I want to explore thoroughly teacher beliefs about ADHD and their connections to the practice of teaching.

Second, a case design is preferred when examining contemporary events that are not easily manipulated. Although ADHD has historic predecessors, I am interested in present day teacher beliefs about ADHD and their relationship to classroom practice. Teacher beliefs about ADHD may not be amenable to manipulation or researcher control. As a result, teacher beliefs are not conducive to experimental manipulations and the rigors of a laboratory setting. Accordingly, observations in a natural setting, systematic interviews, and document analysis of student files provide the best means of uncovering, studying, and understanding teacher beliefs about ADHD.

Finally, this study will utilize a multiple case design because it allows for the study of a phenomenon by focusing on specific instances, with an in depth study of each case in its natural context (Yin, 1994). I want to limit my observations to a small number of teachers and look closely at their beliefs and practices over time. As Bromley (1986) states, case studies provide researchers the means to get as close to the subject of interest

as they possibly can, partly by means of direct observation in natural settings and partly by their access to subjective factors (thoughts, feelings, and desires). In contrast, experiments and surveys often use convenient derivative data such as test results. Also, case studies tend to spread the net for evidence widely, whereas experiments and surveys usually have a narrow focus (Bromley, 1986).

In sum, multiple case design provided a good fit with the purposes of this research for three important reasons. First, the type of research questions I wish to answer require an explanatory approach. Second, teacher beliefs about ADHD constitute contemporary phenomena for which experimental methods are ill suited. Third, the desire to limit my observations to a small number of participants over time is best served by a multiple case design.

Multiple Case Design and Hermeneutic Analysis

As such, a multiple case design provides an effective means of looking at the micro level of understanding related to ADHD; that is, the beliefs and descriptions of ADHD held by teachers in the classroom as they work and interact with students. The hermeneutic analysis provides a means of taking a step beyond the micro level to look at the larger macro level understanding of ADHD that permeates the larger social arena. A hermeneutic analysis will allow analysis of the relationship between the micro and macro levels of understanding of ADHD. By macro I am referring to the broader social context. What reciprocal individual and social forces are conducive to our understanding of ADHD? In this regard, multiple case design and hermeneutic analysis can compliment one another as they provide an interpretation, that taken together, may yield a more comprehensive portrayal of ADHD than could be provided by each approach on its own.

Furthermore, hermeneutic analysis allows for the juxtaposing of teacher beliefs and the larger social cultural context of ADHD, something which current research on ADHD has yet to do. From the hermeneutic perspective we can only understand the whole by understanding the elements. Teacher beliefs and practices form some of the elements or pieces of our overall understanding of ADHD although they may not provide a holistic picture necessary for the full understanding of ADHD. Vygotsky (1962) identified the properties of water to highlight important distinctions between understanding the part and understanding the whole. He asserted that to understand the properties of water we may look at the component parts of water hydrogen and oxygen individually. However, in looking at hydrogen we discover that it burns and looking at oxygen we discover that it sustains fire. Are these properties of water? In the same way, we need to step beyond teacher understandings of ADHD and incorporate more of the social landscape. Thus, a hermeneutic analysis allows me to tack between the immediacy of teacher beliefs and experiences and larger historical, social and cultural influences that constitute ADHD.

Selection of Participants

The findings reported in this study are based on data gathered from 7 teachers (1 male and 6 female), each of whom had a student diagnosed with ADHD and receiving methylphenidate (Ritalin) in their classroom. The teachers were drawn from the Kirkbride School District using a chain sampling procedure. Chain sampling is used to “identify people who know people who know people who know what cases are information rich, that is, good examples for study and good research participants” (Patton, 2002, p. 243). In order to find these people, as a first step I met with Dr. Valerie

Hogan, Director of Research, Communications and Safe Schools in Kirkbride to identify possible contacts. Information letters were distributed to potential participants describing the study and participation requirements (see Appendix A).

Six teachers agreed to an introductory meeting and subsequently volunteered to participate in the study. Two of the original six teachers withdrew following an introductory meeting, one for personal reasons and the other because her student diagnosed with ADHD changed schools. Once participant teachers were identified I arranged to have them contact the parents of the students diagnosed with ADHD in their class in order to gain parental consent for participation. Five months into the study one of the high school students (Patrick) associated with the project moved to a new school. The student changed schools for personal reasons that I discuss later. As a consequence, I contacted the principal of the new school and arranged to meet with three of his new teachers all of whom agreed to participate in the study. I also contacted the parents to regain consent and continue the research at his new school.

Of the seven participants, three were elementary school teachers and four were high school teachers. Ms. Charleston and Ms. Collins worked with Amar, a student diagnosed with ADHD, for the entire study. Likewise, Ms. Thompson worked with Kelly, a student with ADHD, for the entire study. Mr. Atwal, a high school participant worked with Patrick, a student diagnosed with ADHD, for three months before Patrick changed schools. At his new school Patrick worked with Ms. Gallagher, Ms. Johnson, and Ms. Baker. Amar, Kelly and Patrick were all diagnosed by a pediatrician, and received methylphenidate (Ritalin) on a daily basis as a treatment for ADHD.

Participants

Table 1 lists participants, their student, and school. Detailed descriptions of participants are found in the following paragraphs. Relevant information about the students diagnosed with ADHD, and their school is presented. I begin with the elementary school participants, Ms. Charleston, Ms. Collins, and Ms. Thompson. Following this I present the high school participants Mr. Atwal, Ms. Gallagher, Ms. Johnson and Ms. Baker.

Elementary School Participants

Ms. Charleston is the mother of two elementary aged children. She has been teaching at Nicholson Elementary for four years and an elementary school teacher for 20 years. She completed her teacher training in Alberta earning a Bachelor's Degree with majors in French and Early Childhood. Five years after earning her Bachelor's Degree she returned to post-secondary education at the University of Victoria completing a master's degree in Educational Administration. She has taught at seven different schools over the course of her career in British Columbia, Alberta and Ontario. My professional relationship with Ms. Charleston began two years prior to this study. We worked together as classroom teachers at Nicholson Elementary; as such, I believe I was afforded more freedom, access and privileges than a researcher who "walked in off the street".

Ms. Charleston team-taught a Grade One Two combined class with another teacher, Ms. Collins. Ms. Charleston and Ms Collins are close friends and had been working together for two years. Team teaching entails the sharing of the teaching responsibilities on a 50/50 basis, thus the teachers alternated their time in the classroom.

For example, Ms. Charleston would work three days one week and two days the following week and Ms. Collins picked up the remaining days in each week respectively.

Ms. Collins

Ms. Collins has been teaching for 22 years and has taught in six districts including Terrace (Kitsault), Caribou-Chilcoltin, Williams Lake, Big Creek, Maple Ridge, Vancouver and Kirkbride. She is the mother of two elementary-age children. She was also a part time University instructor and taught Language Arts courses to pre-service teachers at a local University. She has been teaching at Nicholson Elementary for four years. Ms. Collins and I have known one another for about two years as work colleagues. For the 2002-2003 school year Ms. Collins and Ms. Charleston taught a class of 20 students, with 11 grade one students and 9 grade two students. One of the grade two students in their class was Amar.

Amar was an eight-year-old boy in grade two. He loved insects, especially those that crawl along the ground and can be picked up easily. He wore thick-rimmed black glasses that he kept attached to his head with a black elastic strap. He lived with his parents both of whom are from Southern Asia. Born in Canada Amar is the oldest of two children and has a younger sister who is 7 years old. He is an English language learner with Hindi being the main language spoken in his home. During his kindergarten year Amar presented several behavioural and academic challenges, and as a result he was recommended for the Social Development Program. During this study Amar took 15 mg of methylphenidate (Ritalin) on a daily basis. He took 5mg before school, 5mg at Lunch and 5mg after school.

The Social Development Program is intended for elementary students who have the ability to do average or better schoolwork, but whose behaviours and attitudes limit their performance (Kirkbride Social Development Program Description). At the age of 5, Amar was enrolled in the Social Development Program offered at Nicholson Elementary. Students in the Social Development program typically worked in a classroom setting that was separate from the regular classroom with fewer students (from 4 to 6), and a Social Development teacher as well as a Child Care Worker. Amar was diagnosed with ADHD by a pediatrician in March of 2002 (Interview: 1/03/03 pp. 2-4). Additionally, Amar was classified as a 333 by the school district, which is a categorization used to identify students “requiring Intensive Behavioural Interventions or Students with Serious Mental Illness” (Kirkbride School District-Procedures for Documenting 328’s and 333’s form p. 1). Throughout the school year attempts are made to integrate students in Social Development Program into the regular classroom. The regular classroom in Amar’s case was Ms. Charleston and Ms. Collin’s grade one-two combined classroom.

Ms. Thompson

Ms. Thompson has been teaching for four years, mainly as a grade four and five teacher. She has been teaching at Nicholson Elementary for two years. She completed her teacher training at the elementary level in Kelowna, British Columbia before beginning her teaching career in the Kirkbride School District. She earned a Bachelor of Education from the University of Victoria (UVic) and completed her fifth year diploma in educational technology at UVic as well. She worked with Kelly a grade five student in her class who was diagnosed with ADHD in the second month of his grade five year with Ms. Thompson.

Kelly was a ten-year old boy who was diagnosed with ADHD in October of 2003. He enjoyed running and participated in yearly cross-country and track and field running events. He was stocky in stature, with brown hair. Kelly is a First Nations student of Métis descent. He has been enrolled at Nicholson Elementary for four years. He completed his kindergarten at two different schools before arriving at Nicholson in grade one (Kelly's Student File). Kelly is the eldest of two children with a sister in grade two. He is in a permanent foster placement. He lived with his foster mom Sherry Bowden, his sister and another adopted child and Mrs. Bowden's three children. At school he received ongoing support from the aboriginal support worker and the school counselor. He was also classified as a 333 student, which enabled intensive behaviour interventions and was typically used for students with serious mental illnesses as outlined previously. He took 20 mg of Ritalin on a daily basis (10mg before school and another 10mg at 11:15am) (Interview: 11/28/03, pp. 5-6).

Nicholson Elementary School

Ms. Charleston, Ms. Collins and Ms. Thompson all teach at Nicholson Elementary. The school was built in 1988 and is located on a quiet side street adjacent to several single-family homes. The school is situated on what was once farmland and features two basketball courts; several tether-ball poles; a primary and intermediate playground with slides, swings and a climbing apparatus; a large gravel soccer field; and an adjacent park area with several tall evergreen trees and walking paths. The school itself is a one-level beige stucco building, with a blue aluminum roof. There are also four aluminum sided portables located on the edge of the gravel soccer field. Nicholson

Elementary serves as a feeder school to one of the three neighbouring high schools, all of which are within a 5-kilometer radius.

The community surrounding the school consists largely of South Asian Immigrants with the majority from India speaking Punjabi as their first language (2001 Census). During the study the school had an enrollment of 529 students and approximately 350 of those students (65.6%) were English Language Learners (Nicholson Elementary Web Site). The average annual income of residents in the surrounding community is \$61,159 (2001 Census).

High School Participants

In this section I describe each of the high school participants beginning with Mr. Atwal and Altec High School. Then, I describe Patrick the student all of the high school participants worked with. Following this I present Ms. Gallagher, Ms. Johnston and Ms. Baker and conclude with a description of Carleton High School where they taught.

Mr. Atwal

Mr. Atwal has been a high school teacher for 10 years. He is a father of three children between the ages of four and eight. He was born in India and moved to Canada while still in elementary school. After starting a Business Degree at Simon Fraser University he decided to switch his major to Education in order to become a teacher. He completed his teacher training in elementary education at Simon Fraser University and has been a teacher for 10 years. Mr. Atwal and I met as students in high school, and we subsequently taught at neighbouring schools at the start of our teaching careers. He has been teaching at Altec High School since it opened in 2002.

Altec High School

Altec High School is located in a predominantly English speaking community, with a total enrollment of 1279 students, of which 29 students (2.3%) are English Language Learners (Altec High School Web Site). The average household income for the surrounding area is \$43,750 (Census 2001). It is a relatively new school as construction was completed in 2002. It is located at the crossroads of a busy intersection adjacent to a convenience store. It is a modern two-storey building surrounded by large grass soccer fields, concrete sidewalks, and newly planted, staked trees. There are eight portables on the school grounds. Altec High School offers the Senior C program that was developed to provide students with greater control over curriculum, the choice of either moving ahead in certain subjects or taking extra time and working in multi-grade groupings. All students in the Senior C program at Altec High School must participate in the "Senior C" component that requires regular volunteer work in the community (Interview: 24/10/03, pp. 4-6). Mr. Atwal teaches Patrick in French, career and personal planning and humanities classes.

Patrick is a grade eight student diagnosed with ADHD. He is 13 years old and he loves hockey. He has played minor hockey for several years and enjoys watching the NHL on television or going to live games. He was born in Canada and speaks English as his first language. He is the younger of two children with a sister in Grade 11. His parents were both born in Canada.

Patrick was diagnosed with ADHD and began taking medication in elementary school. Like Amar and Kelly, he is classified as a 333 a designation given to students

who “require intensive behaviour interventions or students with serious mental illnesses” as outlined earlier (Kirkbride Web Site, 2004).

Over his elementary school career Patrick received support from a school counselor, childcare worker, learning assistance specialist, school psychologist and speech and language specialist. He began school at Jesse Cook Elementary where he remained until the start of his grade seven year. Then, it was recommended that he leave Jesse Cook to attend another school in order to get a “fresh start” (Student file). He completed his grade seven year at a new school, called Robertson Elementary. According to his file,

Patrick’s inappropriate behaviours have escalated to the point where it is almost intolerable. Patrick has been rude and disrespectful to his teacher, the band teacher, the French as a Second language teacher, the learning support teacher, the noon hour supervisors, assorted TOC’s (Teacher's on Call) and the principal. When Patrick is at his worst he cries, yells, denies and makes threats and is totally unreasonable. It is taking longer to calm him down and as a result he misses a lot of classroom time. There is a concern in regards to medication, last year Patrick was on medication for ADHD and had a reasonable year. His parents decided to take him off and the impulsive out of control behaviours are escalating (Student file).

Patrick began his grade eight year at Altec High but made the decision to change to Carleton High School five months into the school year. During the interview I conducted with him and his father I asked Patrick why he changed schools. Patrick’s reasons for leaving Altec High to go to Carleton centered on the amount of work that he had to do as

part of the Senior C program offered at Altec. Patrick found the Senior C component “too challenging, especially when I have to keep up my regular studies and do all of that other extra work” (Interview: 31/03/04, p. 2). He likes being at Carleton High School and finds it to be less challenging in terms of workload (Interview: 31/03/04, p. 2). While at Carleton High School he was enrolled in Ms. Gallagher’s science and math classes, Ms. Johnson’s skill development, and Ms. Baker’s humanities class. I met all three teachers for the first time during this study.

Ms. Gallagher

Ms. Gallagher has been teaching for five years. She completed her teacher training at Simon Fraser University earning a Bachelor of Science degree in Biology. She has been teaching at Carleton High School for most of her teaching career spending just one semester at a neighbouring high school. She has worked with students in grades 8 through 12. Mainly a science and math teacher, Ms. Gallagher has also taught parenting to teenage mothers in the Planned Parenthood Program offered at the school.

Ms. Johnson

Ms. Johnson is a Learning Support Teacher. She completed her teacher training at the University of British Columbia receiving a degree in English and History. She has completed additional courses on behavioural disorders and learning disabilities in adolescents. She began as a teacher on call and continued in this capacity for two and a half years. This allowed her to work with students from all over the district. She has been at Carlton High School for four years. She has worked with students in grades 8 through 12 and has taught social studies, English as a second language, learning assistance, and English classes.

Ms. Baker

Ms. Baker has been teaching for five years. She has had experience teaching grades 8 through 12. We met at the start of this study. She has worked at three different high schools over her career. She mainly taught humanities, and physical education at Carleton High School. She completed her bachelor's degree in Human Kinetics and History, completing her teacher training at UBC.

Carleton High School

Ms. Gallagher, Ms. Johnson and Ms. Baker all teach at Carleton High School. The school was built in 1952 and renovated in 1994. It is adjacent to an elementary school as well as a fire hall. The school receives inner city funding and has a high turnover of students; students leave the school at a high rate, either they move, dropout, or are otherwise relocated. The school also offers Planned Parenthood, the district's only teen-pregnancy program, which enables pregnant and parenting students to complete school. About one third of the students come from a home where a language other than English is spoken. The average household income in the surrounding community is \$60,326 (Census, 2001).

City of Kirkbride

All of the participants described so far work in the city of Kirkbride which is located on the West Coast of Canada and is at the crossroads of the Pacific Rim, Greater Vancouver and the United States (Kirkbride, British Columbia Economic Profile). Incorporated in 1879, Kirkbride is one of the largest cities in Canada in geographical area with a total area of 315 square kilometers and a total population of 368,000 (City of Kirkbride, 2004). The Kirkbride school district is the city's largest employer with close to

7,000 employees, 4,100 of whom are classroom teachers (Kirkbride School District Fact Sheet, 2004).

The Kirkbride School District is the largest in British Columbia and one of the fastest growing in Canada. The total student enrolment for the district of Kirkbride is 62,935 students. At the elementary level there are 37,638 students in 99 schools and 23,569 students in 18 secondary schools. Kirkbride has a rich history of diverse cultural and ethnic backgrounds. Approximately one in three students attending school in Kirkbride come from a home in which English is not the first language spoken (Kirkbride School District Fact Sheet, 2004).

Having provided the context in which this study took place I now present the researcher perspective. Following, I present the sources of data for this study as well as procedures I used in their collection and analysis.

Researcher Perspective

I am an elementary school teacher. I have been a teacher for seven years and spent five of those years teaching grade seven students. During my teacher training I received little formal training or direct information about students diagnosed with ADHD. Much of what I did learn about ADHD came from direct experience and reading widely in the area. I have worked closely with children diagnosed with ADHD in all of the classes I have taught. I have completed approximately five Conner's Rating Scales (CRS) on different students, met with parents discussing whether or not to use medication, provided information about student behaviour to pediatricians, and talked to colleagues and friends outside of the education system about ADHD. All of the children diagnosed with ADHD that I have worked with have been medicated, usually with Ritalin. I believe ADHD can

be a debilitating condition for some children and can limit chances for success in the classroom for both student and teacher. However, I believe that the number of children diagnosed with ADHD exceeds the number of children who actually meet the criteria necessary for diagnosis.

Diagnosis can become a goal, as many believe this will help children become better able to function in the classroom. I believe other solutions are frequently overlooked. Teaching strategies remain unchanged, as deliberate efforts to accommodate student needs in the classroom are abandoned to medication. I think the majority of energy and resources are spent achieving a diagnosis and medicating students. I believe that treatment with stimulant medication provides a temporary fix for problem behaviours that may be far more complex and elusive than the medical profession is willing to acknowledge. The use of stimulant medication can prevent people from searching for deeper, more lasting solutions. I think that effective classroom instruction, the development of caring relationships, and the desire to inquire into students' lives may be subordinated to the efforts of diagnosis and treatment of ADHD with stimulant medication.

I feel that a diagnosis of ADHD can become more important than other more traditional methods of finding out what is affecting a child's life. Each specialist involved in supporting students diagnosed with ADHD, whether classroom teacher, school psychologist, counselor, child care worker, or pediatrician, can uncritically corroborate the existence of the disorder and typically resort to stimulant medication and in so doing lose sight of finding more significant solutions. When children are managed with stimulant medication there may be less need to solve their underlying problems. I suspect

trying to solve these underlying problems is both time consuming and challenging. More importantly, it may require teachers to cross into gray areas that reach beyond the classroom walls in order to explore children's family lives and upbringing, and societal pressures that facilitate and support the use of medication.

Data Collection

Between April 2003 and June 2004 I made 37 visits to the three school sites for the purposes of interviewing and observing participants, and collecting relevant documents from students' files. Sixteen of these visits lasted the entire school day. During my visits I conducted observations of classroom life; conducted a series of interviews with participant teachers, and gathered relevant documents from individual student files. In collecting these data I hoped to develop a clearer understanding of teacher beliefs about ADHD and how those beliefs are reflected in practice.

The multiple sources of information for this study include observations, interviews, documents and reports. Multiple data sources allowed me to corroborate teacher beliefs, by comparing the various sources of information to check for consistency and similarities (Merriam, 2001). The use of multiple data-collection methods contributes to the trustworthiness of the data (Glesne, 1999). The purpose of this triangulation of methods is not simply to combine different kinds of data, but the attempt to relate them so as to counteract threats to validity identified in each (Berg, 1995). Was I really getting an accurate account of participant's beliefs about ADHD? Were there discrepancies uncovered in the participant observations or the student files? As a means of ensuring that I was capturing teacher beliefs, I looked for convincing evidence from each of the data sources to identify affirming or disconfirming support. For example, did teacher practice

in the classroom reflect a belief that students diagnosed with ADHD had difficulty staying on task, paying attention or remaining calm? Did participants enact strategies to support these beliefs?

As a means of corroborating my interpretations, I had participants review some of the interpretations I made to ensure that they were accurate. I also had participants review all of the transcripts to ensure they accurately reflected their beliefs. I poured over each of the student files to triangulate the physical documents with the data gathered in the interviews and observations. Finally, I corresponded with participants regularly via the first class email network in order to develop questions, ask for clarifications on interview and observation data, and to share some of my interpretations with them.

Interviews

Between April 2003 and June 2004 I conducted 21 formal interviews with the seven participant teachers at each of the school sites. Interviews generally took place anywhere there was a free space with room for two people to sit and talk relatively free from interruption. Interviews ranged in length from thirty minutes to two hours. All interviews were audio taped and transcribed.

As mentioned earlier, once each interview was transcribed it was returned to the participant for the purposes of member checks. Member checking involves taking data and tentative interpretations back to the participants and asking them if the results are plausible (Merriam, 2001). Did I accurately capture your thoughts here? Is there anything that you would like to add, take away or explain further?

In addition to interviewing the seven participants, I also conducted an interview with Patrick and his father following Patrick's decision to change schools. This was done

to provide further insight into why Patrick changed schools. Also, I needed to regain consent to continue the study with three of Patrick's teachers at his new school, Carleton High School. I also interviewed Ms. Nelson, Amar's Social Development teacher on two separate occasions in order to gather important background information on Amar.

Although I took an interview guide to each interview (see Appendix D), interviews were largely unstructured, open-ended and conversational in nature. The interview guide provided a means of tracking topics covered and providing direction, but it did not restrict the interviews or limit the nature of our discussions about ADHD. It was used as a starting point to facilitate discussion allowing me to respond to the situation at hand, the emerging views of the respondents and new ideas on the topic that surfaced (Merriam, 2001).

Observations

I conducted a total of 22 classroom observations of the seven participant teachers. Depending on the nature of the class (i.e. elementary versus high school) some of these observations lasted for the entire day, and others for less than an hour. I conducted the observations in order to gain further insight into how teachers' beliefs and conceptions of ADHD affected what they did in the classroom with children diagnosed with ADHD. Observations also provided me with additional insights into their understandings of ADHD as evidenced through the practices in which they engaged. For observations I arrived in the classroom a few minutes before the start of the class. I would then find a place where I could sit for long periods of time without disrupting the classroom activities, but close enough to the teacher and student diagnosed with ADHD in order to document what transpired. I recorded all of my in the field notes in a small hand held

notebook. Following each observation I typed up my field notes on the computer. I created observations record files for each of the participants. In so doing I made efforts to recall and capture as many details as possible. This included documenting the time of day, dialogue, names and other significant events.

Researcher Role

My role in the classroom changed within and across each of the classroom and school visits. During classroom observations there are many possible roles the observer can play. At one extreme is the complete observer. Here the researcher does not participate in activities at the setting. He or she looks at the scene, literally or figuratively through a one-way mirror. At the other end of the continuum is complete involvement at the site, with little discernable difference between the observer's and the subject's behaviours (Bogden & Biklen, 2003). As a field worker I stayed somewhere in between these two extremes. Sometimes I was a complete observer, and other times when teachers were not delivering a formal lesson, I would assist some children and provide support by answering questions or directing them to particular resources in the room. I do not believe this had a significant influence on the data that I collected. On the contrary, it served to familiarize students with my presence in the room, which may have made them more comfortable under my observation.

As a teacher at Nicholson Elementary I would also encounter participants from this school during the regular routines of my day, for example, at recess, lunch and after school during school wide events. My focus during observations was the interactions that took place between the teacher and student. Picking a focus is always an artificial act, to "break off" a piece of the world that is normally integrated (Bogden & Biklen, 2003, p.

55). The part that is chosen is one that the participants themselves see as distinct and the observer recognizes as having a distinct identity of its own. I attempted to record as many of these interactions as possible. I recorded the time, nature of activity or lesson, what was said by the teacher, what was said by the student, their proximity to one another, how they interacted, and the location of the teacher in relation to the student. Following each observation I would write up the field notes on my computer. The field notes consisted of two kinds of materials. First, descriptive materials where my concern was to provide a “word picture” of the setting, people, actions and conversations as observed. Second, reflexive materials where I tried to capture my frame of mind, ideas and concerns (Bogden & Biklen, 2003, p. 112).

As I conducted observations, I made changes to future data collection sessions in light of what I found in previous observations (Bogden & Biklen, 2003). In other words, I regularly reviewed my field notes and followed specific leads for my next data collection session. I asked questions like; “What is it that I do not know yet?” For example, I was struck by how much time was spent interacting with students one on one, as opposed to instructing the whole class. I was interested in looking more closely at these interactions and the way participants interacted with their students. This meant changing subsequent observations to ensure I was seated close enough to hear what was said.

Document Collection

I reviewed the students' school files, copying report cards, behaviour checklists, classroom observations and other relevant correspondence between school and medical personnel and parents. These documents are considered official documents because they

are produced for special kinds of consumption. According to Bogden and Biklen (2003) “juxtaposing a students records with interviews can prove to be revealing” (p. 129).

Data Analysis

In this section, I describe the process of data analysis. Data analysis involves organizing what you have seen, heard and read in order to make sense of what you have learned. To do this, you must categorize, synthesize, search for patterns and interpret the data you have collected (Glesne, 1999). The ultimate goal is to treat the evidence fairly, to produce compelling analytic conclusions and to rule out alternative explanations (Yin, 1994). Below I provide the details as to exactly how I went through this analytical process.

Getting Started

I organized the information collected over the course of the study chronologically into piles consisting of observation field notes, interview transcripts, demographic information and student files for each of the children diagnosed with ADHD. Then, I read through the data to create coding categories as described by Bogden and Biklen (2003) noting certain words, phrases, patterns of behaviour, subjects' ways of thinking, and events that repeat and stand out. Once I had identified these emergent coding categories, I recorded them in a separate notebook, explaining some of the logic in their creation. I read through the interview transcripts and field notes a second time and attached the relevant codes to relevant data passages. These passages varied in length from one or two sentences to one or two pages.

Once all the interviews and observations were coded, I created case record files for each teacher. A case record file is a condensation of the raw case data that is organized, classified and edited into a manageable and accessible format (Patton, 2002). Each case record file consisted of portions of dialogue from interviews as well as excerpts from my observation field notes organized around particular themes and patterns relevant to the purpose of the study. I looked at teachers' descriptions of ADHD during our interviews, as well as the strategies they claimed to use in the classroom when working with children diagnosed with ADHD. Finally, I looked through the classroom observations to review the interactions of teacher and ADHD diagnosed student.

I went through a similar process for all seven of the participant teachers. Here, I will use Ms. Charleston as an example. I began with the raw case data gathered from Ms. Charleston. I looked closely for all of her descriptions of ADHD; that is, how she defined and characterized it. I placed all of these coded passages into her case record file. I began to create a picture of what her beliefs about ADHD looked like in an attempt to gain clarity of her understanding. I asked myself: "What does this mean? What does it tell me about the way Ms. Charleston conceived of ADHD?" In asking these questions, I worked back and forth between the data and my own perspective and understanding to make sense of the evidence. Of importance was ruling out alternative interpretations by testing them against the data (Patton, 2002). Therefore, I asked questions like, "Can I make this claim with certainty? Is there any additional evidence to support these claims? Is there evidence that disputes this position?" The analysis did not proceed in a linear fashion. Instead, it progressed in a less structured manner, with frequent tacking back and forth between each of the participant interviews, student files and observation field notes.

Throughout the data collection process, I kept track of my thoughts in a field journal as they took shape over the course of the study. Questions would arise following interviews, as well when transcribing my field notes. I documented these thoughts and analytic queries in order assist me in making sense of the data. This process also served as a continual reminder of my research purposes, namely to describe teacher beliefs about ADHD and to document the nature of classroom practice with students diagnosed with ADHD. Much of this analysis-in-the-field mode assisted greatly in providing the focus and direction necessary to keep the task manageable (Bogden & Biklen, 2003).

CHAPTER 3

CASE RESULTS AND ANALYSIS

The purpose of this chapter is to present the findings of the multiple case studies and in so doing draw contrasts between teachers' beliefs about ADHD and classroom practice, identify inconsistencies, and to make interpretive inferences from the data. My intentions are to understand participants' beliefs, which necessitated questioning, and encouraging elaboration of their thoughts to gain clarity. Also, it required thoughtful paraphrasing, summarizing and interpreting of their statements and actions from a variety of sources. Throughout this chapter, my analysis of interviews, observations and student files is guided by the purposes of this study. Namely, to succinctly and accurately describe the beliefs about ADHD held by the seven participants and to document how their beliefs are reflected in classroom practice. To accomplish this, I recorded and described the classroom interactions that transpired between students diagnosed with ADHD and participants (see Table 2). As well, I described significant events that took place between teachers and students in order to reveal underlying beliefs and to make comparisons of teaching strategies and curricular developments within and between cases. This was all done to further elucidate and clarify meaning. Concluding the entire section, I provide a summary analysis of the findings.

I begin by presenting the beliefs and classroom practices of the three elementary school teachers: (1) Ms. Charleston; (2) Ms. Collins; and (3) Ms. Thompson. Then, I provide the beliefs and classroom practices of the four high school teachers: (1) Mr. Atwal; (2) Ms. Gallagher; (3) Ms. Johnson; and (4) Ms. Baker.

Generally, participants at the high school level work with larger numbers of students for shorter periods of time than participants at the elementary level. For example, Mr. Atwal, Ms. Gallagher, Ms. Johnson and Ms. Baker each worked with several hundred students over the school year, whereas Ms. Charleston, Ms. Collins and Ms. Thompson each worked with between twenty-two and thirty students directly over the school year. In the present study high school classes lasted approximately 60-70 minutes; in contrast elementary teachers spent approximately 4 hours a day with the same students. Differences in the structure of elementary and high school classes may influence the continuity of relationships between teacher and students. Certainly, there may be other equally significant differences between schooling at the elementary and high school levels, but due to space limitations I will not address them here. Nonetheless, it is important to keep in mind that differences between in the structure of high school and elementary schooling are worthy of further exploration as they may account for the reported differences between elementary and high school participants.

Ms. Charleston

Ms. Charleston is a grade one/two teacher at Nicholson Elementary. To begin, I present her definition of ADHD and its connection to how the brain works as well as a diagram that she created to explicate her beliefs. With this diagram, Ms. Charleston outlined the role of mediating variables and she provided examples of how ADHD can be manifested in a child's life. Embedded in her description is the belief that external forces can make the condition of ADHD better or worse for a child. I present the implications of her beliefs for her teaching practices as well as the role of ADHD in her regular classroom interactions with Amar. To finish, I further articulate the connection between

Ms. Charleston's beliefs and her practice as I discuss and analyze her completion of the Conners' Rating Scale (CRS), a diagnostic tool frequently used to identify ADHD in school aged children and her involvement in the creation of Amar's Individual Education Plan (IEP).

Expressed Beliefs

When the study began, it was clear that Ms. Charleston had a lot of ideas about ADHD. Through the course of our interviews she expressed her thoughts more deeply by changing words, adding others, making sketches, relating her ideas to past experience, and recounting stories from her personal life. Initially, Ms. Charleston offered the following description of ADHD:

I have a very little, simple, standard answer for describing ADHD, and for children who are like Amar and others that are termed ADHD and ADD. I just say, imagine that you are sitting down in front of the TV and someone else has the remote control and they keep changing the friggin' channels. And that is Amar's world. Can you understand how frustrating it must be for him to be caught here and then as he is listening to you he notices the sound of the...(she looks around the room) and then he's drawn to the clock, and as he looks at the clock and he hears someone beside him rustling so he is drawn to them. His brain is constantly changing channels. That is what I would want people to understand (Interview: 04/02/2003, pp. 4-5).

In the above passage, Ms. Charleston described the sense of frustration she believed Amar felt as a result of his condition. A core belief embedded in Ms. Charleston's description of ADHD concerns the function of the brain, specifically whether or not it

enabled Amar to attend to just one thing at a time. According to her, having ADHD prevented Amar from focusing his attention, his mental faculties for significant periods of time. Instead, Amar's attention flipped from one thing to another, to another. From her perspective, having ADHD is akin to giving a stranger the remote controlling Amar's ability to focus, and standing by as that stranger flips Amar's channels of focus seemingly without purpose. In her view, Amar is not in control. As a result, an image is created of Amar impulsively jumping from one feature of his surrounding environment to another, from the sound of someone's voice, to the ticking of the clock, to the rustling of people next to him, as each feature briefly captures his attention. To extrapolate her belief further, the ability to focus, to attend to one particular feature of the environment for a significant period of time is a fundamental property of the normally functioning brain. This TV analogy of ADHD changing channels underscored Ms. Charleston's belief that ADHD posed unique challenges for students; challenges that others may not fully grasp.

As well, Ms. Charleston maintained that students with ADHD... "were not malicious. I think there are a lot of teachers that when a child acts out they take it personally. I have met mean-spirited children and usually they're not ADHD" (Interview: 04/02/03, p. 5). Instead, Ms. Charleston advocated recognizing that ADHD was the source for their behaviours. "You just keep trying to get them to do what you want realizing that their agenda is not a personal attack it is an internalized motivation separate from you (Interview: 04/02/03, p. 5).

What ADHD Can Look Like

Ms. Charleston described ADHD as a condition that falls on a continuum. That is, she believed ADHD changed in character across individuals gradually or in very slight

degrees, without any clear dividing points. Her belief is in keeping with the definition offered by the American Psychiatric Association Diagnostic and Statistical Manual (DSM-IV, 1994). Specifically, ADHD is based on a psychological trait (attention) that varies by degree in the normal population. As a result, it is possible for everyone to have some ADHD characteristics, but the degree of impairment manifested determines the likelihood of a diagnosis. In our exchange she elaborated further as to how this was consistent with her beliefs about the disorder:

I think about it as an extreme on both ends of a continuum. You have passive behaviours and they would just be ADD. And those are the ones they're almost never dealt with or diagnosed, or medicated, or anything. They are the ones that their brains, as opposed to the outward environment changing channels for them their internal environment is always changing for them. But they just sit there and watch it as it goes on behind their eyes. It takes place inside their heads. They never bother anyone else.... And I think they are the ADD children at the far end of the scale and then you move into some self-control areas and then you move out of there and back into ADHD (Interview: 04/02/04, p. 2).

In the above example Ms. Charleston made a distinction between what she termed ADHD and ADD. Again, her beliefs are consistent with the current version of the *DSM-IV-TR* (2000), which uses ADHD-HI (predominantly hyperactive type) and AD/HD-I (predominantly inattentive type) in their nomenclature to differentiate between people with and without hyperactive symptoms. Ms. Charleston's conceptions of ADHD are even more closely aligned with those offered in a past edition of the DSM, in particular the DSM-III (1984) which depicts two types of ADD: with hyperactivity and without it.

She described passive forms of behaviour that are likened to ADD, where the child is not hyperactive. With her description she suggested that children who are hyperactive may be more easily noticed because they pose more of a challenge. An implication of her belief is that students who display more hyperactive behaviours are more likely to be diagnosed with ADHD, receive medication, and become a focus of interest for the classroom teacher. Ms. Charleston found this to be disconcerting as students with, what she termed, ADD faced the same challenges as students with ADHD but go unnoticed and undiagnosed.

Mediating Variables

Ms. Charleston believed that there are many mediating factors in a student's life that can play a role in the development and manifestation of a disorder like ADHD. The following interview excerpt highlights this belief further:

It's complex for each child and it is even more critical for a child that is experiencing difficulties. There are so many different variables for me. It is almost like lets say you have a child with no attention who is on this side of the scale (begins sketching on a piece of paper).

Ms. Charleston created a drawing that featured a pair of intersecting perpendicular lines creating four quadrants (see Figure 2). On the top of the vertical axis she wrote "great external human influence" and on the bottom of that same line it read "poor human influence." On the left side of the horizontal axis she wrote "internal influence child complete attention" and on the right "no attention." And in each of the four quadrants created by the two intersecting lines it initially read "better" in the top two and "worst" in the bottom two.

Ms. Charleston quickly sketched the above diagram, as a result it may not have been entirely clear. To be certain I presented her with the following corrections and reinterpretations to ensure their accuracy. In the upper left corner it should read *best* and in the lower right corner it should read *worst* and in the remaining two sections, the upper right and lower left it should read *better*. Below I provide the reasons why this diagram is more accurate.

The reason that the upper left section should be labeled “best” is that in this scenario you have a child with both “great external influence” and “internal influence-complete attention”. It follows that when a child is in the upper left section that they would be in the “best” possible situation. In the following interview excerpt Ms. Charleston provided an example of what this situation would look like:

The child is in the best possible home situation that is very structured with formal family groupings. You got your mom and your dad and your mom stays home and bakes cookies and always walks the kids to school and is always there to pick them up. Dad comes home at 5:00. So, real good and constant structure, and the things that would be invaluable—a lot of love and patience. I think those children learn to control more, and to internalize that control more (Interview: 04/02/03, p. 5).

Together with the ideal home life, the child in Ms. Charleston’s examples also had the ability to attend, resulting in the best possible outcome for that child. The child in the lower right section, on the other hand, is in the worst-case scenario because the child has poor human influence and no attention. This is exemplified when a child lives in an emotionally impoverished home and does not have the ability to attend to important

features in his environment. Ms. Charleston provided an example of the worst-case scenario in the following vignette:

If this is poor human influence, you have the family where the mom is a prostitute and she is not home for three days and she is taking his Ritalin and there is no food in the house. The teacher at school is like...that is the one kid that she didn't like to have to handle and when he is away from school for three days she is glad. You've got poor human influence, and you've got a child with no ability he is down in this environment (points to lower left quadrant of drawing).

The belief that Ms. Charleston expressed here is that students who have poor attentional abilities, and parents who are irresponsible and neglectful, are very difficult to handle in the classroom. Also, on a more general level, Ms. Charleston felt such children were at a disadvantage relative to other children. Ms. Charleston believed that when students with these qualities were absent from school it provided teachers with a temporary break. Her beliefs also suggested that parents are the main external influence in a child's life. Ms. Charleston does not provide a prominent place for teachers in either her drawing or in her examples. Instead, she discussed the significant influence of parents. Her message—life at home can limit the success of a teacher's efforts.

The upper right section and the lower left section of Ms. Charleston's drawing would fall somewhere in between the best and worst-case scenarios. A child would have "poor human influence" and "internal influence complete attention" in the lower left section, and "no attention" and "great external human influence" in the upper right section. Theoretically, both of these situations, lower left and upper right would result in a slightly better situation for the child than the lower right section and a slightly worse

situation than the upper left section. After I presented the revised version of the diagram and provided her with a thorough explanation Ms. Charleston agreed that it was accurate and represented her beliefs about ADHD (Interview: 01/20/05, p. 1).

Overall, the core belief embedded in her diagram is that a child's ability to attend, to focus, to have a brain that is not constantly changing channels, is mediated by her environment. Essentially, her belief is that features of a child's environment can influence the manifestation of ADHD most deeply. However, the mediating variables can also come from within. In the following example she used Oprah Winfrey as someone located in the lower left section with "poor human influence" and "internal influence-child complete attention."

You could have a child that has got no attention but great help and they move into this quadrant here (points to "best" section). Over here, what we have is what we call our normal ones they have got great influence and great attention. So they are up here (points to "better" sections). And then you have got some that have great attention and yet man...and you think where did a person like Oprah come from? Look at how good she does. You know, she talks about her terrible home life, and the abuse, but she has this self-thing, and her inner attention and that, so she is down here in this category (points to the lower left section of the drawing). So, I just think there are too many things that create and contribute to ADHD. It moves, you know on the continuum. They can be moved (Interview: 04/10/04, p. 5).

Ms. Charleston used Oprah as an example of someone with an undesirable home life characterized by abuse, who was still able to overcome adversity because of "this self thing". In other words, it was Oprah's nature that allowed her to overcome her home life.

Ms. Charleston's belief is that there is something inherent in Oprah that allowed her to overcome adversity. Again, her example did not include teacher involvement in a person's ability to overcome adversity. For Ms. Charleston there are both intrinsic and extrinsic influences that can engender or limit pre-existing conditions for ADHD. Furthermore, both of these examples, the worst-case scenario of the mother who is a prostitute and who takes her child's Ritalin, as well as Oprah Winfrey's life, provide little room for a teacher to impart change on a pre-existing condition like ADHD.

A Teacher's Role

Ms. Charleston thought of the influences on ADHD as falling on two continuums; one of complete attention to no attention and the other of great external influence to poor external influence. According to her a child's manifestation of ADHD fell somewhere within the quadrants created by the intersection of these two continuums. That is, one's location could be influenced by outside forces (great or poor external human influence) or internal forces (complete attention or no attention). However, what is less clear is where a teacher fits into her conceptions. The following interview excerpt captured her response when asked whether or not she believed that learning could overcome the negative symptoms of ADHD:

To a certain degree, I really believe that, it's like, like someone may be relearning how to walk. You know, they can get to a certain point where it is very serviceable but it might not be exactly the same as everybody else. I do think that there is a lot of early intervention that needs to take place and there are so many different things... like the child being recognized early, supportive family life, and teachers who can allow for that flexibility and who create a non-punitive

environment for that child all the way. A person who can see that child progress way further than without those things. Whether they will be completely able to cure themselves, I don't know. Can they be cured? And what does 'cured' look like? They can be helped. They can be helped, just like anyone (Interview: 04/02/03, pp. 6-7).

Ms. Charleston believed that she could help students with ADHD, but she did not think she could cure them. In this regard, Ms. Charleston saw ADHD as a lifelong condition. That is, she believed students diagnosed with ADHD may never live a life without it, nor could she help them to completely overcome the disorder. In addition, she believed ADHD had a biological basis: "there is a genetic predisposition—something that is there" (Interview: 10/04/04, p. 1). Taken together her beliefs implied that while the environment could exert an influence, teachers as part of that environment may not have as great an influence as she would like.

Although she may have conceived of ADHD as a life long condition, she did not view medication as the most appropriate intervention. She claimed that medication often prevented direct involvement from the teacher. In other words, a teacher's attempts to address the challenges that arise from ADHD may be stifled because medication takes on a central role in alleviating the symptoms of ADHD. The following interview excerpt provides Ms. Charleston's understanding of the role of medication in the treatment of ADHD:

That is one of the things that really annoys me about the acceptance of medication. You are accepting then that you cannot do anything. Let's just put it onto a pill. It is an escape. With Ritalin it is done for the outside people, not for

the child. You know, I don't think you will see a child going; "You know I really would like some Ritalin, you know it will help me attend." It is always the external forces saying; "We have got to do something for this kid." What they are really saying is; "You gotta do something for *me with this kid.*" (Interview: 04/10/2004, p. 6).

Ms. Charleston believed that teachers had little potential to completely overcome the influence of ADHD, and in this regard conceived of ADHD as a life long condition. However, she maintained that when children are treated with Ritalin it places too much responsibility for change or treatment "onto a pill." According to her, medication offered an escape from an unpleasant situation for both the teacher and the student, although professionals seldom present it this way. Ms. Charleston's maintained that medication could be relied upon as reprieve from challenging behaviour.

Ms. Charleston believed her role in educating students with ADHD involved helping students to cope with ADHD and possibly the rigors of school. Although she believed that she could help, she did not think she could teach students to overcome the disorder. This belief may be the result of conceiving of ADHD as disease like and beyond a cure. In order to analyze Ms. Charleston's beliefs and her classroom practice I now turn to observations.

Connecting Beliefs to Practice

The following examples provided evidence as to how Ms. Charleston's beliefs about ADHD were, or were not, reflected in practice. Observations of Ms. Charleston indicated that she interacted more frequently and for longer durations with Amar than any of the other children. In total I recorded approximately 137 interactions between her and

Amar. These interactions are summarized and listed by category in Table 2. By interactions I mean times when Amar and Ms. Charleston spoke directly to one another or otherwise engaged in some type of contact that involved either a verbal or non-verbal exchange or both. Interactions also included those times when Ms. Charleston sought to intervene or change Amar's behaviour. Granted some may contend that behavioural interventions are different from interactions, however, they both involve an interaction on some level. Therefore, interactions can be thought of as a broad category of which behaviour interventions are one type. I did not include those times when Ms. Charleston was speaking to the entire class as interactions between her and Amar directly.

The majority of interactions (53) between Ms. Charleston and Amar involved Ms. Charleston giving Amar direction or subsequently redirecting him once he had started working on an assignment or activity. Giving direction is a broad category that included several different types of behaviours. For example, it included: pointing out to Amar something that he should be doing, enlisting his aid, answering a question, reminding him as to where he should be standing or working, what he should write down, where things were to be put away, and other behaviour expectations. Some times their interactions were brief, lasting a couple of seconds, and sometimes they lasted 5 or 10 minutes. In reviewing Ms. Charleston's day-book I found no evidence that she used any special instructional methods or classroom management strategies with Amar. In some regards though, Ms. Charleston's interactions with Amar differed from her interactions with other students. For example, Ms. Charleston would sometimes place Amar into a particular group of students. Typically she placed Amar with a high achieving student, usually a female, as a peer tutor to provide Amar with additional academic support.

Also, Ms. Charleston communicated with Amar slowly and clearly, being sure he maintained eye contact. Her interactions were noticeably different from those with other students in the classroom. This approach was used as an informal means of accommodating Amar's needs. The following excerpt from my field notes is an example of this type of interaction:

Ms. Charleston: "Amar did you show your Dad your cards?" She puts her hand on his shoulder and pulls him close. She holds his face in her hands as she speaks to him and looks directly in his eyes, speaking slowly with deliberate speech. Amar does not respond, instead he avoids making eye contact and fixes his gaze straight ahead as though looking beyond Ms. Charleston. Ms. Charleston lowers her hands and Amar's head. Then, circulates to another group of students (Field notes: 04/23/03, p. 2).

On a separate occasion Ms. Charleston sought clarification from Amar to a question posed to the class asking how each of them traveled to school in the morning. Ms. Charleston was unsure that Amar understood what was asked of him, so she spoke to him directly. The following interview excerpt captured a portion of their exchange:

"Amar did you walk to school today? Did you walk Amar? (Amar, standing very still, stared at her, fixed his gaze without blinking.) Did you walk to school?" She uses her fingers to imitate a walking motion.

Amar shook his head, "No."

"Did you take the bus?" Ms. Charleston imitated grabbing a steering wheel with both hands and driving.

Amar: "Yes."

Ms. Charleston: "Okay then you get to put your name under the ride column."

She walks to the chalkboard and shows him. Amar walks up to the board and erases his tally mark and places it under the ride column (Field notes: 04/23/03, p. 8).

With the above examples, I do not want to suggest that conversations between Amar and Ms. Charleston always took this course. However, when timing and opportunity presented themselves, Ms. Charleston made efforts to communicate slowly, clearly and to check for understanding to a greater degree than she did with other students. In this regard, Ms. Charleston's beliefs about ADHD may have been consistent with her actions:

In order to keep Amar on track I use quiet hand signals, eye contact and proximity control. When I talk to him I put my face four inches from his face and I put my hands at the side of his eyes. I will not use any words until his eyes are looking at me (Interview: 02/04/03, p. 5).

On the surface it may appear that they are communicating with one another in a unique manner due to Amar's diagnosis with ADHD, but it is worth noting that Amar was also an English Language Learner, therefore, Ms. Charleston may have also communicated this way to meet Amar's language needs.

Addressing Challenging Behaviour

There were occasions during the observations where Amar became physical with other students by hitting or pushing them. These incidents, when Amar became physical, occurred less frequently inside the classroom. Instead, they usually occurred in large open areas like the school gym, the hallway, the school grounds, or the pod area located outside of Ms. Charleston's classroom. In these situations, Amar was moved away from

the students with whom he was engaged. Ms. Charleston frequently used proximity as a behaviour management strategy to address Amar's aggressive behaviours. By proximity I mean times when Ms. Charleston moved closer to Amar, or relocated him physically closer to her. The following example from my field notes depicted a situation in which Amar and another student began to wrestle one another:

Amar is standing behind three students who have their backs to him. He taps one student on the head with his right index finger, then he taps another student, and then a third. One of the three student turns to face Amar. They interlock their arms at the elbow. They begin to clutch and grab one another with their free hands. Each boy is twisting and pulling at the other as they fall to the ground. They stand up. Once the two stand up the boy pushes Amar. So Amar reaches over and grabs his hand and starts to twist it. (Ms. Charleston, who is standing nearby, notices the boys and begins to walk toward them.)

Ms. Charleston: "Boys we don't hurt people in our room. Always come to me first." Ms. Charleston walks within 2 feet of boys as she speaks to them. They stop wrestling, stand up straight, lowering their hands to their sides. She rests her hand on Amar's shoulder.

Ms. Charleston: "Amar there is no room for you over here. I would like you to come and sit over here near me." Then she moved behind Amar and guided him over to a chair and table next to where she was sitting (Field notes: 30/04/03, p. 10).

Ms. Charleston commonly used proximity to manage Amar in situations similar to this.

In the larger spaces at school, like the gymnasium, halls, and pod area, proximity was not

always a feasible strategy, which may have contributed to Amar's physical involvement with other students.

Of the 137 interactions I observed, 8 involved the use of proximity as a means of addressing Amar's transgressions. Typically, Amar was involved in a disagreement or argument with another student, sometimes pushing and shoving ensued, sometimes school supplies were not shared, or inappropriate language was used. On three occasions, Ms. Charleston held conferences with Amar and all of the students involved in the incident and talked about what had transpired. During these conferences, Ms. Charleston encouraged students to share how Amar's behaviour made them feel. In the next example Amar was swearing and poking students with his pencil. In an effort to remedy the situation, Ms. Charleston had the entire group of boys involved stand in a circle. What follows is part of their conversation:

Ms. Charleston: "Come here Amar. Dhillon and Thomas would like to talk with you." The boys stand side by side in a circle around Ms. Charleston. Amar is staring at the floor. Ms. Charleston looks at Dhillon, establishes eye contact, and gives a slight nod.

Dhillon: "We don't like it when you poke us with that pencil, it hurts."

Thomas: "We want you to stop."

Ms. Charleston looks at Amar. Amar nods his head, hands a wooden yellow pencil to Ms. Charleston. Then he walks over to a table and sits down (Field notes: 05/20/03, p. 8).

Creating Official Documents

Ms. Charleston had a limited involvement in generating school documents about Amar. Certainly her signature was on Amar's IEP, but it was clear from interviewing both teachers that most of the IEP content was generated by Amar's Social Development teacher. Additionally, the Social Development teacher completed all of his report cards dating back to kindergarten. However, Ms. Charleston completed the Conners' Rating Scale (CRS).

The CRS is a standard instrument used in the assessment of ADHD and related problem behaviours in children and adolescents. Ideally, the CRS provides one piece of information to clinicians as they gather evidence in the process of making a diagnosis. According to Conners (2001) no full-scale assessment of ADHD can rely exclusively on rating scale information. Instead, a full-scale assessment must also incorporate information from interviews, direct observations and laboratory measures designed to document potential symptoms of the disorder.

Classroom teachers and parents use the CRS to rate students on a variety of behavioural items. For example, the item: "Restless and always on the go," is presented and respondents are asked to circle one of the following descriptors: not true at all, just a little true, pretty much true, and very much true. Children's scores on many similar statements are added together to create final test scores, which are then compared to a large normative database. Test scores are then compared to determine how much they deviate or are consistent with scores from the normal range of children of the same gender and age. According to Conners (2001), the higher the scores the greater (or more severe) the problems. The average score is 50 with each standard deviation of 10. In general, scores of 65 or higher indicate a clinically significant problem (Conners, 2001).

Ms. Charleston's understanding of the purpose of the Conners' Rating Scale that she completed for Amar is captured in the following interview excerpt:

I remember filling it out, and I remember Ms. Nelson (Social Development Teacher) coming back in and changing it. She changed it. She would say things like; "No you can't say that because he is not going to get the help he requires. We need to move this farther over on the scale, what they're asking here is more this than just that." Because even if I didn't agree with her on single points she said; "The bigger picture is that we want to get Amar some help, and if we want any one-on-one time or intervention of any sort those are the ones that have to be highlighted." (Interview: 10/05/04, p. 4).

The final score Amar received on the hyperactivity scale of his Conners' Rating Scale was 71. As mentioned previously, this score indicated a clinically significant problem (Student File). This example revealed the currency attached to a diagnosis of ADHD. The diagnosis can mean greater access to school personnel, medical professionals and other resources. These resources were largely unavailable to students who were not diagnosed with ADHD.

Although Ms. Charleston was present at the meeting to review Amar's IEP, it is unclear as to whether or not she was directly involved with its creation. The Social Development teacher generated most of its content. IEPs are typically created to assist in the development of teaching strategies, learning outcomes, and behavioural expectations for students classified as 333. The IEP is organized to include behavioural and academic areas of strength, areas of concern, and long-term goals. An example of a behavioural goal for Amar's Grade two year was "to need less teacher instruction (direction) and to

remain on task during group times” An example of academic goals for the year were “increase comprehension skills, will use lower case letters in his writing, and mastery of addition and subtraction facts to 20” (Student File).

Amar's academic and behavioural goals were outlined in his IEP, however, it is unclear if there was any relationship to his diagnosis with ADHD. The rationale for goal development and inclusion on Amar's IEP was not provided. Analysis of my field notes reveals that Ms. Charleston did not attempt to meet them in any direct manner. Amar continued to require regular teacher instruction and reminders to remain on task. Likewise, evaluation of his academic abilities revealed that his comprehension skills, lower case letter writing and mastery of addition facts up to 20 were not achieved. Communication between the Social Development teacher and Ms. Charleston was limited which may account for the lack of implementation of the IEP recommendations. “We knew that it was Ms. Nelson's student. It was totally her student and we knew we could not go further without stepping on toes. We knew we had to be, just do what we could within the confines of our classroom” (Interview: 10/05/04, p. 5). The development and implementation of Amar's IEP may have been an ineffective means of addressing any of Amar's needs as a student with ADHD.

Case Summary

An analysis of the results indicated that Ms. Charleston believed ADHD is a disorder with a biological basis and that students with this disorder are set apart from other children. Furthermore, she believed that ADHD fell within two intersecting continuums and changed in severity gradually with no clear dividing points. She contended that Amar had a brain that worked differently, although her sketch suggested

that she believed ADHD could be negatively influenced by mediating variables in the surrounding environment. Conversely, mediating variables could also help to remedy some of the symptoms of ADHD. Ms. Charleston asserted that student's attentive abilities, parental influences, and the conditions of their home life figure prominently as mediating variables in the manifestation of ADHD. She maintained that as a teacher she could help children to cope with ADHD, but was unable to cure the disorder. She believed that medication prevented her direct involvement, but it did provide both teacher and student with a means to escape from ADHD. Her beliefs about ADHD did result in some informal changes to the way she interacted with Amar but were not reflected in any significant changes to her curriculum content or classroom teaching strategies. If Ms. Charleston believed that ADHD was part of Amar's biological make-up then she may feel less capable of influencing that condition, instead choosing to rely medication. As well, it may have made her more accepting of Amar and as a result less punitive in response to his behaviour.

Ms. Collins

Ms. Collins is a grade one/two teacher who also taught Amar at Nicholson Elementary. To begin, I present her expressed beliefs about ADHD. Then, I look closely at their influence on her lived beliefs as reflected in formal and informal practice. To conclude, I review the place of medication in her understanding of ADHD.

Expressed Beliefs

Ms. Collins listed the symptoms of ADHD that, in her opinion, were indicative of the disorder:

I believe that children with ADHD have difficulty controlling their behaviour; you know focusing, paying attention and because of these behaviours, they experience all kinds of social and learning problems. These children present specific and significant problems for classroom teachers. I think that it has nothing to do with environmental factors like poor parenting, but it is a genetic dysfunction. The child is inattentive, hyperactive and impulsive. They can't sit still. They disrupt the class and are easily distracted. They are unable to concentrate for extended periods of time. Because of this, these behaviours these students' social behaviours are affected too. I believe we have to be very careful diagnosing children with these disorders because everyone shows some of these behaviours at times. These children...I suppose demonstrate these behaviours to a degree that is inappropriate for their age as well as creating a real obstacle disabling them to function and just be happy in a regular classroom. The behaviours are excessive, long-term and pervasive. They occur more often than in other children of the same age. I believe children with ADHD have some sort of genetic or neurological dysfunction that prevents them from focusing, paying attention, and following instructions (Interview: 10/05/03, p. 13).

In her description of ADHD Ms. Collins cautioned against a quick diagnosis because many children display inattentive, hyperactive and impulsive behaviours but do not have ADHD. At the same time, she asserted students with ADHD present specific and significant problems for classroom teachers due to their behaviour. For example, the social problems she described as characteristic of ADHD may escalate into physical altercations. As well, hyperactive and impulsive behaviour may consume instructional

time usually spent with other children in the class. All in all, Ms. Collins believed that behaviours exhibited by a child with ADHD were far reaching, not only for the student themselves, but also for classmates and the teacher. In this regard ADHD could negatively influence the nature of relationships between students and with the teacher. Ms. Collins maintained ADHD was long-term, which implies children may have it for most of their lives.

Overall, Ms. Collins's description of ADHD is in close keeping with the definition of ADHD found in the DSM IV-R (2000). In particular, "the essential feature of ADHD is a persistent pattern of hyperactivity-impulsivity that is more frequently displayed and more severe than is typically observed in individuals at a comparable level of development" (p. 85). Similarly, Ms. Collins believed that many children exhibited hyperactivity, inattention and impulsivity but children with ADHD faced something more pervasive and detrimental than their peers. Ms. Collins also maintained that children with ADHD are not in control of their behaviour. That is, they do not have power over their ability to focus or be attentive and as a result are unable to employ these particular responses at will.

Similar to Ms. Charleston, Ms. Collins asserted that knowledge of ADHD helped her to recognize that these were not bad kids. "he has outbursts, but with the term ADHD there you can go in there with perhaps a little more sympathy. It's out of his control. It's not malicious intent. He is not just hitting people because" (Interview: 10/05/03, p.10). Ms. Collins believed that ADHD may require a reinterpretation of students' motives or intentions claiming that aggressive behaviour was caused by ADHD. As such, Ms. Collins felt teachers needed to recognize this.

ADHD and Relationships

Ms. Collins believed the difficulties faced by children with ADHD were far reaching and jeopardized the likelihood that they could learn effectively or form meaningful relationships. Ms. Collins highlighted the social repercussions of ADHD citing the negative influence they had on such children's abilities to form relationships as one example. This feature of her description sets her beliefs apart from Ms. Charleston's. Ms. Collins believed the social interactions she had with Amar, and his interactions with other students were negatively affected by ADHD. In contrast Ms. Charleston's centered on Amar's brain changing channels and the implications this may have had for learning. Ms. Collins did not believe that she had a healthy relationship with Amar. As well, she felt that his relations with other students lacked meaning:

I don't think that there was any real relationship that he [Amar] has formed. I don't think that we had a relationship. There was never a real closeness or any real connectedness between him and I. And even in the classroom was there ever a time, that whole social aspect and relationships, I don't think I was ever privy to him coming up and saying, "Did you want to know?" or "I saw a movie last night." You know that interplay and interaction between student and teacher. There was no meaning in our interactions, nor was there with any of the other children (Interview: 05/10/03, p. 8).

My classroom observations corroborated Ms. Collin's claims in two respects. First, the relationships that Amar had with other students were contentious. They were characterized by regular verbal and physical conflict. During six of the nine observations I conducted, Amar was engaged in some type of physically or verbally aggressive behaviour that involved pushing, hitting or swearing at other students (Field notes:

04/23/03, p. 17; 04/30/03, p. 3; 05/14/03, pp. 15-16; 06/04/03, pp. 14-16; 06/11/03, p. 2; 06/18/03, p. 1). Second, his interactions and conversations with Ms. Collins could be short and perfunctory and sometimes lacked coherence. There seemed to be a lack of genuine verbal engagement or connection between Ms. Collins and Amar. One example of this came from a regular activity called "classroom temperature." During this time students would sit in a circle and share how they felt by giving themselves a score on a scale of one to ten, then provide justification for their score choice.

Ms. Collins: "Okay lets make a circle. Pavan, come join us on the floor. Sounds off. Let's give the gift of attention to the person who is talking. Amar I cannot hear Manny." Manny finishes his description and Ms. Collins nods at Amar.

Amar: "Ms. Collins you don't tell the chicks what to do or they will bite you." There were three small chickens kept in a large cage outside their classroom. "I feel like a 10. I am going to build a secret passage."

Ms. Collins: That sounds exciting.

Amar: I cleaned it out.

Ms. Collins: To play in, or to be safe in?

Amar: "The square on the grass. The square thing on the lawn. The secret passage." Starts to wiggle his hand in the air in front of his face.

Ms. Collins: "(interrupts)...okay Amar who are you passing it to?" Amar points to a student sitting across from him.

Amar: (Continues to talk but much of what he is saying is nonsensical.)

This interaction was typical of the conversations between Amar and Ms. Collins. Often their communication lacked coherence, with Amar beginning a story that was difficult to

follow and Ms. Collins attempting to gain clarity by posing questions. Although Ms. Collins attempted to gain clarity she never appeared entirely certain about the content or meaning of Amar's responses (Interview: 10/05/03, p. 2). Given the frequency and nature of Amar's aggressive behaviour and his verbal interactions, Ms. Collins's contention that ADHD influenced a student's ability to establish meaningful relationships may be more understandable.

Beliefs in a Biological Basis

One feature of Ms. Collins's definition of ADHD that is closely aligned with Ms. Charleston's is her description of ADHD as biologically based and resulting from genetic dysfunction.

I know it is not because of the environment or parenting. I think it is out of his control, it is something to do with the brain. It is physiological, relating to the brain. I think that it has nothing to do with environmental factors like poor parenting, but it is a genetic dysfunction (Interview: 10/04/04, p.1).

Conceived as genetic dysfunction ADHD is passed down from generation to generation. From this stance ADHD is coded into a person's genes and develops in accordance with those genetic instructions. In other words, one's genes determine the abnormal or impaired functioning characteristic of ADHD. Simply put, according to Ms. Collins there was something wrong with Amar's genetic instructions that led to the development of inattentive, hyperactive and impulsive behaviours. "There is a chemical that is needed to help him, to enable him to attend or focus, to organize him. So that is why the chemical, the medication, helps to facilitate some sort of...they connect together so that that brain is able to function" (Interview: 11/12/02, p. 4). Furthermore, because Ms. Collins believed

the disorder resided in Amar's genetic make-up, it was not the result of environmental factors like poor parenting, nor was it amenable to the influence of her teaching: "I can't affect that. I can't control that. This is the way he is, and if I were to just urgently fix all of this stuff, but I can't anyway because it is totally out of my control" (Interview: 11/12/02, p. 5).

ADHD and Complexity

For Ms. Collins any behaviour could be the result of several varied and interrelated factors making it difficult to understand completely, especially when looking at it from the perspective of ADHD.

It is so individual every child you get, right? Label them or not label them you are dealing in the moment with the behavior right? What I think is so unfair, or doesn't help is to keep it so simplistic. To say he's ADHD and that is it. Oh no not for Amar, sure there is ADHD, but there is a whole bunch of other stuff that is playing into this and making it more complex (Interview: 10/05/03, p. 9).

Ms. Collins felt that ADHD blurred attempts to see a child's behaviour from other perspectives. For instance, while Ms. Collins felt that environmental factors like poor parenting did not cause ADHD, she also maintained that environmental factors could play a role in the severity of the disorder. "I do believe that environmental factors may influence the severity of the disorder, especially the degree of impairment and suffering the child may experience, but that those factors don't give rise to it" (Interview: 10/04/04, p. 8).

In the above description Ms. Collins made a distinction between causal factors of ADHD and something akin to the mediating variables described by Ms. Charleston. Ms.

Collins believed that environmental factors influenced the degree of impairment and suffering children with ADHD experience. However, she confined those factors largely to “conditions at home” that may compound and worsen a student’s condition (Interview: 11/12/02, p. 5).

According to Ms. Collins, not only did Amar’s home life add to the severity of the disorder, the discomfort and hardship for Amar, it also added complexity to interpreting ADHD’s role in it all.

For me it was the information about his home life, what he lived with. You see with Amar the other day I was talking with the Dad. He has no toys at home. He sits in front of cartoons the whole time. And then he goes right from school, right from our school to three hours of Muslim school. Then, he comes home and does one hour of homework with his Dad hanging over him. I said it, “Well when does he play?” He never gets to go outside. He doesn’t even get to go outside to kick a ball. So you want to let him go play with the blocks. He’s got this [ADHD] but he has also got that at home. The diagnosis is just another piece of information about him (Interview: 10/05/03, p. 16).

Amar’s home life was a source of concern for Ms. Collins for other reasons as well. Ms. Collins speculated that there may be some physical abuse in Amar’s home, but was uncertain as to the truth of such claims (Interview: 10/05/04, p. 7). This led Ms. Collins to recognize that Amar may have had many grave challenges to deal with and ADHD was only one of them: “His home life was a huge factor, no kid can turn out normal in that environment” (Interview: 10/05/03, p. 10). This response also suggested that Amar’s experiences at home had implications for his overall development, not only

those relating to ADHD. That is, Ms. Collins believed Amar's home life compounded the severity of ADHD, and may have accounted for changes in his behaviour at school.

For Ms. Collins information necessary for understanding the behaviour of a student with ADHD came from several sources. In this regard, relevant information about children's home lives, the character of relations between and with parents, and the nature and type of activities engaged in outside of school all factored into Ms. Collins's understanding of ADHD. For her all of these environmental factors could influence the manifestation of ADHD.

Beliefs and Formal Teaching

By formal teaching I am referring to those aspects of teaching based on rules and carried out in a prescribed, predetermined manner, for example, designing lesson plans with specific learning outcomes that students are required to accomplish and demonstrate in some observable way during an evaluation. When asked specifically if a diagnosis of ADHD required Ms. Collins to change her formal teaching style she claimed to make few changes to the way she worked with students diagnosed with ADHD:

It doesn't change my teaching. I don't change my teaching because I think the way that I teach is...it can't change because you know you take what I believe the pedagogy that I bring to my classroom is based on sound theory about how children develop and what is best for them and the beliefs I hold about how kids learn best, so I can't change that (Interview: 10/05/03, p. 13).

Ms. Collins did not see a significant place for ADHD in the formal beliefs she held about how to educate Amar. She felt that her beliefs about teaching adequately addressed how children develop as well as how they learn best. One of Ms. Collins's central beliefs was

that ADHD was a neurological dysfunction that prevented Amar from following instructions. This may have engendered a sense of powerlessness when it came to overcoming the challenges presented by ADHD with her teaching strategies. Instead, conceived as a biological disorder it may have made more sense to treat ADHD with medication.

Her reluctance to change formal teaching practices in light of a diagnosis may have created feelings of guilt for Ms. Collins. However, she was not comfortable with the alternative, which she saw as asking the rest of the children to adapt to different instructional methods to accommodate a child with ADHD:

When I have a child that presents a challenge like ADHD or ADD, I sometimes feel a little guilty that perhaps it is a little over stimulating in here, perhaps I am not finding ways to really specifically meet some of his needs and because there is a one versus twenty others, right? I don't know what it would be like, like say I had a class with 12 ADHD students, like that were diagnosed I don't know how I would teach then. If it was that way I would teach differently, because I am really a layperson when it comes to understanding that situation. It is not like I have taken a lot of time to read about it and understand it. So if I had 12 of them and then I would probably...you see right now I have 22 young pretty normal kids. If I had a majority of kids with the disorder offsetting that I would have to look into that. I would change (Interview: 10/05/04, pp. 21-22).

With this comment Ms. Collins revealed that she based decisions to change her formal teaching style on the overall make-up of the class. Ms. Collins felt that making changes to her teaching style would be justified only if she had more students diagnosed with

ADHD in her class. In this regard her beliefs may have been utilitarian in nature. She sought to meet the needs of the greatest number of students and used this rationale to guide development of curriculum and teaching strategies. In other words, the majority of students in her class were *not* diagnosed with ADHD therefore, the necessity to create strategies for ADHD-learners was not a central concern.

My observations confirmed Ms. Collins's beliefs when it came to formal teaching strategies for a student with ADHD. She did not make any explicit changes to her instructional strategies, the content of the curriculum or behavior management strategies. For example, her beliefs did not necessitate formal change to the content, delivery or evaluation of Amar's work. There were no observable changes made to lesson plans, the structure of activities, or strategies used to guide or evaluate Amar in the classroom. Although Amar had an IEP in his student file, analysis of classroom practice revealed limited implementation. As well, Ms. Collins and Ms. Charleston claimed that the IEP did not significantly influence their practice.

It is clear Ms. Collins believed ADHD posed considerable challenges to learning, but she may not have believed that her teaching efforts could overcome those challenges. Perhaps the practical challenge of enacting her expressed beliefs was considerable. As a result little was done to augment treatment with medication or offer an alternative means to alleviate the challenges Amar faced as a learner with ADHD.

Beliefs and Informal Teaching

By informal teaching I am referring to those casual interactions between the student and teacher with no formal, regularly prescribed procedure. For example, conversations or interactions that developed naturally during the course of the day and

progressed in an unpredictable and spontaneous manner. On this level Ms. Collins's interactions with Amar differed in their duration and frequency. Ms. Collins interacted with Amar to a greater degree and for longer periods of time than she did with other students. For example, on four separate observations I recorded approximately 133 interactions with Amar (see Table 2) between Ms. Collins and Amar. Considerable time was spent addressing Amar's needs.

Amar was frequently so engaged in situations that he was unable to contain his enthusiasm and showed little regard for the responses of others. As a result, his responses and calling out usually dominated whole class discussions. For Ms. Collins, these behaviours were largely the result of ADHD. Faced with this knowledge, Ms. Collins would sometimes intervene when required.

Sometimes I wouldn't say that I was upset or that I was going to stop working with the challenge, but in the back of my mind I was thinking to myself, "whoa this is taking a long time." And sometimes in the back of my mind I was thinking everyone is waiting, and we're taking away from the rest of the group. Everyone is trying to be so patient" (Interview: 10/05/03, p. 2).

Amar's verbal responses could be long and confusing. When this took place, Ms. Collins cited her concern for the rest of the group as a reason to take action, "...he could go on forever. You know, then I would shut him down" (Interview: 10/05/03, p. 2). For Ms. Collins, all of these behaviours; calling out, lengthy responding and straying off track were features of ADHD, and required informal responses to address them.

Ms. Collins contended that knowledge of Amar's diagnosis also helped her to understand his behaviours more clearly because it provided some insight into *why* he

behaved the way he did. For Ms. Collins this understanding allowed her to more readily forgive Amar when challenging episodes took place. In the following interview excerpt she highlighted this point further:

The degree of challenge that Amar presents just requires more time. Knowledge of ADHD gave me more patience, more understanding. Perhaps it gave me more ability to understand and like him and forgive him. But, you know on the negative side I'm thinking here, I am being honest here, maybe because he had the label it was almost permission to say I can only do so much. I could use it as an excuse...there were times where I thought okay now I am going to let him play with the blocks. Whereas other kids I would be thinking no I've got to get them ready for next year. I do this knowing that there is nothing that is going to stand in their way, but it is different for Amar (Interview: 10/05/03, p. 11).

In the above passage, Ms. Collins revealed that, at times, a label of ADHD provided her with justification to reduce the rigors of Amar's learning environment, and perhaps focus less on his learning needs. On an informal level Ms. Collins may have accommodated Amar's diagnosis by showing him more care and patience. As she admits, a diagnosis of ADHD was also permission to curb her formal efforts when it came to preparing Amar for the upcoming school year. Ms. Collins felt greater urgency to prepare other students for the upcoming school year knowing they faced fewer obstacles than Amar. In sum, a diagnosis of ADHD had both positive and negative influences on Ms. Collins's interactions and teaching strategies when it came to Amar. With greater insight into his condition she believed she was able to show him greater patience and understanding.

Conversely, a diagnosis meant that Amar faced serious challenges, which Ms. Collins may have felt powerless to overcome.

A Place for Medication?

According to Ms. Collins, ADHD posed significant challenges that extended into many areas of school life. For example, Amar exhibited challenging behaviour throughout the school year including taking other students belongings, swearing, removing all of his clothing, cutting another student's hair, pulling the fire alarm, and urinating in his pants during physical education (Interview: 01/03/03, pp. 1-3). Stepping into such situations and enacting some sort of strategy to try and reduce their occurrence such that students could eventually learn ways to cope with the situation on their own, may have required conceiving of ADHD in a different manner. This facet of Ms. Collins's and other teachers' beliefs and practices underscored what could be a requisite feature of biological conceptions of ADHD, namely medication may be viewed as the only means of addressing the organic cause of the disorder. That is, if the cause of ADHD is believed to be the result of physiological mechanisms that originate in the brain it follows that medication may be the only means to address and treat those problems. In other words, Ms. Collins did not think that educational interventions could change fundamental features of Amar's neurological make-up. Instead, she believed that medication was given to Amar to alleviate these challenging behaviours, "that is why he is on medication" (Interview: 10/05/03, p. 1). As such, she was somewhat satisfied with the knowledge that Amar was taking medication, and that something was being done to address his needs and make his experience at school a positive one.

Case Summary

The data suggests that Ms. Collins conceived of ADHD as a genetically determined neurobiological disorder. By conceiving of the disorder in this manner, Ms. Collins was able to enact informal strategies characterized by patience and understanding when working with a student diagnosed with ADHD. For example, Ms. Collins utilized knowledge of Amar's diagnosis to interpret and understand his challenging behaviour. However, Ms. Collins's beliefs about ADHD left little room for direct involvement in overcoming the learning and social challenges posed by the disorder. Instead, from her perspective, medication may have been the only intervention that could alleviate the symptoms of a disorder conceived of as biological in origin.

From this perspective, the condition of ADHD may have been viewed as inaccessible from the outside, making it difficult for Ms. Collins to see how teaching strategies or other curricular changes could reduce the challenges such students faced. Her conception of ADHD as a neurobiological disorder helped her to understand the problems posed by ADHD, but did not motivate her to formally address those problems with anything other than stimulant medication.

Ms. Thompson

Ms. Thompson, the third and final elementary participant, taught a grade 4/5 class in an entirely different classroom at Nicholson Elementary. Ms. Thompson's understandings of ADHD may have been closely tied to her experience with Kelly, one of her grade five students. To start, I present her expressed beliefs about ADHD and then draw some comparisons between Ms. Collins, Ms. Thompson and Ms. Charleston. Next, I review Ms. Thompson's involvement in reaching a diagnosis for Kelly because this

process may have had a direct influence on her beliefs about the disorder. To conclude, I review Ms. Thompson's beliefs about ADHD and medication, in addition to documenting some of the curricular changes she made based on beliefs about ADHD.

Expressed Beliefs

For Ms. Thompson, ADHD is a disorder marked by high levels of excitement and an inability to become settled. Ms. Thompson made the following analogy to portray what it felt like for a student to have ADHD:

I think it is almost like Christmas morning everyday for people with ADHD. They are so excited. It is an overall excitability. They are so excited about, you know it could be about getting their math test back or they could be excited about something that is happening after school. It is excitement that controls them. They can't think of anything else. I find with Kelly and a couple of other kids that I have had with ADHD it is usually that kind of one-track thinking. Often, when Kelly has a bad day I will say to him, "What were you thinking about today?" and he will say, "I was thinking about going over to a friend's house today after school" and that had been on his mind all day that he was going over to a friend's house after school. So this creates a lot of excitement (Interview: 01/27/04, p. 4).

This example highlighted Ms. Thompson's understanding of ADHD and what it was like for students to have it. Specifically, she felt students with ADHD were caught in a state of excitement that could last for an entire school day. They were so overrun with feelings of excitement that they were unable to direct their thinking at anything other than an after school visit to a friend's house or a pending test score in math. In her opinion their minds

were stuck on one track; one significant event in these students minds held sway over all others.

Ms. Thompson also believed that, with the right teacher involvement, students with ADHD could provide their classmates with an opportunity to learn about ADHD.

You are going to run into these people all over. I have friends that are like that. I always joke that my husband is ADHD and you know you run into people like that all the time. It should not be that big of a deal. They are another type of person that maybe has a different way of looking at things. We just need to accept them, with some changes too (Interview: 01/27/04, p. 7).

In her description, Ms. Thompson characterized students with ADHD as distinctly different, however she tempered this with humour, the likelihood of encountering people with ADHD, and her desire to accept difference. In this regard, she viewed the classroom as a place for other students to learn about ADHD, "I like to take someone that is misunderstood and help the rest of the class to better understand them" (Interview: 01/27/04, p. 6). Captured here is her recognition that students with ADHD are misunderstood as well as her desire to use her teaching role to normalize their condition for others. Ms Thompson also recognized that Kelly's challenging behaviour may be accounted for by his situation at home, "...a lot of it is just that he has had a really, really, really bad life" (Interview: 11/28/03, p. 2).

Comparisons-Ms. Thompson, Ms. Collins and Ms. Charleston

Like Ms. Charleston and Ms. Collins, Ms. Thompson did not believe the behaviour of students with ADHD was motivated by cruel intentions. "I feel I am a good judge of their character. Their facial expressions...they just have this look in their face

after something has happened, seconds after it has happened and they just wish they could take it back” (Interview: 02/12/04, p. 7). For example,

It could be someone has pulled a chair out and it is just for one second that they have thought to move the chair. That they didn't think that meant someone was going to crash down on the floor and that someone is you know maybe someone is going to get an injury or something (Interview: 02/12/04, p. 7).

Thus, impulsive behaviour symptomatic of ADHD could lead to inappropriate behaviour.

There are two important distinctions between Ms. Thompson's involvement with Kelly and Ms. Charleston's and Ms. Collins's involvement with Amar. First, Ms. Thompson spent greater amounts of time with Kelly. In contrast, Ms. Charleston and Ms. Collins did not work with Amar every day for the entire school year because Amar spent significant periods of time in his Social Development classroom. Second, Ms. Thompson was directly involved in Kelly's diagnosis with ADHD. Taken together this may have had an influence on her understanding of this disorder. In order to establish the link between Ms. Thompson's involvement in the diagnostic process and its potential influence on her beliefs I further document her involvement below.

Reaching a Diagnosis

Based in part on Ms. Thompson's recommendations two months into the school year, Kelly was diagnosed with ADHD and placed on Ritalin.

In September Kelly wasn't taking any medication. He was labeled a 333 so he actually qualified to receive support from the Social Development Program. His mom and I don't want him in Social Development because placing Kelly in Social Development would mean he would have to leave the school. We felt that,

especially since he is a foster child, to take him out of the classroom and move him to a new school again would be too much for him. I thought for Kelly to be taken from the classroom, I thought, I felt like I was betraying him (Interview: 11/28/03, p. 1).

Ms. Thompson wanted Kelly to remain at Nicholson Elementary. She felt that moving him, because he had already been moved several times, would create further problems for him. She was unsure of how to proceed, but felt that something needed to be done to address Kelly's behaviour. If his behaviour improved then he could stay in her classroom. This, she felt, would be a positive outcome for both her and Kelly.

It was just that he couldn't control his behaviour. He would just shutdown and that is how he describes it too, shutting down. He got to the point where he couldn't think of anything. There was just so much going on in his mind and his body that resulted in him sitting there and doing nothing (Interview: 11/28/03, p. 3).

According to Ms. Thompson, Kelly's shutting down was characteristic of ADHD. This behaviour was disconcerting for Ms. Thompson. The characterization of Kelly shutting down runs counter to her descriptions of Kelly's overall excitability she mentioned earlier, and may have led Ms. Thompson to believe that Kelly's situation was becoming worse. Ms. Thompson felt powerless because she was unable to help Kelly. Despite the presence of a child care worker, and regular meetings with Kelly's mom, Ms. Thompson grew more concerned:

Afternoons were just a nightmare. I just felt helpless. Afternoons were always his worst times. First thing in the morning when he got to school he was just so

excited and overwhelmed he wanted to tell the whole class everything that he did, and he wanted to check in with all his buddies. It was impossible to get him settled (Interview: 11/28/03, p. 3).

She felt she did not have any strategies as a teacher that she could invoke to improve Kelly's behaviour. Unable to get Kelly settled in the mornings was distressing for Ms. Thompson. She was worried about Kelly, and equally concerned about the negative influence his behaviour was having on her and the entire class, "I can't continue this way. I'm going to burn out" (Interview: 11/28/03, p. 6). According to Ms.

Thompson, his challenging behaviour began to escalate in frequency and severity,

He would start this whole routine where he would repeatedly say negative things about himself: I'm not very smart. I can't get this. I am stupid. The whole class had to basically shut down because Kelly was having a moment I wasn't able to do my job properly because I had the 27 other kids in the class and it is just not okay to have everything else shutdown" (Interview: 11/28/03, pp. 4-5).

One morning Kelly arrived in a "nightmare of a state and the whole day was just Kelly" (Interview: 11/28/03, p. 6). During these episodes the regular functioning of the classroom stopped as Ms. Thompson addressed Kelly's outbursts. At one point he wrapped himself around Ms. Thompson's leg and refused to let go. Eventually, he went to the medical room. Ms. Thompson reported that upon arriving at the medical room "he just curled up in a little ball and would not come out and he was making comments like, "I am so bad and everyone sends me away" (Interview: 11/28/03, p. 6).

Following this incident Kelly's foster mom, two childcare workers, the school counselor and Ms. Thompson held an after school meeting and decided that a

pediatrician's visit was necessary to "see about medication for Kelly" (Interview: 11/28/03, p. 7). Following the appointment with the physician, Ms. Thompson and Kelly's foster mom completed the Conners' Rating Scale, and shortly thereafter Kelly's physician recommended he take Ritalin. Ms. Thompson believed that a diagnosis of and treatment for ADHD might have provided Kelly with an opportunity to experience greater success in the classroom, offered reprieve from feelings of powerlessness, and ensured that Kelly would remain at Nicholson Elementary (Interview: 11/28/03, pp. 1-3).

Ms. Thompson felt that medication was a good fit for Kelly, however she did not feel that every student should be given medication if diagnosed with ADHD. "Kelly was the first student that I thought medication might be the way to go. It worked for Kelly but I wouldn't say it would work for everyone. The odd time medication works and they get a chance to kind of be themselves" (Interview: 05/06/04, p. 2). This statement suggests that Ms. Thompson believed ADHD created an abnormal state and medication may serve to restore a person's identity.

Later in the school year, Michelle, a new student diagnosed with ADHD who was not medicated enrolled in Ms. Thompson's class "I would not recommend that, say Michelle go on to medication" (Interview: 05/06/04, p. 5). In this respect, Ms. Thompson's expressed belief not every student diagnosed with ADHD would benefit from medication was congruent with her lived belief as reflected in practice. Although, it is worth pointing out that these two students were not entirely similar. For example, Michelle was not on the verge of being removed from the school, nor was she a foster child with a history of being relocated. Further, the level of challenge she presented in class was still to be determined.

Beliefs about ADHD, Medication, and Physical Injury

Ms. Thompson believed that medication could have a direct and positive influence on ADHD behaviours. For example, she noticed a positive change in Kelly's behaviour following medication.

His behaviour changed almost immediately, it just got better and better. His afternoons are good. He is completing his work and he is completing it well. Before there were incomplete sentences, the work was completed fast and messy. Now it's complete sentences, you could tell that there is some kind of effort involved. They were some of the biggest changes I've seen. He honestly could not silent read before. He could not do that. Now, I can't get him to stop silent reading. He loves it. It is almost like a whole other world to him. He loves the fact that he can read like this. I have a couple of books in my cupboard, that I do literature circles with and I have picked one to give to Kelly to read because he said he didn't have a book to read. And he read it and everything and he is so proud he would tell me how many pages he read, how many chapters he read. For once I think he really could follow the story. It is a real source of pride for him. I no longer hear the negative from him. I don't hear him say that he is stupid. I don't hear him say that he can't do it (Interview: 05/06/04, p. 4; 11/28/03, p. 8).

In the above passage Ms. Thompson described Ritalin's positive influence on Kelly's affect and his ability to read, and focus sufficiently to complete class work.

My observations of Kelly corroborated his interest in reading. I observed Kelly frequently reading in the hallways, pulling books from other classrooms and generally engaging in reading at many opportunities presented to him. This included reading during unsupervised opportunities at recess and lunch break (Field notes: 04/26/04, pp. 12-15).

Was his interest in reading attributable entirely to medication? There are many other equally plausible explanations. Did Ms. Thompson's strong desire to keep Kelly at Nicholson Elementary influence her interpretation of the effects of medication? Remember, according to Ms. Thompson, an improvement in Kelly's behaviour meant that he would remain at Nicholson Elementary.

For Ms. Thompson, Ritalin was largely responsible for the decrease in Kelly's ADHD behaviours, "It depends if he has taken his medication or not. If we have missed it then it starts to become a problem for him to sit still. Usually you can see it" (Interview: 02/12/04, p. 8). From her standpoint, Kelly's biology determined his ADHD behaviour and the introduction of medication meant his biology changed in ways that kept his ADHD behaviours in check. Ms. Thompson did not attribute the changes she saw in Kelly's behaviour to any other causal factors.

Moreover, if ADHD is understood as an innate condition then Kelly does not choose his behaviours—they are determined by his biology. This belief is supported in Ms. Thompson's statement below:

I've had students before that misbehave and they have a mean streak or they are mischievous and they like to cause trouble, but students with ADHD never like to cause trouble. [They are] definitely not choosing to be that way. It is a disorder beyond their control. It is something that is in them. It is nothing that they can change tomorrow (Interview: 01/27/04, p. 4; 11/28/03, p. 8).

Ms. Thompson believed taking medication for ADHD was analogous to taking medication for physical injuries. For example, when Kelly was being teased by students at his day care for "taking pills" Ms. Thompson consoled him with the following story:

I use the example of my car accident. I have explained to him that because of my car accident that I had to take pills for pain. I told him and the class about some of the struggles that I had last year and continue to have this year. So when Kelly and I have this talk about it, I said to Kelly, "When I was explaining to you about those headaches that I had... would you make fun of me for taking medication that would make those headaches go away?" And he was like, "No". And I said, "Do you know if anyone in the class would make fun of me for taking that medication?" And he's like, "No." We talked about whether other teachers would make fun of me and that and he's like, "No. No. No" (Interview: 02/12/04, p. 9).

Thus, Ms. Thompson created the analogy of having ADHD and taking medication with having injuries sustained in a car accident and taking headache medication. In both situations a person is justified in taking medication to remedy some underlying ailment. The analogy was drawn to help Kelly understand that taking Ritalin for treatment of ADHD symptoms is warranted in the same way as taking aspirin is for a headache. These stories helped Ms. Thompson to establish parallels between ADHD and physical ailments. In addition, they may have helped Kelly to view treatment of ADHD symptoms with medication as a normal and appropriate course of action.

Disorder versus Disease

Ms. Thompson's involvement in Kelly's diagnosis may have required her to conceive of ADHD in a particular way. At times Kelly was doubtful and questioned Ms. Thompson about his diagnoses and the medication he was given to treat it,

He asked me if he could try a day without his medication. He came up to me after school and asked, "Mrs. Thompson can I try a day without my medication?" So I

immediately thought, "Oh he doesn't want to take it because there is a problem. Kids are making fun of him or something." So I said to him, "We can definitely talk about it. Are people making fun of you?" He was like, "No, no, no." "Is it not making you feel good and you don't want to take it any more?" He said, "No, I actually like it. So I said, "well why do you want a day without it?" He said, "I just want one day without it." "Why?" He said, "I want to remember what it was like to not be able to control myself" (Interview: 05/06/04, p. 6).

Ms. Thompson may have felt pressured to counter Kelly's uncertainty with portrayals of ADHD in a less negative light. For example, she described ADHD to Kelly as a disorder rather than a disease, "I haven't called it a disease because I don't want him to think of...like a disease makes it sound like as if there is something horribly wrong with him. That can be a lot to take" (Interview: 01/27/04, p. 5). In the following interview excerpt she elaborated further on this contention:

I think that ADHD is a disorder. I associate disease with some kind of sickness. The reason why I didn't like the word disease was because I didn't like the kind of negativeness that goes with a disease. In my mind I thought nobody wants to get a disease. Nobody wants to say they have a disease. It is nothing that people look forward to, but I don't think that ADHD is a bad thing. I don't think that it is anything that Kelly should be sad or upset that he has. It is not like you would say; "My life is over because I have this." That is just I... my thoughts, in my language. Disease to me is almost like the end of the world. ADHD is not the end of the world. And when people are making fun of Kelly at day care for taking the

medication I think it puts doubt in his mind. Maybe what he has isn't okay

(Interview: 01/27/04, p. 4).

Ms. Thompson was concerned about Kelly's attitudes toward the social acceptability of having ADHD and taking medication, and uncomfortable with other students teasing him about taking medication. Ms. Thompson was involved in the group decision to refer Kelly to a pediatrician and to try medication as treatment. As a significant player in Kelly's diagnosis, Ms. Thompson may have assumed greater responsibility for Kelly's understandings of ADHD and medication. Simply put, Kelly's diagnosis was a course of action she helped determine. Importantly, playing such a role may have had a considerable influence on her beliefs about ADHD and motivated her to address Kelly's concerns as well.

Lived Beliefs

Ms. Thompson's approach to working with students with ADHD incorporated three curricular changes: (1) physical exercise; (2) regular homework checks and; (3) a Behaviour Rating Home Book (Field notes: 02/12/04, pp. 1-5). In this regard, she developed alternative interventions that were also outlined in Kelly's IEP and did not rely exclusively on Ritalin as a means of addressing ADHD (Student File).

First, Kelly could ask to engage in physical activity at most times of the day. An agreement was reached so that when Kelly felt he was unable to sit still he could exit the classroom by the side door and run the school soccer field. In addition to Kelly leaving the room to run the soccer field, the entire class would participate in regular stretching activities. For example, all of the students stood beside their desks, touched their toes, and stretched their arms out wide while performing a variety of stretches. Although the

whole class was involved, this strategy was specifically developed to provide Kelly with an outlet for his energy (Field notes: 12/08/03, p. 4). This may reveal Ms. Thompson's belief that students with ADHD required regular physical activity in order to function in the classroom.

Second, Ms. Thompson implemented a regular homework check for the entire class mainly because Kelly did not complete his homework on a regular basis. Ms. Thompson maintained that the majority of her students completed their homework but Kelly did not (Interview: 11/28/03, pp. 1-3). So, each morning students were required to submit the previous days homework assignment. Use of this strategy may have revealed her belief that students with ADHD required additional scrutiny when completing work outside of class.

Third, Ms. Thompson developed the Behaviour Rating Home Book for Kelly (See Appendix E for a sample). The booklet consisted of several 8.5 x 11 sheets of paper stored in a duo-tang notebook. The sheets were set up with a grid that included numerals and ratings: 1=poor, 2=fair, 3=average, 4=very good and 5=excellent. The ratings could be placed adjacent to three behavioural criteria: cooperative, respectful, and on task. Ms. Thompson also recorded daily or weekly goals for Kelly. Kelly's foster parents were expected to record comments and sign each page on a nightly basis. Ms. Thompson completed this evaluation daily and then reviewed her responses with Kelly at the end of the school day. Ms. Thompson may have felt that students with ADHD required daily, structured feedback to be shared with parents. In contrast to Ms. Collins's comments, Ms. Thompson demonstrated that it might be possible to develop curricular change specifically for a student with ADHD that is not detrimental to the other students in the

class. For example, Ms. Thompson believed everyone would benefit from physical activity and regular homework checks.

Case Summary

For Ms. Thompson, ADHD was an overall excitability often reflected in a student's inability to settle and concentrate for extended periods of time. For her the diagnosis and treatment of ADHD may have provided an escape for the student, classmates and the teacher from the problematic behaviours in which this student engaged. She also believed that ADHD provided students with greater access to resources like medical support.

Ms. Thompson's direct involvement in the diagnosis may have left her feeling a greater sense of responsibility for student understanding and acceptability of ADHD and medication. Not surprisingly, Ms. Thompson cited treatment with Ritalin as the source of improvement for ADHD behaviours. She also believed students with ADHD did not choose to behave as they did. These two features of her beliefs suggest biological determinants of ADHD. However, she did recognize that changes to the environment could alleviate the symptoms of ADHD. For example, she developed three strategies; (1) physical activity; (2) homework checks; and (3) Behaviour Rating Home Booklet to meet the needs of a student with ADHD in her class.

High School Participants

There were four high school participants in this study. The first, Mr. Atwal taught in most subject areas at the grade 8/9 level at Altec High School. The other three participants all taught grades 8 through 12 at Carleton High School. Ms. Gallagher was a

science and math teacher; Ms. Johnson was a learning support teacher; and Ms. Baker was a humanities and physical education teacher.

Mr. Atwal

To begin, I describe Mr. Atwal's expressed beliefs about ADHD. Then, I review his lived beliefs about the disorder and their place in practice. I conclude by discussing Mr. Atwal's understandings of ADHD and whether or not the disorder plays a causal role in the struggles students face at school. Specifically, Mr. Atwal's reaction to Patrick's decision to change schools provided insight into his lived beliefs about ADHD.

Expressed Beliefs

Mr. Atwal articulated his beliefs about ADHD as follows:

My understanding of ADHD is that it is something that causes people to have a hard time staying focused. If there is a situation where there are a lot of things going on around someone with ADHD then it just drives them and that becomes difficult for a lot of kids (Interview: 10/24/03, p. 3). Kids who have ADHD have to deal with certain problems. They come into it [schooling and education] on an un-level playing field because they have a hard time concentrating, and they are more easily distracted. Sometimes being in group situations is more difficult. Kids with ADHD have to work that much more than kids without it to achieve the same level of success (Interview: 01/29/04, p. 12).

Mr. Atwal believed students with ADHD were unable to remain focused because they were not capable blocking distractions. Mr. Atwal felt that high levels of activity in the immediate environment fueled students with ADHD. For example, high activity levels in

the environment meant a student with ADHD would have trouble remaining focused. In particular, students with ADHD struggled when expected to complete work and interact as part of a classroom group. According to Mr. Atwal greater effort was required from students with ADHD to achieve the same level of success as others. In this regard, Mr. Atwal may have believed increased effort could overcome the disadvantages posed by ADHD.

Similar to previous participants, Mr. Atwal believed in the biological basis of ADHD. Consider the following interview excerpt: “So when they start acting out, it is not because they are bad, it is because they can’t control how they’re feeling because of whatever stimulants are happening” (Interview: 10/24/03, p. 3). Thus, stimulants in the environment might facilitate acting out uncontrollably, because the underlying condition of ADHD precipitates a reaction. “I can’t imagine that a person would be developed or nurtured into having this [ADHD]. It must have a biological base to it” (Interview: 11/02/04, p. 1). Mr. Atwal seemed somewhat convinced that the disorder had a biological basis making it an innate condition that existed apart from environmental causes.

Lived Beliefs

If Mr. Atwal believed that students with ADHD came into learning situations on an “unlevel” playing field that was largely biological in origin he may have felt less capable of reducing this imbalance. Mr. Atwal and I talked further about ADHD and the influence of his beliefs on classroom practice. Similar to Ms. Collins Mr. Atwal felt it was unrealistic to try and meet the needs of *all* learners in the classroom:

In a perfect world I guess we should know the needs of all our ADHD kids and other labeled kids and cater things toward them. But, there is more than one type

of kid in your class. You can't have 20 different ways of doing the same thing to meet everybody's needs. You know, if we're focusing this on ADHD then you know it's easy to say well they are important and we should make changes, we should adapt for them. The reality is we get so many different types of kids I don't think it is possible to just focus on one type (Interview: 10/24/03, p. 8).

Mr. Atwal felt it was impractical to significantly modify the delivery of instruction or otherwise change his teaching style to accommodate every individual need in the class.

Mr. Atwal felt there was a gap between the rhetoric of adapting to meet every learner's needs and the reality of being able to do so. More specifically, when one or two students in his class were diagnosed with ADHD, Mr. Atwal cited limits on time and resources as constraints preventing him from better accommodating their needs. For example, his coaching schedule, additional teaching and extra curricular responsibilities, and spending time with family all placed limits on the time he had for students. "It would be nice to have more time and take care of the students with ADHD, but where is that time?"

(Interview: 10/24/03, p. 9).

Similar to Ms. Collins, Mr. Atwal believed in meeting the needs the majority of learners in his class, however he did see room for accommodation when working one-on-one:

We have 180 kids and I as well as the other six teachers are responsible for all of them. I cannot know everything about every kid. That takes time. You have to teach to the general group, and do what works for them. I guess this really applies in a classroom situation but in a one-on-one situation when a kid wants help, then you can do whatever you can for them (Interview: 10/24/03, p. 8).

It is difficult to imagine how this approach of always teaching to the majority of learners could result in anything other than the marginalization of some students who may have special needs or unique learning needs. Granted, one-on-one support may provide the opportunity to accommodate the ADHD learner. However, if *the students* with ADHD are expected to seek out such assistance their needs may not be addressed. For example, Patrick did not seek extra-help outside of regular school hours, nor did he seek any one-on-one support from Mr. Atwal during my observations (Field notes: 12/15/03, p. 3).

In speaking to Mr. Atwal further about students with ADHD he felt that they did not receive special attention from colleagues either as this excerpt highlights:

It's interesting talking about the ADHD kids because frankly the conversation just about ADHD kids doesn't come up. It is not an issue that is brought up a lot.

Without really knowing what other teachers do, my guess would be there are a lot of teachers that don't know a lot about ADHD. (Interview: 10/24/03, p. 8).

Here Mr. Atwal acknowledged that when he spoke to colleagues about student behaviour ADHD was not regularly discussed. According to Mr. Atwal, from a school wide perspective ADHD was not influential in the decision making process, nor did other teachers have a significant amount of knowledge about ADHD or what to do with students who were diagnosed with ADHD. He expressed concern for students with ADHD, but did not identify a diagnosis as a primary motivator for developing classroom interventions to help them:

It's not about ADHD. It's about any kid. I have pretty high expectations for my students. I expect all of them to meet them. Those that aren't meeting them then get a lot of one-on-one time, whether they are ADHD or not. If I've got a student

who is struggling then I will approach them and we will work on that (Interview: 10/24/03, p. 8).

Mr. Atwal's beliefs about the biological basis of ADHD, lack of time and resources, and school wide lack of interest in ADHD may have acted as constraints preventing him from enacting some teaching strategy to address his expressed beliefs about ADHD.

Specifically, his recognition that students with ADHD come into the educational setting at a disadvantage did not appear to motivate him to make changes to his instruction, behaviour management strategies, assessment or the curriculum content.

ADHD and a New School

Mr. Atwal's beliefs about ADHD came to the forefront when he was faced with Patrick's decision to change schools. Briefly, up to this point Patrick had struggled academically at Altec High School receiving failing grades in five of six classes. As well, teachers recorded an N (needs improvement) for his work habits in all six of his classes. Patrick received an F in English, French, math, science and social studies. His highest mark was a C- in physical education (Student file). At the end of December, Patrick decided to move to a new school. I interviewed Mr. Atwal a day after Patrick made his decision to leave. Mr. Atwal attributed Patrick's struggles academically to lack of effort:

He thought it [attending Altec] would be more fun. He didn't realize there would be so much work involved, despite the fact that we're pretty clear about how much work is necessary to be successful here. I have been talking to him about what he wants to do. It became more and more clear that what he wanted to do was leave the program. So, we had a meeting with his Mom last week and we asked him what he wanted to do. I said to him; "You need to really think about

this.” Because he has run into some social problems and he is in a very safe place here. You know the Senior C program is very safe. We talked a little bit more about whether he has put enough energy into trying to make this work. I think that he knows he hasn't, bottom line is call him what you want but he is just being lazy. He doesn't want to put in the work necessary to do well and I don't think that has anything to do with ADHD (Interview: 01/29/04, p. 1).

This response revealed that Mr. Atwal gave little weight to ADHD as a source for Patrick's academic and social struggles. His explanation came despite having claimed earlier that ADHD placed students on an unlevel playing field. Simply put, the troubles Patrick experienced were the result of his dislike of physical or mental exertion. According to Mr. Atwal Patrick was responsible for his situation as little mention was made of shared responsibility or the degree of teacher involvement in the outcome.

Downplaying ADHD

Mr. Atwal downplayed the role of ADHD in Patrick's struggles at Altec High School. Instead, he cited Patrick's lack of work ethic as cause of his troubles. Moreover, he suggested that Patrick made choices reflective of his personality, which were not related to a disorder like ADHD:

It is just a personality thing where he doesn't work hard enough, as you can say about a lot of kids. He wasn't prepared to put in what he needed to in order to be successful here. So, he chose to leave. Teachers try to make their students work as hard as they can. And, for him he would not always do his homework. His mom would say that he would rather sit in front of the TV and play Nintendo and that kind of thing. Which makes things really hard because there is so much to do and

as soon as you get behind it starts snowballing. Is his work ethic related to ADHD? I don't think so, but maybe because I just see it as his personality.

Perhaps he is there because of his ADHD, but I have no way of knowing that and I certainly wouldn't allow a student to use that as an excuse (Interview: 01/29/04, p. 2).

Mr. Atwal's lived beliefs suggested that he may have doubted Patrick's diagnosis and the legitimacy of ADHD as a disorder that could impede a student's academic and social functioning. It may have been simpler for Mr. Atwal to conceive of Patrick's struggles as related to a conscious choice on his part to avoid work. So, once Patrick had fallen behind in completing his work his situation worsened and he was unable to recover as the incomplete work accumulated. When this happened, he believed Patrick was more likely to use ADHD as an excuse for the incomplete work, instead of what he believed to be the reason—a poor work ethic.

Furthermore, Mr. Atwal suggested that the real source of Patrick's struggles at Altec High School was his personality. In other words, the struggles he faced were distinctive of his character and germane to his identity. Mr. Atwal believed that ADHD was a label that might help him to teach Patrick, but only when he could positively identify ADHD as the source of Patrick's problems:

I see the kid and not the label and Patrick might be ADHD which as I said that I didn't necessarily know when I met him and maybe wouldn't have known had we not been doing this [study]. But, I saw him as the person that he is and I deal with him as the person he is, with or without the ADHD. And again if it gets to a point, and it's not just me I work on a team, we are constantly bringing up kids' names

and if a kid gets to a point academically or otherwise where we feel that there is a problem, we will start exploring ways to help the kid out. If it turns out that ADHD is one of the factors then we will recognize that and we will account for it. That is what it comes down to, when you come to point where you have explored different ways of trying to work things out and it is not working, then you might have to go and perhaps work out that (ADHD) is what it is (Interview: 01/29/04, p. 12).

Clearly Patrick's situation was not improving, nonetheless ADHD was not identified by Mr. Atwal as a potential source for his problems. Mr. Atwal acknowledged that he might not have known that Patrick was diagnosed with ADHD if he was not participating in this study. He also believed that there was a fundamental nature that Patrick possessed and ADHD may be inconsequential to the expression of that nature. His unwillingness to acknowledge ADHD also suggests that this disorder would only be considered as a last resort. Mr. Atwal held these beliefs in spite of knowledge that ADHD can have a negative influence on student success:

You know if the ADHD society heard that they would probably be all over me and I know that. I recognize that I almost sound like the bad guy, I recognize that there is the other side to the argument and I know that it is there, but it hasn't... my experiences with ADHD kids have not gotten to the point where that is the first thing that I will see in a kid. It is sort of one of the last things that I will see (Interview: 01/29/04, pp. 12-13).

Mr. Atwal may not have placed any credence in ADHD as a source of Patrick's academic troubles at school. Mr. Atwal cited previous experiences with students diagnosed with

ADHD as support for his claim that ADHD is seldom recognized as a contributing factor to academic struggles.

As well, analysis of lesson plans, classroom materials, and delivery of instruction reveals that Mr. Atwal did not implement any of the suggestions from Patrick's IEP (Student File). Mr. Atwal did not enact any strategies to balance the playing field for Patrick in the classroom. Analysis of classroom assignments and handouts revealed no changes to the French material Patrick was expected to complete. For the most part, Mr. Atwal's expectations and assignments were the same for all students.

Case Summary

Mr. Atwal stated that he believed students with ADHD have a hard time staying focused and are easily distracted, and as a result, are at an academic disadvantage relative to other students. However, Mr. Atwal's lived beliefs revealed that he felt unable to help students to overcome this disadvantage as beliefs in a biological basis, limited time and resources, and the general attitudes of colleagues toward ADHD acted as constraints. Of equal importance Mr. Atwal attributed many of the symptoms characteristic of ADHD to features of Patrick's personality. In so doing, Mr. Atwal dismisses Patrick's diagnosis with ADHD and the challenges it may create. As well, Mr. Atwal creates a situation whereby he can claim minimal responsibility for Patrick's situation because the true source is Patrick's personality.

According to Mr. Atwal, in an ideal situation, teachers should try to meet the needs of all students including those with ADHD, but in reality teachers are not able to focus on just one type of learner. Instead, Mr. Atwal advocated developing teaching strategies to meet the needs of the entire group, not one or two individuals. In spite of

failing grades and his decision to change schools, Mr. Atwal did not believe ADHD played a significant role in Patrick's struggles at Altec High School. Instead, he used descriptors like "lazy" and "his personality" to account for his behaviour.

Ms. Gallagher

Ms. Gallagher was a math and science teacher at Carleton High School. To begin, I present her expressed beliefs about ADHD. Her beliefs were closely connected to her experience with Patrick, one of the first students diagnosed with ADHD with whom she had worked. Her understanding of ADHD and how it was manifested became clearer when Patrick stopped his medication. As Patrick's behaviour changed, Ms. Gallagher believed she was able to gain further insight into the disorder.

Expressed Beliefs

Ms. Gallagher conceded from the start that she did not have much background knowledge about ADHD. In addition, her past experience working with ADHD students was limited:

I will be honest I haven't had many experiences. Up until this year I have not had, I seriously don't think that I have had any kids with ADHD. This is the first year that I have had two young men in the same block. With Patrick and there is another fella that I know has been diagnosed and there is another girl Deanna who is also diagnosed (Interview: 03/12/04, p. 3).

As one of her first students with ADHD, Patrick may have had a significant influence on Ms. Gallagher's conception of the disorder.

In light of her limited experience and knowledge, she offered the following description of ADHD:

I would think being more active, being more energetic, maybe less able to get down to it. If you spend too much time on one activity they can't concentrate that long. After ten minutes they are bored of it. I understand that if they have ADHD they can also get out of control (Interview: 03/23/04, pp. 7-8).

For Ms. Gallagher, students with ADHD were highly active, and unable to control their energy levels enough to complete work in class. As a result, students with ADHD found situations requiring sustained concentration difficult. As well, ADHD meant they were apt to quickly recognize tedium in classroom activities and become disinterested which may lead to challenging, uncontrollable behaviour.

Ms. Gallagher also talked about her beliefs in a biological basis for ADHD:

I think that ADHD probably has a biological basis. I don't know if it is genetic, but I think that there is probably a chemical imbalance taking place in the body.

Then all the external influences just add fuel to the fire, in terms of behaviour (Interview: 05/18/04, p. 1).

According to Ms. Gallagher ADHD was likely biological in origin. Specifically, a student's brain chemistry was cited as the cause of ADHD. That is, ADHD was the result of an underlying chemical imbalance that made students highly susceptible to external influences on their behaviour. Similar to previous participants, Ms. Gallagher did not believe students with ADHD had a bad character, but rather, having ADHD may cause inappropriate behaviour. "I will be honest I don't think that behaviour in the sense of being bad or disrespectful I would relate to ADHD" (Interview: 03/12/04, p. 2).

ADHD and Medication

For Ms. Gallagher, ADHD was intimately tied to the use of medication. In her opinion, medication had a noticeable influence on students and, in this regard, may have created more subdued, controlled behaviour in students diagnosed with the disorder. While on medication, students may have displayed less inattentiveness, hyperactivity or impulsivity.

There have been a couple of times I guess like I have mentioned that Patrick hasn't been on medicine. That was noticeable. I didn't realize it was the medicine I thought he was just having a bad day until I actually went over to him and said; "Okay what's up with you?" And he said; "I didn't take my medication today." He actually gave me the reason why he was working the way he was (Interview: 03/12/04, p. 1).

The above scenario indicated that Ms. Gallagher viewed atypical challenging behaviour as a sign of some underlying problem. If a student was typically well behaved and his behaviour changed, then this was a red flag prompting Ms. Gallagher to follow up. Information gathered from students regarding medication, provided Ms. Gallagher with an explanation she could use to interpret their behaviour. For Ms. Gallagher, when it came to students with ADHD, patterns of behaviour were understood in terms of the absence or presence of medication.

Ms. Gallagher claimed that when Patrick was *not* medicated, his behaviour was consistent with her beliefs about what ADHD really "looked like" (Interview: 03/12/04, p. 1). For example, as of May 6th, Patrick stopped taking Ritalin for approximately two weeks before changing to an antidepressant to treat his ADHD (Interview: 05/18/04, p. 1). According to Ms. Gallagher, the cessation of medication coincided with the surfacing

of Patrick's ADHD symptoms including restlessness and an inability to focus and complete work:

He wouldn't sit down. He wouldn't pick up a pencil. Would not write. He asked to go to the bathroom like three times in a short time frame. He kept saying his mouth was so dry. He looked distressed (Interview: 05/18/04, p. 6).

As more time passed Ms. Gallagher began to notice significant changes in his behaviour.

The bad days have increased of late. He spazzes out and then he gets angry. He will yell, "I am not doing this!" And he will just walk out of class. It's just to the point where anything you say you say, "Up" and he will say, "Down." If you say, "Stop," he will say, "Go." And it has been like that for the last couple of weeks. Before [when on medication] he was moody and upset like whinyish, now it is just angry defiance. He is totally disrupting everybody. And it is not just me it is other teachers as well (Interview: 05/18/04, p. 1).

She claimed that Patrick was not behaving as he had in the past when medicated. She observed that other teachers noticed and commented on the change in Patrick's behaviour as well.

End of the Year

Ms. Gallagher also commented on her beliefs about ADHD's likelihood to disrupt the class toward the end of the school year. She maintained that as the end of the school year approached, teachers felt greater pressure to use class time efficiently in preparation for final exams and final report card grades. During these times, Patrick's misbehaviour may have taken on greater significance as Ms. Gallagher explained,

I'm trying to be calm. I'm trying. Actually, I wanted to talk to the counselors about putting him in the alternate program for the last month. Because he is totally disrupting everybody. I have four more weeks, plus I am trying to review and every second counts. I am a little bit behind (Interview: 05/18/04, p. 2).

This revealed Ms. Gallagher's belief that a disorder like ADHD may have a greater potential to disrupt the functioning of a classroom at different times of the school year, for example at year end when under pressure to prepare students for upcoming final exams are strongest.

Ms. Gallagher's description of Patrick's behaviour is similar to Ms. Thompson's description of Kelly's. In both situations Patrick and Kelly's behaviour created strong feelings of frustration for their classroom teachers. Not surprisingly, Ms. Gallagher and Ms. Thompson's responses were characterized by the sense of uncertainty that might come with not knowing what to do in order to address challenging behaviour and make it stop. "I find that there are days when sending them [students with ADHD] out of the class is the only thing I can do to keep my sanity and the classes peace" (Interview: 03/12/04, p. 6).

ADHD and Challenging Behaviour

What follows is an example of Patrick's behaviour when off medication and Ms. Gallagher's response to it. During this particular class, Patrick appeared to be upset. His face was red and his eyes were puffy. He stood at the side of the room until she had finished delivering instructions to the class. Then, he approached her desk and asked for permission to use the phone. Ms. Gallagher nodded her approval and Patrick left the room. After a few minutes he returned to the room and stood next to Ms. Gallagher's

desk. Now he was visibly upset, crying and wiping tears from his eyes with the back of his shirtsleeve. Ms. Gallagher motioned to the door and together they left the classroom. They stood facing one another in the hallway and talked for a few minutes. Then, they turned and walked down the hall together. A few minutes later, Ms. Gallagher returned to the classroom and asked me to step out into the hallway so she could explain what was happening:

“Patrick is very upset. He asked if he could use the phone to phone his mom. So I said yes. Then he came back into the room crying and said that he was worried about his mom and dad who are breaking up. So I phoned the school counselor and he was not in. So, I sent him to the YES program. (The Youth Educational Support (YES) program is a school-based program designed to provide support for at risk students who are coping with issues that interfere with their academic performance). I didn't want him in the room if he was crying,” Ms. Gallagher said. “That would not be good for him or for the other children. I just did not want other children to see him like that” (Field notes: 05/10/04, p. 2).

Patrick was clearly upset and Ms. Gallagher felt she was unable to address his needs in the classroom. Ms. Gallagher may have held the belief that counselors or other child-care workers, with specific training and expertise, were more capable of supporting students with ADHD, or students generally going through such a traumatic experience. As well, she may not have wanted to divert her full attention from the rest of the class in order to deal with him. Instead, she first called the school counselor hoping that he could help. However, when the counselor was unavailable, she sent Patrick to a child care worker from the YES program. Furthermore, she maintained that she did not want other

students in the classroom to see Patrick crying and may have felt he needed some time to regain his composure outside of the class.

Later that same week, Patrick's negative behaviours escalated to the extent that Ms. Gallagher decided to phone home and speak with his mother. During the phone conversation, Ms. Gallagher described Patrick's behaviours, which included acts of defiance, rude comments, and refusing to complete work in class. Ms. Gallagher also asked questions about Patrick's home life that may be affecting his behaviour, like the possibility of his parents ending their relationship. Ms. Gallagher was told that everything was worked out and that was not going to happen (Field notes: 06/05/04, p. 1).

In spite of this knowledge, Ms. Gallagher felt that Patrick's behaviours were the result of ADHD and, specifically, changes to his medication.

From what I see it is the different kind of medication. I think in the last little bit, since I have known Patrick at school, this is his third medication. From what I observed the only thing that is different is his medication. Because at the beginning he was a nice little boy (Interview: 05/18/04, p. 4).

In her account of the causes of Patrick's behaviour, little credence was given to his claims that he was upset because his parents were having relationship troubles. Instead, the changes to his medication were cited as the sources for his troubles.

Analysis of the interactions between Patrick and Ms. Gallagher revealed no formal changes to the delivery of lessons or the type of materials Patrick was given in math and science class. Ms. Gallagher did, however, make changes to the seating plan. For example, Patrick was frequently moved closer to the front of the room to reduce any disturbances he caused when "refusing to do work or making rude comments to Ms.

Gallagher” (Field notes: 05/29/04, p. 1). At times, Ms. Gallagher felt unsure as to how to define ADHD and was unaware of any changes that she could initiate in her classroom to help Patrick. When Patrick arrived at Carleton, he was failing in both math and science, two subject areas taught by Ms. Gallagher. At the end of the school year, Patrick had not passed either subject and was required to attend summer school or retake the courses the following school year to attain a passing grade (Student file).

Case Summary

Ms. Gallagher characterized students with ADHD as more active, full of energy, and less capable of sustained effort. She maintained that ADHD was most likely biological in origin and resulted from a chemical imbalance in the body. She stated that her knowledge of ADHD was limited as Patrick was one of the first students diagnosed with ADHD with whom she had worked. When Patrick was not taking medication, Ms. Gallagher felt his behaviour was noticeably different and characteristic of ADHD. In the classroom, Ms. Gallagher’s formal interactions with Patrick were much the same as they were with other students, although she developed a seating plan to ensure that Patrick was seated close to the front of the room. During one class, Patrick became upset and was referred to the school counselor and then the YES program. This may reveal Ms. Gallagher’s belief in the need to enlist the aid of school personnel as a means of addressing the challenges posed by ADHD. As well, when problem behaviour persisted, Ms. Gallagher contacted Patrick’s mother, and there was discussion of his situation at home. However, changes to his behaviour were attributed in large part to changes in his medication. To some extent, beliefs in an underlying chemical imbalance and the use of

medication to alleviate the symptoms of ADHD may have lessened her sense of responsibility for overcoming Patrick's struggles in math and science.

Ms. Johnson

Ms. Johnson was a learning support teacher who taught skill development at Carleton High School. As a skill development teacher, she worked regularly with students on a one-to-one basis. Skill development was a course offered to students who struggled academically. Students in skill development were not introduced to new course material. Instead, they were provided with an additional block of classroom time and teacher support to complete existing assignments, course readings and homework. For example, students could use their skill development block to complete work in subjects like math, science, and humanities. Skill development was a school-wide initiative designed to meet the learning needs of struggling students, which often included students diagnosed with ADHD.

To start, I present Ms. Johnson's expressed beliefs about ADHD, which include her beliefs in the biological basis of the disorder. Next, I present her views on ADHD and moral responsibility. To conclude, I review her expressed thoughts about the role of medication for students with ADHD as well her lived beliefs as expressed in practice.

Expressed Beliefs

The following interview excerpt highlights Ms. Johnson's expressed beliefs about the characteristics of children with ADHD:

They don't have very good coping mechanisms for incidents that develop during the course of the day. I think it is part of the ADHD and it builds up very quickly,

a short fuse, impulsivity. That is the key word impulsive–impulsive about decisions and feelings (Interview: 05/18/04, pp. 1-2).

For Ms. Johnson, impulsivity characterized much of the behaviour of students with ADHD. In her view, they are unable to cope with typical situations or incidents that developed over the course of the school day. As well, students with ADHD... “are unable to focus on a task for a long time because they have a very limited focus. They may have problems with inappropriate outbursts or making inappropriate comments and being able to control them” (Interview: 03/12/04, p. 4). Students with ADHD, according to Ms. Johnson, are unable to monitor their behaviour, and do not seem to know what is and is not appropriate. She maintained that students with ADHD are unable to keep their behaviour in check; for example, they may be unable to carefully monitor and control their language.

Furthermore, she believed that students with ADHD “don’t do well in controlled situations” (Interview: 03/12/04, p. 4). For example, “in a structured situation they may be able to follow the rules and be okay, but some of them can’t do it at all depending on what kind of help they are getting outside of class” (Interview: 03/12/04, p. 4). Thus, students with ADHD may be able to follow rules in a structured environment, however, their success may depend on what type of support they received outside of class. An unstructured environment, according to Ms. Johnson, could present even greater challenges, for example if the routine was not clear and expectations were not explicitly laid out. “When they get into an unstructured situation they have even more problems checking their behaviour and making sure that they are behaving appropriately” (Interview: 03/12/04, p. 4).

Similar to previous participants (Ms. Charleston, Ms. Collins, Ms. Thompson and Mr. Atwal), Ms. Johnson believed there is a biological basis to ADHD. "I would think that ADHD is caused by some sort of misfiring within the brain. Perhaps there is an overactive area within the brain, or a chemical imbalance of some sort" (Interview: 10/30/04, p. 1).

ADHD and Moral Responsibility

Ms. Johnson felt that students with ADHD might have lacked the moral responsibility normally needed to justify punishment for inappropriate behaviours. Simply put, when we hold someone morally responsible for an action we are saying that their good deeds are deserving of praise and their bad deeds are deserving of punishment. In other words, she believed that students with ADHD often suffered needlessly from unjust punishment and reprimand for behaviours they did not knowingly choose. She did not think that it was fair to hold students with ADHD accountable for behaviour that resulted from ADHD.

I think that their self-esteem can suffer because they are continually being disciplined or punished for behaviour that is not necessarily their fault. That is something that I have to remind myself all of the time. That it is not that they are willingly doing this, sometimes they just don't have the self control to be able to stop it before it gets to a point that is destructive or inappropriate. That whole idea of impulsivity—that it is not something that they are necessarily *choosing* to do. It's just that that comes to their head and that is the first thing they see or the first thing that they think of and they don't wait and think, "hmm should I do this?" It's that whole idea of impulsivity it is not something they are necessarily

choosing to do. It's just that that comes to their head and that is the first thing that they see or the first thing that they think of and they don't wait to decide, "Hmm should I do that action?" Because some of us, we may sit back and we are calm enough to say, "Okay, I have a choice of saying A, B or C." They just have A flashing in their head and that is what they blurt out, instead of thinking about the consequences of their actions or their words for another person or a classroom situation (Interview: 03/12/04, p. 6-7).

Ms. Johnson's understanding of ADHD had far reaching implications for her interpretations of the behaviour of students with ADHD. Ms. Johnson believed that a person with ADHD faced a different set of challenges when it came to behaviour. According to her, people *without* ADHD were capable of looking calmly at a situation and rationally weighing alternative choices of action and their outcomes before making a decision. Students with ADHD, however, were not capable of these calm, reasoned calculations. Instead, they may suffer as a result of performing the first course of action that presented itself. She felt this impulsive behaviour was particularly ill suited for the classroom.

The Value of Medication

In describing ADHD, Ms. Johnson was careful to point out that the severity of any disorder ranged from mild to severe. As well, medication played a role in the severity of ADHD.

I mean it depends on how severe their disorder is because there are some that even when they are medicated you are still not going to get the output from them that you would from regular students. It depends on the time of day; whether you

are at the end of the medication, or the beginning of the medication or whether or not they have forgotten to take their medication all together (Interview: 03/12/04, p. 5).

As the above passage indicates, medication played an important role in Ms. Johnson's understanding of ADHD. According to Ms. Johnson, knowing whether or not a student had taken his medication provided an indication as to what types of behaviour to expect. More generally speaking, even when some students were medicated they still may produce less work in class than their peers. In this regard, the presence or absence of medication became part of her means of understanding and explaining the behaviour of students with ADHD.

The notion that students diagnosed with ADHD should be medicated did not always sit well with Ms. Johnson.

I don't like to say that someone needs to take a drug to make them learn better, but the sad fact is that a lot of times it works, and it works very well. I mean...I don't like to say that we should all drug our kids, but unfortunately I have seen the difference between the kids who are medicated and the kids who are not medicated. I have seen kids that are not able to sit still for two seconds and have not been able to write three words on a page come back the next day medicated and work straight through for an hour and write a paragraph. I have seen a very large difference. There are still students that I have that even when they are medicated they still get excited and everything but it is just that they have less impulsivity. They have more control and they are able to self-check a little better (Interview: 03/12/04, p. 1).

Ms. Johnson believed that medication allowed students with ADHD who, prior to medication, found writing to be a challenge, focus enough to write an entire paragraph. At the same time, medication did not extinguish their normal reactions; for example, they still displayed excitement. Importantly, they were less impulsive and more likely to keep their behaviour in check when medicated. Although she stated that not all students with ADHD should be medicated, her experience suggested otherwise. According to her, students with ADHD who were taking medication displayed improved behaviour and work habits relative to students who were not medicated.

In the Classroom

One day Patrick was upset and Ms. Johnson approached him at the start of class. She encouraged him to take a break and offered the following explanation: "I know it has been a long day. Why don't you take a 5 minute break and then we can talk" (Field notes: 05/10/04, p. 8). This reaction was consistent with her beliefs about ADHD as expressed in an earlier interview:

I acknowledge how these students are feeling. So you have to take every day as a different day and know that they are going to have their good days and their bad days. Sometimes you need to let them go for that walk or that drink or you need to say, "Okay you know what as soon as you finish that you can go on the computer for a few minutes and take a break and get yourself together again and then we can get back to work." You've got to give them an outlet. (Interview: 03/12/04, pp. 4-5).

Ms. Johnson's reaction to Patrick's behaviour was markedly different from Ms. Gallagher's. Ms. Johnson encouraged Patrick to take a break, but return to the classroom.

She did not refer him to the counselor's office. She also told him that once he had taken his break she wanted to talk with him further. It is possible that Ms. Johnson afforded Patrick these choices because she did not have the responsibility of directing the entire class in a formal lesson as Ms. Gallagher did. Instead, Ms. Johnson was offering students one-on-one support. Ms. Johnson did not appear to be under the same constraints that may come when instructing a class from a prepared, formalized lesson. More specifically, a student with ADHD may not present the same type of challenge in a class like skill development. It is also possible that Ms. Johnson simply developed different strategies for working with students with ADHD.

In some respects this was consistent with Ms. Johnson's beliefs about ADHD. For example, when it came to Patrick,

If he is coming in and having his good days and his bad days it can be very wearing because you never know which way he is going to go or what level he is at on that particular day. So, you have to monitor how much you're going to push and how much you are going to just ease off and say, "Okay, have a nice quiet day." So I don't push him to do that much in my class on those days because he needs a quiet space (Interview: 05/18/04, p.1).

In this regard, Ms. Johnson developed some informal strategies for working with students diagnosed with ADHD. Based in part on an initial assessment of their behaviour, she attempted to provide a quiet space when they needed one. Ms. Johnson also implemented one of the suggestions from Patrick's IEP by allowing him to wear headphones and listen to music on a portable walkman during class. This strategy was included in Patrick's IEP to facilitate his relaxation (Student File).

Case Summary

Ms. Johnson stated that students with ADHD were unable to focus for extended periods of time, and often displayed uncontrollable outbursts because they had difficulty checking the appropriateness of their behaviour. She also maintained that students with ADHD found both structured and unstructured environments to be challenging, with the latter providing the greatest challenge, especially when it came to controlling inappropriate behaviour. She asserted that ADHD has a range of severity, and even when medicated, some students with ADHD are not able to produce as well as students who are not diagnosed. She also asserted that a diagnosis of ADHD had implications for holding students responsible for their behaviour. Specifically, her contention was that ADHD may elicit behaviour not based on a reasoned choice. The result, according to Ms. Johnson, may be students with ADHD being reprimanded and punished for behaviour that they cannot control. Ms. Johnson believed that medication had a positive influence on students; for example, they demonstrated greater focus and productivity. Finally, Ms. Johnson may have revealed that beliefs about ADHD and how to address it in practice depend on the responsibilities that accompany particular teaching roles. For example, a regular classroom teacher may face different demands and have different responsibilities than a skill development teacher. This difference in roles may have implications for beliefs about the challenges posed by the disorder.

Ms. Baker

Ms. Baker taught humanities and physical education at Carleton High School and was the final participant in this study. To start, I present her expressed beliefs about ADHD and include some examples from her experience teaching Patrick as evidence to

support her claims. Then, I share her beliefs about the relationship between ADHD and behaviour problems. Next, I outline her belief that ADHD placed students at a disadvantage relative to their peers. To conclude, I review her beliefs about ADHD and classroom practice.

Expressed Beliefs

The following interview excerpt highlights Ms. Baker's characterization of ADHD as well as provides some practical examples of how, in her opinion, the disorder was manifest:

The idea I have of ADHD comes along with other things like the ability to complete an assignment, or to understand instructions or to stay focused long enough to understand and complete an assignment. These are kids who have trouble in the classroom because they have a hard time focusing when there are so many distractions. They are trying to get work done yet there are so many things going on that they can't focus on the one task at hand because they are super distracted. They start and they may come back to it a few times but the focus that the rest of the class is putting in for a 15-minute assignment they just can't
(Interview: 05/26/04, p. 5).

Ms. Baker suggested that the high activity levels and considerable distractions inherent to a classroom setting presented significant challenges for students with ADHD. More specifically, the condition of ADHD may disable their ability to devote the necessary degree of focus to complete assignments. Students with ADHD could certainly start an assignment okay but they were unable to maintain a consistent effort throughout the entire assignment.

Information Overload

In addition to a lack of focus, Ms. Baker maintained that information overload commonly occurred with students with ADHD. She explained that students with ADHD process information differently:

When I throw a ton of information at someone with ADHD it is a little overwhelming. They can't process it and put into the places that I want them to, as quick as maybe someone else can. It might be overload. For example, a student with ADHD may read exactly what I told them to but maybe they won't hold onto it or retain it as long as another kid. They probably have to study a different way too because I imagine that there are things that an untreated student, that the brain is just working so fast, that they can't move on to what they want to study for very long (Interview: 03/30/04, p. 4).

Ms. Baker speculated that students with ADHD experienced overload when given large amounts of information. She asserted that their ability to process large amounts of information was limited. Although they were able to read the information, Ms. Baker believed students with ADHD were not able to remember later with the same accuracy and efficiency as others. In this regard, ADHD was believed to impair the retention and recall of material covered in class. Furthermore, she believed that ADHD was a debilitating disorder that limited students' performance and placed them at a disadvantage relative to peers. Their brain was working too fast according to Ms. Baker. A diagnosis of ADHD meant that students would have to use different study tactics in order to learn material in class, although she was unclear about what these study tactics might look like. As well, Ms. Baker implied that students treated with medication might be able to overcome many of these challenges.

To further support her contention that people with ADHD have a significant amount of mental activity occurring at any one time, Ms. Baker provided another example,

I have an adult friend who has got ADHD and she finds it so hard some times. She explained it—she has got so many things racing through her head in and to stop and focus on one thing and concentrate and read and do one thing is really hard (Interview: 03/30/04, p. 10).

Her example suggested that people with ADHD need somehow to slow mental activity down and this may help them concentrate on one thing at a time. This slowing down was of particular necessity when trying to focus in order to read.

Behaviour and ADHD

Understanding Ms. Baker's beliefs about ADHD can also come from her descriptions of what ADHD was *not*. For example, when Patrick first started at Carleton High School, Ms. Baker was surprised to find out that he was diagnosed with ADHD:

I guess for my idea of ADHD Patrick is not, definitely. His writing and reading level seems great. His attention level doesn't seem distracted, most days. I don't see a problem with that with Patrick (Interview: 03/30/04, p. 1).

Her beliefs about Patrick's diagnosis with ADHD, however, would change as the year progressed. Toward the end of the school year she began to see behaviours that, for her, were more typical of ADHD and changed her initial impressions:

Patrick is turning into the kid that is, the one that we were warned about that was coming. He doesn't want to work. I know he has the ability to sit there and read in my class and focus for 20 minutes and take notes, but he fidgets and moves his

chair and turns around and dips into his backpack every five minutes. To get things done you have to twist his arm. You have to walk him through everything. I give him a number of reminders as to what we are doing, pull out a pen, or open a book to a certain page. Eventually it gets through, but...(Interview: 05/26/04, pp. 1-3).

Ms. Bakers' beliefs about Patrick's diagnosis changed over the course of the 5 months she spent with him. She contended that a lack of medication allowed Patrick's ADHD symptoms to surface.

She also pointed out that ADHD can create behaviour problems and suggested the inability to follow directions was the source of the challenge.

The inability to do what the teacher wants you to do causes the behaviour problem. If you could sit still and get the work done you wouldn't be standing up, walking around the classroom yelling. You would be doing what you have to do (Interview: 03/30/04, p. 5).

In this regard, behaviour became problematic for her because students were not remaining seated and completing their work. Ms. Baker attributed behaviours like standing up, walking around and otherwise being disruptive or noncompliant with classroom expectations to ADHD.

The Disadvantage of ADHD

She also pointed out that students with ADHD were at a distinct and observable disadvantage relative to students without the disorder:

If you put two kids beside each other one with ADHD and one without at the same school level, I think in the given amount of time, the other kid would do a

better job because the student with ADHD would have a difficult time getting it done to the ability that they are capable of. I would say that these ADHD kids don't like school not because the work is hard, but because *doing* the work is hard (Interview: 05/26/04, p. 3).

Ms. Baker maintained that when given two students who are at the same grade level, the student *without* ADHD would out perform the student *with* ADHD. In her hypothetical scenario, Ms. Baker suggested that students with ADHD have the capabilities or the potential to do better but are limited by the disorder. Ms. Baker also implied that students with ADHD might not like school because they are unable to perform to their capabilities. Her distinction between students disliking "doing the work" as opposed to "the work" itself is less clear. However, Ms. Baker did believe that students with ADHD learned less effectively relative to other more successful students because of the disorder. For example, she stated "Patrick, being labeled will learn differently than Lori over here who is brilliant, who has no problems focusing and she just gets the work and understands everything I am doing" (Interview: 03/30/04, p. 3).

In the Classroom

Ms. Baker did not see a need to change her approach to teaching to respond to students who carried the ADHD label. My observations corroborated this contention. Ms. Baker did not make any formal changes to her curriculum by way of learning outcomes. Lesson delivery, modifications to materials covered in class or other observable changes to her teaching practice for the ADHD learner. According to her, knowledge that a student was taking medication may have been enough to address the challenges posed by ADHD. The following interview excerpt highlights her rationale for this belief:

When you ask whether or not I change to teach to children with ADHD. I say no. When I look at Patrick's work and his output he is doing just fine with what I have got going. Obviously to me medication must be doing something (Interview: 03/30/04, p. 4).

As mentioned previously, Patrick stopped taking his medication on May 6th, and thereafter Ms. Baker reported a noticeable difference in his behaviour. Although she didn't believe that the lack of medication accounted for all of his behaviour change it did account for a big "chunk of it" (Interview: 05/26/04, p. 2). She felt Patrick was less capable of dealing with stressful events when off his medication:

He was upset that his grandmother had died. And mom and dad are getting a divorce, and so these things are bothering him, but before he would have been upset about that and still crying but still give two hoots about work. He still would have been, "I need my work done, and can you help me?" Now it is just, "I'm going to wear my hat in class and try and break the rules"...I know he intentionally wants to say and do as little as possible. And he intentionally tries to do nothing (Interview: 05/26/04, p. 2).

This example revealed that Ms. Baker believed medication could help students with ADHD to cope with stressful events. Medication also enabled students to maintain an interest in their schoolwork in the face of adversity. Her beliefs about ADHD and medication may have been conciliatory; they were compatible. In other words, students with ADHD displayed certain challenging behaviours and medication offered the remedy. She held these beliefs in spite of knowledge that a death in the family and parental discord could be equally plausible explanations for Patrick's behaviour.

Case Summary

Ms. Baker believed that students with ADHD were highly distractible and unable to efficiently process information. For example, Patrick may have been unable to place information correctly for later recall. According to Ms. Baker, students with ADHD may be overloaded with information more readily than other students. Therefore, students with ADHD might not be able to achieve their full potential. Formal changes to teaching strategies or the curriculum content did not take place in Ms. Baker's humanities class to accommodate ADHD learners. She believed medication typically had a positive influence on students with ADHD and may have been the only intervention necessary. In light of knowledge that suggested otherwise Ms. Baker maintained that Patrick's decision to stop taking medication was a cause of an inability to deal with personal issues or regularly complete work in class.

Cross-Case Analysis

What follows is a cross-case analysis of the seven case studies. The purpose of this section is to look across cases for areas of commonality and divergence among participants' beliefs and practices. First, I review their expressed beliefs. Second, I review lived beliefs, as reflected in changes to instructional strategies, the curriculum, and behaviour management. In presenting lived beliefs, I also discuss conditions that participants identified that may have increased the potential for disjuncture or alignment with expressed beliefs.

Expressed and Lived Beliefs

Analysis of participants' expressed beliefs revealed four overarching themes. First, all seven participants held the belief that ADHD is a neurobiological disorder. Second, all participants believed that ADHD has a negative influence on student behaviour and learning at school. Taken together these features of ADHD set students with the disorder apart from their "non-disordered" classmates. Third, participants did not believe students with ADHD were *bad* kids. Finally, 6 of the 7 participants emphasized the importance of uniform treatment and expressed reluctance towards singling students out with unique curriculum, teaching or management strategies.

Within this small sample of teachers, there were many descriptions of ADHD as well as ideas about how to make the learning environment easier for students with ADHD and their teachers. When it came to identifying causes of ADHD, all seven participants believed that ADHD is a neurobiological disorder, with some claiming a genetic or chemical imbalance as origin. Participants maintained that students with ADHD have brains that somehow function differently, which may influence their ability to focus, or consciously direct their mental faculties. The teachers who participated in this study viewed ADHD as a condition germane to the biological make-up of students with the disorder; a permanent feature of students' identity and their behaviour and academic engagement.

In a school setting, participants recognized the detrimental effect a disorder like ADHD might have, as well as the significant challenges it posed for both students and teachers. They maintained that ADHD could negatively influence students' social lives, their ability to learn and especially their ability to behave appropriately in school. For example, participants used the following behavioural descriptors for ADHD: "disabling,

dysfunctional, inappropriate, cannot sit still, hyperactive, impulsive, disruptive, distracted, distressed, and troublesome.” Participants recognized ADHD as something real and different that set students with ADHD apart from their classmates. At the same time, participants believed it was important to treat all students equally regardless of the particular label they may or may not have. The importance of perceived equality among the treatment afforded to all students was an important feature of participants' beliefs about teaching.

Participants also held the belief that students with ADHD were not “bad” kids. Participants believed that ADHD could provide information necessary for differentiation between students who were purposefully malicious and those who were not. Participant teachers were less likely to interpret inappropriate or challenging behaviour as developing from cruel or malicious intent if they knew the student was diagnosed with ADHD.

Participants' beliefs and practices were consistent with conceiving of ADHD as a neurobiological disorder. Consequently, classroom practice may have been viewed as an ineffective means of addressing a biological disorder like ADHD. For participants, educational interventions were rare, one participant enacted two interventions designed to change the behaviour of an ADHD learner. However, the remaining participants used strategies like proximity, preferential seating, interpersonal control, sending students to the counselor's office and the social development room. These strategies were developed and implemented only to accommodate the ADHD learner and were reactionary in nature and provided as temporary solutions. These strategies were not developed from a comprehensive intervention plan designed to improve the learning abilities or behaviour

of students diagnosed with ADHD. This type of intervention would have required additional planning and structure as well as systematic implementation.

The alignment of expressed and lived beliefs may be influenced by a number of factors. Importantly, some factors may act as constraints that inhibit participants' expressed beliefs from finding expression as lived beliefs. On the other hand, conditions may be such that expressed beliefs are sustained and as a result closely aligned with lived beliefs. Below I present participants' lived beliefs and attempt to identify some possible constraining or supportive conditions.

Six participants relied on accommodations and medication to address challenges posed by ADHD. These six participants did not make any comprehensive changes to their learning outcomes, the delivery of lessons, course content, or to their classroom management strategies in an effort to address the unique learning and behavioural challenges they felt students with ADHD faced. If students were placed on medication, then little more was done to address their learning needs. Conceiving of ADHD as a biological disorder may have enabled participants to view treatment with medication as the best means of alleviating the symptoms of the disorder. In this regard, participants' expressed beliefs aligned with their lived beliefs.

The use of medication, one of the main interventions to treat the condition of ADHD, may have left most participants feeling powerless. By defining ADHD in purely biological terms, participants believed medication offered the only treatment. In this regard, teachers relied almost exclusively on medication to restore balance to student behaviour and academic abilities. As educators, participants may have placed little value in the efficacy of educational initiatives to address the needs of ADHD learners. The

result, an overall reluctance to take ownership for challenges posed by what is conceived as a neurobiological disorder to be treated with medication.

Most participants believed medication had a positive influence on student behaviour. Specifically, according to participants, medication seemed to quell Amar's "aggressive behaviour," Kelly's "shutting down" and Patrick's "angry defiance." As part of classroom practice, participants were either implicitly or explicitly involved in the use of medication to treat students diagnosed with ADHD. By *implicit*, I mean implied but not overtly expressed involvement. Conversely, by *explicit*, I mean expressly stated involvement. On an implicit level, Amar, Kelly, and Patrick were taking medication to be successful in a school setting. These students were not necessarily prescribed medication to function more effectively at home or in any other setting beyond the school grounds. Therefore, as teachers participants were implicitly involved in the use of medication.

Participants were also explicitly involved in the diagnosis of ADHD and the eventual use of medication to treat it. For example, two of the participants, Ms. Charleston and Ms. Thompson completed a Conner's Rating Scale, a tool used in the diagnosis of ADHD. In addition, Ms. Thompson actively sought pediatricians' advice about ADHD and medication. Participants often reminded students to take their medication and were often provided class time to do so. One elementary participant often made arrangements with the school secretaries to hand out medication at particular times of the day. As well, several participants made regular verbal reports to physicians, school personnel, and parents as part of a behaviour and medication monitoring process for students with ADHD.

Participants believed ADHD to be a disorder that places students at a distinct academic and behavioural disadvantage relative to their non-ADHD peers. In light of this belief, many participants showed patience and understanding when working with ADHD students. However, participants also maintained the desire to treat students equally, and in this regard, their expressed and lived beliefs may not have been aligned. For example, on an informal level, teachers typically interacted more frequently with ADHD students than they did with other students.

An additional constraint may have come from the participants' beliefs themselves. For example, if they believed ADHD was a condition that set students apart requiring differential treatment then their desire to treat all students the same may have presented a conflict. In other words, participants believed a diagnosis set students apart from their peers, but felt responsibility as a teacher to treat all students alike. This may have created a formidable obstacle when it came time to make decisions regarding educational interventions for students with ADHD. Perhaps they questioned how beliefs in equality could be reconciled with their belief that students with ADHD learned differently than others.

Participants also cited practical constraints on their ability to put expressed beliefs into practice. While they recognized ADHD learners as unique, participants claimed it was unreasonable to expect them to match their teaching practices with the needs of every individual in the classroom. Instead, they attempted to develop teaching and behaviour management practices to suit the general group, or the majority of learners in the class. For example, high school participants cited the sheer number of students they encountered on a daily basis as evidence of what they were up against. If medication was

able to suppress some of the unpleasantness of working with a student with ADHD by controlling behaviour, then it could increase the likelihood that the classroom would run more smoothly for everyone, and that students with ADHD may eventually benefit directly from such change as a trickle down effect.

Participants also identified environmental influences that could negatively influence ADHD, such as adverse conditions at home and between family members. In addition, one participant identified limits on time, resources and attitudes of colleagues as other possible constraints on his ability to meet the needs of ADHD learners.

Diagnostic routines for ADHD, as well as processes involved in treatment with medication, were well-charted responses at participants' schools. As such, participants devoted time and energy to document and monitor the effects of medication for students in one form or another. These practices were consistent with participants' expressed beliefs that ADHD is a biological disorder requiring treatment with medication. As a result, participants were willing to invest time and energy in the diagnostic process and to monitor the effects of medication. The process of prescribing medication involved regular communication between parents, the teacher and the pediatrician as to how the child was progressing relative to drug dosage and time of administration. Should the medication be adjusted? Should they take it at a different time of day? Should they try a different type? Are there any side effects? These questions and their answers may have taken precedence over other instructional concerns given with a diagnosis of ADHD and treatment with stimulant medication.

Analysis of the data also revealed that participants might have viewed a diagnosis of ADHD as a means to accessing greater resources and support. In other words,

participants believed that establishing students had a neurobiological disorder like ADHD was a means of securing significant support from medical and school personnel. For example, Ms. Thompson was reluctant to have Kelly leave the school. Shortly thereafter, Kelly was designated a 333, and diagnosed with ADHD. Ms. Thompson may have believed that a diagnosis of ADHD would allow Kelly to receive treatment with Ritalin and remain at Nicholson Elementary. According to Ms. Charleston, the desire to have Amar diagnosed with ADHD may have motivated teachers to boost Amar's scores on the Conners' Rating Scale. By achieving a clinically significant result, Amar could access considerable resources and support otherwise unavailable to him.

Finally, participants expressed the belief that students with ADHD were not *bad* kids. This belief had implications for practice. For instance, participants appeared less likely to hold students accountable for their behaviour if they had a diagnosis of ADHD. For example, Amar's pulling of the fire alarm, Kelly's wrapping himself around Ms. Thompson's leg, and Patrick's rude language were all attributed, on some level, to ADHD. In this regard, conceiving of ADHD as a disorder that impaired the ability to make reasoned behavioural choices was consistent with participants' lived beliefs demonstrated by their reluctance to hold students accountable for behaviours attributable to ADHD.

CHAPTER 4

HERMENEUTIC ANALYSIS

In this section, I present an overview of hermeneutics and its application in this study of teachers' beliefs about ADHD. The purpose of this hermeneutic analysis is to situate participants' understandings of Attention Deficit Hyperactivity Disorder within a larger social context and in so doing explore how participants' beliefs may have developed.

To start, I present an overview of hermeneutics in order to clarify what it is and how it has developed. I begin by describing hermeneutics as an alternative approach for conducting research in psychology. Then, I present the main tenets of hermeneutics and articulate their place in psychological inquiry. To conclude, I outline the application of hermeneutic analysis to participants' beliefs about ADHD.

Modern Hermeneutics and Natural Science—a Brief History

The word hermeneutics is derived from the Greek god, Hermes, whose responsibility it was to communicate messages from Zeus and other gods to ordinary mortals. Hermes brought messages of advice, warning, and instruction (Packer & Addison, 1989). In looking back over the past fifty years most of mainstream psychology has denied Hermes a place in the study of psychological phenomena. Instead, psychologists have maintained that methods modeled on those of the natural sciences are best suited for research in psychology. In part, this belief may be based on the technological advancement and the superior status often afforded science (Sugarman &

Martin, 2005). To a large extent social scientists have long been motivated by the hope that they too would be successful if they applied the scientific method.

As such, most of the research generated in psychology is based on the philosophical principles of empiricism and rationalism. Empiricism, broadly defined, is the practice of relying on observation and experiment. Adherents to this philosophy, base knowledge, or the materials from which it is constructed, on experience gained through the traditional five senses. Proponents of empiricism maintain that all knowledge about the world comes from what the world reveals. They assert that researchers must observe it neutrally and dispassionately, and any attempt to mould or interfere with the process of receiving this information leads to distortion and arbitrary imaginings. Rationalism, on the other hand, is the position that all knowledge can be derived from reason, without appeal to experience. Adherents to this approach maintain that all knowledge ultimately derives from logic, reason, or other operations of the mind (Honderich, 1995).

Taken together, empiricism and rationalism form the philosophical basis for much of what is considered research in the field of psychology. Common to both accounts is a dualistic view of the mind and world as distinct realms, a belief that the source of genuine knowledge can be identified, and a view that natural science offers a clear and satisfactory model to include both empiricism and rationalism (Packer & Addison, 1989).

Although hermeneutic thought dates back to the Middle Ages, modern hermeneutics has developed to offer an alternative to the methods of the natural sciences, and specifically the empiricist and rationalist belief systems that lay claim to much of psychology. From a philosophical standpoint, hermeneutics calls into question many of the basic assumptions of empiricism and rationalism (Packer & Addison, 1989). For

example, the notion of truth being a methodological affair presents a fundamentally flawed perspective under hermeneutic analysis (Smith, 1991). In other words, arriving at truth or understanding is not guaranteed by following a routine, prescribed set of methods or steps, nor is truth the sole province of science.

Instead, advocates of hermeneutics maintain that inquiry should be guided by the subject matter, rather than a particular methodological stance. More specifically, “what psychologists take people to be dictates what counts as a legitimate psychological question and implicates methodologies appropriate to its study” (Sugarman & Martin, 2005, p. 252). Likewise, categorizing psychological reality into independent variables is unnecessary because researchers are familiar with this reality before formal or scientific analysis even begins. From a hermeneutic perspective the phenomena of interest in psychology is distinctly different from that of the natural sciences. According to Dilthey, “we explain nature, and we understand mental life” (see Ermath, 1978, p. 246).

Adherents to hermeneutics assert that natural phenomena are less susceptible to interpretation, whereas in psychology the phenomena of interest and the methods of inquiry are constituted by human interpretive practices and saturated with meaning and significance (Sugarman & Martin, 2005). Under the hermeneutic umbrella, interpretation may be broadly defined as the search for meaning, truth and knowledge without being committed to an empirical or analytical method. The claim of hermeneutics is that truth may be found outside of the realm of science (Terwee, 1990). Modern proponents contend that hermeneutics offers fresh possibilities for psychological inquiry (Packer & Addison, 1989; Smith, 1991; Cushman, 1995; Richardson, Fowers, & Guignon, 1999;

Martin & Sugarman, 2001; Sugarman & Martin, 2005). What follows is an outline of the basic tenets of hermeneutics.

Basic Tenets of Hermeneutics

It is important to note that hermeneutics has not progressed in an easily definable, linear fashion, as ideas have come from a wide range of sources over a considerable period of time (Packer & Addison, 1989). Nor is there a clearly identifiable overarching theory common to hermeneutic analysis. Nonetheless, what follows is an overview of 5 guiding principles.

The Significance of Practical Understanding

The starting place for hermeneutic inquiry is a practical understanding of the object of study. That is, research should begin with the everyday, common sense understanding of the object anyone can possess. How is the object talked about in the home, school, and the work place? The starting place is not unquestionable data or abstract theorizing, which is the stuff of rationalist and empiricist approaches, instead it begins at a place delineated by our ordinary understanding of people and events. For hermeneutics, these understandings are held with the assumption that they are corrigible, that is they are capable of being set right or corrected possibly because they are often incomplete and perspectival (Packer & Addison, 1989). It is possible to have many unique and opposing understandings of a particular phenomenon that may require change and justification. From a hermeneutic perspective, researchers set out to revise these initial backgrounds through the course of interpreting activity. The hermeneutic imagination constantly asks what is at work in particular ways of speaking and acting in

order to develop an “ever deepening appreciation of that wholeness and integrity of the world which must be present for thought and action to be possible at all” (Smith, 1991, p. 197).

The Hermeneutic Circle

Advocates of hermeneutics maintain that the researcher is intrinsically involved in whatever inquiry is directed toward, and should not take steps to disregard that involvement as suggested by rationalist and empiricist approaches. Detachment does not guarantee objective, undistorted, description and explanation. Instead, it is in itself a distorting move that only removes or covers up the practical involvements—cultural, social, and personal—that allow us to understand other people (Packer & Addison, 1989). Consequently, researchers can only understand an object of study or phenomenon by attempting to place it within a larger context, and they can only understand the whole by understanding its elements (Cushman, 1995). This back and forth movement between the part and the whole, between the researcher’s context and the object’s context, is known as the *hermeneutic circle* and is a fundamental part of hermeneutic analysis and understanding.

Hermeneutics highlights the way in which meaning is always arrived at referentially and relationally rather than absolutely. In this regard, hermeneutics takes on the qualities of a good conversation (Smith, 1991). In a good conversation, meaning and understanding are realized in the conversation and are never in the possession of any one of the participants, but something that all involved realize they share in together (Smith, 1991). As well, the search for meaning and understanding is an ongoing process without a final resting place (Sugarman & Martin, 2005). Therefore, the meaning of

psychological phenomena is arrived at through an ongoing negotiation process, a dialectic, which involves weighing and reconciling different positions all in an effort to arrive at understanding. "Further, because all understanding is essentially historical, our cultural perspective is continually shifting, and this there is no such thing as timeless or final truth in interpreting human life" (Sugarman & Martin, 2005, p. 257).

Texts

To interpret a social situation is to treat the situation as text and then look for the metaphor that may be seen to govern it (Ricoeur, 1976). Interpretation is concerned with anything possessing human significance, such as texts, actions, historical events, human artifacts, art, music and the development of technology (Terwee, 1990). All of these activities can be treated and interpreted as text. These *texts* become the object of study in hermeneutic analysis. As a result, studying psychological phenomena involves standing over the shoulder of those under study and reading the cultural text from which they themselves are reading (Cushman, 1995).

Human Values

From a hermeneutic perspective, the subject matter of psychology is interpretive, historical, social, cultural, and saturated with human values. Therefore, psychology must move beyond the individual to include history, culture, and politics as essential parts of analysis. This aspect of the hermeneutic approach is different from that modeled after the natural sciences. While hermeneutics points to the historical and socio-cultural constitution of psychological phenomena, it does not maintain that they are reducible to these sources (Sugarman & Martin, 2005). In other words, hermeneutics may emphasize

and identify the historical and socio-cultural make-up of psychological phenomena, but this does not mean that those phenomena are easily simplified, or arranged into causal statements whereby the existence of one leads directly to the other.

Fusion of Horizons

According to Hans-Georg Gadamer (1995), a prominent figure in the development of hermeneutics, all understanding arises out of our preunderstanding and embeddedness in historical traditions. As such, all understanding requires a “horizon of language and other shared practices that comprise tradition and provide a background of meaning and intelligibility” (cited in Sugarman & Martin, 2005, p. 256). Within this conception the term “horizon” refers to “the range of vision that includes everything that can be seen from a particular vantage point” (Gadamer, 2002, p. 302 trans). The horizon includes other meanings beyond a persons’ particular vantage point. Thus, the horizon forms the context through which objects are made meaningful. “Not only do our lives develop with others in specific cultures, times, and places, but our capacities for knowledge and understanding sustained by cultural practices, are carried forward from one generation to the next by historical tradition” (Sugarman & Martin, 2005, p. 256). What are the traditions that enable psychological phenomena to be accepted, supported and utilized?

Adherents of hermeneutics maintain that horizons are created by a culture’s particular way of perceiving. Both the interpreter and those interpreted have a conception of the world and truth. From a hermeneutic stance, understanding requires opening up to and integrating another’s horizon of meaning in a way that one’s own perspective is altered in the process. This alteration may occur because the placement of the horizon

determines what there is room for and what is precluded from view (Cushman, 1995). In the end, understanding may occur “when our horizon of historical meanings and assumptions fuses with the horizon or text we are attempting to interpret” (Sugarman & Martin, 2005, p. 257).

In sum, proponents of hermeneutic theory assert that our everyday understanding provides a starting place for interpreting psychological phenomena. As well, they maintain that the researcher is intrinsically involved with the subject of study and should not take steps to disregard that involvement. A back and forth movement between the researchers' context and the objects context is called the hermeneutic circle, and is a crucial process necessary for hermeneutic analysis and understanding to occur. Text provides the point of reference for hermeneutic analysis. That is, hermeneutic analysis necessitates looking at the historical, social, cultural, political and economical context of psychological phenomenon and their referents and reading them as texts. The subject matter of psychological inquiry is interpretive, social, cultural and saturated with human values. Consequently, the best avenue to understanding is to engage in genuine dialogue with others in ways that allows all involved to encounter and cast light upon their preunderstandings and the affects of our historical traditions. This requires a genuine openness to hearing what others and texts have to say.

Applying a Hermeneutic Analysis

In this hermeneutic analysis, I move beyond the seven participants' beliefs about ADHD to identify possible historical, social, political and economic influences on the development of their beliefs. By focusing on the historical and socio-cultural constitution of ADHD, I am not suggesting that beliefs about the disorder are reducible to these

phenomena. However, understanding their beliefs necessitates recognizing the role of larger social forces in the formation of participants' beliefs. What is it that teachers are referring to when they speak of ADHD? What is the source of their knowledge, their beliefs? By analyzing this larger context, it is possible to compare and juxtapose participants beliefs with those offered by the medical community, popular culture and political and economic organizations that have a direct interest in ADHD. I am responsible for looking at other portrayals of ADHD, in order to revise the background, and provide a deeper appreciation of what may have made participants' beliefs possible.

To deny social, historical, cultural, political and economic forces a place in the analysis of Attention Deficit Hyperactivity Disorder is to present a phenomenon void of much of what constitutes its meaning. ADHD has an elaborate historical past. Likewise, it has emerged and taken shape in response to particular cultural, political, and economic forces. In order to uncover these broader contextual influences on participants' beliefs about ADHD, a close, orderly analysis of these factors is needed. It is important to note that the purpose of this section is not to determine the truth or falsity of such claims, but to establish that such beliefs exist as part of the larger social context. Studying psychological phenomena, in this case teacher beliefs about ADHD, involves standing behind them and reading over their shoulder from the same cultural text that they themselves are reading. As such, the study of ADHD is unavoidably the study of the socio-cultural context in which the disorder is identified and manifested. By gaining a clearer understanding of sources of teachers' beliefs we may be more capable of understanding why teachers are reluctant to develop educational interventions.

A Hermeneutic Analysis of ADHD

Hermeneutic analysis allows for inquiry into what is meant when terms like *ADHD* are used. With the hermeneutic imagination, we are challenged to ask what makes it possible for us to speak, think, and act in the ways we do (Smith, 1991). What is the cultural context that engenders the development of teachers' beliefs about ADHD? What is the cultural text that teachers are reading? Teacher experience with students diagnosed with ADHD, historical accounts, television, books, the Internet, advertising, medical literature and conversations with friends and colleagues can all play a role in the creation of meaning and the development of beliefs.

To begin, I review the conceptual history ADHD. I focus on predecessors to conceiving of ADHD as problematic childhood behaviour characterized by high energy levels, and assert it is a sign of pathology. Next, I review coverage of ADHD in the popular media. I look at television programs, motion pictures, music, print media, and the Internet to document how ADHD may have become knowable to the lay public and understood by participants. As well, I present the political influence of the ADHD advocacy organization Children and Adults with Attention Deficit Disorder (CHADD) that may influence participants' beliefs as to the biological basis of ADHD. Specifically, I identify CHADD's extensive communication network, and highlight its role as watchdog and lobbyist for legislative change. Finally, I describe the economic interest of pharmaceutical companies with examples drawn from marketing campaigns designed to influence parents as well as the prescribing practices of medical professionals. This hermeneutic analysis is done in order to document, describe and understand the pervasive

means by which ADHD as a concept, and as a disorder has permeated many areas of society and possibly influenced the beliefs of the seven participants in this study.

History of ADHD

The history of ADHD provides the starting place for this hermeneutic analysis. According to McCulloch and Richardson (2000) historical research can illuminate the structures and the taken for granted assumptions of our contemporary world, by demonstrating that these have developed historically, that they were established for particular purposes that were often social, economic and political in nature, and that in many respects they are relatively recent in their origin. To begin this hermeneutic analysis of ADHD, I look closely at the conceptual predecessors of ADHD in an attempt to uncover some taken for granted assumptions. To apply hermeneutics requires the development of a deep attentiveness to language itself, to notice how one uses it and how others use it. It is important to gain a sense of word meanings to see what they point to historically (Smith, 1991).

From Shakespeare to Fidgety Phil

In early literary references, authors made direct reference to inattentiveness and hyperactivity, as well as the negative repercussions of these behaviours. For example, William Shakespeare (1564-1616) described a sickness of inattention by attributing the malady to one of his characters in the second part of King Henry IV, "...this apoplexy as I take it, a kind of lethargy, an't please your lordship; a kind of sleeping in the blood, a whoreson tingling...it hath its original from much grief, from study and perturbation of the brain: I have read the cause of his effects in Galen: it is a kind of deafness. It is the

disease of not listening, the malady of not marking, that I am troubled withal”

(Shakespeare, p. 18). This early literary reference to the “disease of not listening” is similar to modern day conceptions of ADHD and the inattentive behaviours believed to characterize it.

Similarly, a German Physician, Heinrich Hoffman, portrayed a hyperactive child in a poem called *Fidgety Phil*. The poem, written in the 1800s, was part of a series called *Struwwelpeter* (Shock Headed Peter) a collection of cautionary tales for young children (Stewart, trans. 1970).

*Fidgety Phil,
He won't sit still
He wiggles,
And giggles
At the dinner table
And when his father admonishes him
It only results in
The naughty restless child
Growing still more rude and wild.
(Hoffman, n.d.)*

The poem also included three black and white drawings of a young boy sitting at the dinner table who begins rocking his chair, falls, and ends up crashing to the floor. The author portrays Phil's inability to sit still as discomfoting. As well, attempts to admonish him result in a worsening of the behaviour as Phil only grows more rude and wild.

Children who behave in this manner are unpleasant to be around, and in need of parental reproach. This poem captured what continues to be a hallmark of ADHD, and characteristic of the beliefs held by participants in this study—children who behave this way are uncomfortable and distressing to be around.

Later, in 1890, William James described the “explosive will.” For James this variation in character was viewed as normal, but bore a striking resemblance to modern

day descriptions of ADHD: "There is a normal type of character, for example in which impulses seem to discharge so promptly into movements that inhibitions get no time to arise. These are 'dare-devil' and 'mercurial' temperaments, overflowing with animation, and fizzling with talk..." (pp. 537-538). The writings of Shakespeare, Hoffman and James reveals both literary and psychological predecessors to modern conceptions and ways of understanding ADHD behaviours. More importantly, they may establish a way of thinking about ADHD-type behaviours that continues to be expressed by participants. For instance, students with ADHD display problematic, high energy behaviours that may be part of a normal range of functioning, but also may be a sign of pathology.

Biological Origins and Education

Several authors (see Ross & Ross, 1982; Barkley, 1997, Goldstein & Goldstein, 1990; Stubbe, 2000) maintain that George F. Still first described ADHD to the medical community in 1902. However, the work of Scottish-born physician Alexander Crichton may mark the first clinical identification of inattention as a sign of an underlying pathology (Palmer & Finger, 2001). In 1798, Crichton described a range of attentional problems in otherwise healthy young people that he called "mental restlessness" (Palmer & Finger, 2001). Specifically, "when people have this disorder, they have a particular name for the state of their nerves... they say they have the fidgets" (see Palmer & Finger, p. 69).

Crichton also commented on attempts to educate children with mental restlessness.

It unfortunately happens that the mental treatment of youth, not only at schools and academies, but also at home is generally the same for all boys. That of girls is

subject to a similar fault. The peculiar idiosyncrasies, or dispositions of each individual are seldom sufficiently attended to (see Palmer & Finger, p. 69)

Participants in the present study expressed similar concerns with their desire to treat all students the same. Participants were reluctant to single students out with special management or instructional strategies, changes to curriculum content or assessment procedures.

As well, Crichton called for a change in formal schooling. He “recommended that teachers try harder to understand that some otherwise bright students may suffer from morbid mental restlessness. In Crichton’s words: as the power of attention is as different in different boys, as their bodily force, so the mental diet, if the expression be permitted, must also vary accordingly” (see Palmer & Finger p. 69). Thus, Crichton described features of the condition including attentional problems, restlessness, early onset, and how it can affect schooling. His descriptions draw parallels with the expressed beliefs and practices of participants in the present study. Specifically, there are similarities between participants’ descriptions of the ADHD-type behaviours and beliefs that it could negatively affect students’ ability to learn. In addition, participants also expressed a reluctance to address the learning needs of students with ADHD with significant educational interventions.

Following the work of Crichton, Geroge F. Still (1902) also maintained that behaviours similar to modern conceptions of ADHD may be symptomatic of a disorder. In this regard, the beginnings of a biological explanation for ADHD consistent with the expressed beliefs of participants may date back to the work of Crichton and Still.

Still (1902) delivered a series of lectures before the Royal Academy of Physicians entitled *Abnormal Psychical Conditions in Children*. Still considered hyperactive children to have an illness, a defect that caused such behaviour. Still provided an analysis of 23 children between the ages of 3 and 12. He investigated impairment in “volitional inhibition” (p. 1011) and cited evidence of “defective moral control” as an explanation for the behaviour of these children (p. 1010). By moral control, Still was referring to “the control of action in conformity with the idea of the good of all” (p.1008). Still believed that children who suffered from this condition displayed aggressive, passionate, lawless, impulsive, and overactive behaviours (Barkley, 1997). Still (1902) asserted these behavioural symptoms likely developed from 3 causes: (1) physical disease; (2) familial predisposition; and (3) injury to the nervous system. Still, made a plea for further investigation of this condition by the scientific community. It is ...“a subject which I cannot but think calls urgently for scientific investigation” (p. 1008).

Additionally, Still identified educational implications of ADHD and in so doing may have established a connection between these behaviours and life in school. However, this feature of his findings remains largely unaddressed in contemporary accounts of his work. For example, he described the influence “lack of moral control” could have on children in an educational setting:

The problem of education in the face of the paramount necessity for separating some of these morally defective cases from other children; the method of providing the constant and close supervision which is so essential in the management of these cases and which is often so impossible for the middle and poorer classes; how far restraint by confinement in special institutions is called

for; and, last but not least, how far these children are to be held responsible for their misdoings—all these are questions which call urgently for consideration in their proper place. (p. 1167)

Still touched on an educational concern that continues with teachers in the present study. Namely, participants questioned how to address the needs of students with ADHD in the classroom setting. Granted, Still cited economic reasons for such limitations, nonetheless he raised a similar challenge that participants continue to identify with today. As well, Still raised an issue that participants also connected with in the present study—how far these children are to be held responsible for their misdoings. In the present study participants were clear that when interpreting behaviour a diagnosis of ADHD meant that students were not “bad” kids.

Still also described the two patterns that characterized experiences of children with defective moral control in the education system. First, students with defective moral control faced frequent expulsion and transfer to new schools. Second, upon moving to new schools these students often demonstrated the same challenging behaviours all over again.

A common history is that the child has been tried at various schools and at each fresh school has seemed for a time to have overcome his morbid propensities but no sooner have the surroundings become commonplace and familiar some fresh manifestation of his moral defect leads to his disgrace and early expulsion. (p. 1167)

It appears that Still attended to both educational and medical discourses in his early work. For example, he identified the condition and its biological basis as well as

implications for the educational setting. However, little mention is made of the educational discourse inherent in his comments in later accounts of his work. Instead, greater value is placed on the medical discourse, as his work is often cited as the first clinical treatise on ADHD (Barkley, 1990, 1991, 1997; Goldstein & Goldstein, 1990; Stubbe, 2000). In many respects, this feature of Still's work continued in the present study. Participants may have placed greater authority in the explanations and intervention options offered by the medical profession than they did with explanations or interventions of an educational nature.

During the 20th century, ADHD went through a series of conceptual changes. It was identified by a variety of names (e.g., Encephalitis Lethargica-sequelae thereof, Minimal Brain Disorder, Minimal Brain Dysfunction, Hyperkinetic Impulse Disorder, Hyperactive Child Syndrome, Hyperkinetic Reaction of Childhood, Organic Brain Syndrome, Attention Deficit Disorder, and Attention Deficit Hyperactivity Disorder Rafalovich, 2001). There are common themes to this conceptual history that remain consistent with participants' beliefs about the disorder. Chu (2003) provided a comprehensive overview of the conceptual and historical developments of ADHD. I utilized this overview to identify possible sources for participants' beliefs about ADHD.

According to Chu (2003), the history ADHD reveals a conceptual movement from a syndrome involving brain damage or organic deficit to a symptom-oriented classification system. Organic refers to a condition that arises from somewhere within the body (i.e., brain) and produces change in a person (i.e., hyperactive, inattentive, or impulsive behaviour). Symptom oriented refers to a disorder identified mainly by symptoms. In this regard, the symptoms or behaviors become the disorder (Reid, 1995).

This period also included the introduction of stimulant medication to reduce the levels of hyperactivity and behavioural problems (Bradley, 1937). In 1957, methylphenidate (Ritalin) was first introduced for the treatment of children with hyperactivity (Laufer, Denhoff, & Solomons, 1957). The use of medication may have strengthened the condition's status as a distinctive phenomenon and also its biological basis. Similarly, the participants' expressed beliefs and practices suggest that medication continues to be used to identify students with ADHD. In addition, the positive influence reported by participants may continue to affirm the biological basis of the disorder.

As well, participants cited many of the same symptoms that are used to characterize the disorder as presented in the *DSM-IV*. For example, all participants described hyperactive, impulsive and inattentive behaviours of students with ADHD. In this regard, participants' understandings of ADHD are consistent with contemporary medical conceptions and do not appear to have been influenced more heavily by one historical period over another. Ms. Charleston did identify ADD, which suggests that her beliefs may be tied to earlier conceptions of ADHD. However, participants' expressed beliefs corresponded closely with the descriptions and diagnostic criteria offered in the *DSM-IV*, and ultimately to that of the medical profession.

Participants conceived of ADHD as a behavioural disorder that resulted from neurobiological abnormalities. This belief is consistent with current trends in the research literature and the *DSM-IV*. For example, research findings purport a neurobiological basis of ADHD based on studies in genetics, neuroanatomy, neurochemistry, neurophysiology, and information processing (Chu, 2003). However, it is important to note the research is

inconclusive and the precise causes of ADHD remain unknown (Chu, 2003; NIH, 2000; Barkley, 1997).

The Voice of Medicine

The strong relationship between the assertions of the medical profession and beliefs of participants may be the result of the authority given medical explanations. Mishler (1984) used the “voice of medicine” to characterize the relationship between talk and speakers that can underlie frameworks of meaning. In other words, the voice of medicine is what gives meaning to assertions made by medical professionals. Likewise, some of the expressed and lived beliefs of participants may have been influenced by conceptions of ADHD and thus may reflect the voice of medicine.

As Mishler (1984) asserts, the voice of medicine represents the technical-scientific assumptions of medicine and relies exclusively on the biomedical model. The model reflects the technical-instrumental framework of the biosciences, and strips away social contexts of meaning upon which a full and adequate understanding may depend (Mishler, 1984). The biomedical model draws on biological sciences including genetics, biology, medicine, and biological psychology. It defines problems as neurobehavioural and assumes certain behaviours are caused by biological factors inherent to the individual. Conditions like ADHD then, are viewed as disorders and disabilities that have biological causes. Proponents of this view maintain the belief that individuals with a disorder like ADHD develop from biologically abnormal or pathological conditions. Problem behaviours of students with ADHD are a symptom of an underlying biological abnormality accounted for by the biological sciences of genetics, biochemistry and neuroanatomy and treated mainly by psychopharmacology (Ford, 1996). Historically,

ADHD has developed in close concert with the voice of medicine. In many regards, the voice of medicine may permeate and influence the practice of teaching, especially in relation to teacher's conceptions of the disorder. By defining a problem as medical it may be "removed from the public realm where there can be discussion by ordinary people and put on a plane where only medical people can discuss it" (Conrad, 1975, p. 18).

As part of this historical analysis, I explained how the behaviours associated with ADHD have come to be pathologized, with medication frequently offered as the most effective form of treatment. Participants placed value in the medical profession and their claims as to how ADHD is manifest and how best to treat it. Accordingly, participant beliefs may be in accordance with those of the medical profession due to the continued authority granted to medical explanations of ADHD behaviours.

ADHD in Popular Culture

ADHD has become codified and knowable not just to professionals in the fields of medicine and psychology but also to the lay public (Neufeld & Foy, 2002). In order to flourish, ADHD had to succeed as more than just a medical disorder, educators had to be convinced of the authority of medicine and psychology. Today, ADHD is an acronym that is firmly embedded in pop culture. A useful metric for assessing the extent to which ADHD has caught on amongst the lay public came from sources in the popular media like television, motion pictures, music, the print media and the Internet.

Television, Motion Pictures and Music

In 1999 viewers of the popular TV show *The Simpsons* learn that Bart has ADD (About.com, n.d.). Likewise, on the 2004 the CBS TV series *Desperate Housewives* a

main character, Lynette Scavo, struggles with a whether or not to give her school age children Ritalin. Several popular talk shows have also aired episodes on ADHD. For example, Oprah Winfrey ("Explosive Children" aired Feb. 18, 2000), Montel Williams ("A Parent's Right to Choose," aired April 16, 2003) and Dr. Phil ("Parenting with Pills" aired September 28, 2004) have all aired programs that feature ADHD as the main topic. Daily viewership for these programs is estimated at approximately of 7.4 million for the Oprah show and approximately 5.8 million for Dr. Phil show. Therefore, these programs are capable of reaching a vast number of viewers.

On each talk show, the format for the discussion of ADHD is similar. Typically the show begins with parents and children describing their struggle with ADHD mainly in the school setting. The interviews are supplemented with interviews and video footage taken of the child at home and school. Frequently, expert medical guests interpret the situation and offer solutions. Expert guests frequently promote their books on the show as well. For example, Dr. Phil featured Dr. Frank Lawlis (2004) author of "The ADD Answer: How to Help Your Child Now With Questionnaires and Family Centered Action Plans to Meet Your Child's Specific Needs." Television, music and motion pictures all have featured ADHD in one light or another and in so doing may have reaffirmed ADHD as a codifiable and knowable disorder.

The motion picture Confidence (2003) featured actor Dustin Hoffman as Winston King, an unstable crime lord diagnosed with ADHD. The concept of ADHD is also included in song lyrics for popular rock bands. For example, Blink 182 (2001) wrote the song "What's My Age Again" which makes direct reference to ADD and the negative effects the disorder may have on relationships. Similarly, the Mathew Good Band (2000)

wrote the song "Hello Time Bomb". In the song, Mathew Good is critical of the medication Ritalin and its implications for "getting good grades." Finally, the Grammy Award winning album *American Idiot* by Green Day (2004) makes reference to a "steady diet of soda pop and ritalin".

Print Media and the Internet

Conducting an online search of Amazon books using the acronym "ADHD" yielded 1,422 books on ADHD (Amazon.com, May 1, 2005). Children's books have also used ADHD as the basis for characters. For example, Moss (1989) wrote "Shelley the Hyperactive Turtle" about a turtle trying to cope with the challenges posed by ADHD. The story is about a bright young turtle who is unlike the other turtles. Shelley moves like a rocket and is unable to sit still for even the shortest periods. After a visit to the doctor Shelley learns what hyperactive means, and that it is necessary to take special medicine to "control that wiggly feeling" (Moss, 1989, p. 3).

The novel, "Joey Pigza Swallowed the Key" a finalist for the *National Book Award for Children's Literature*, features a young boy who takes medication because he "gets so revved up" (Gantos, 1998). ADHD has formed the basis for the development of characters in children's literature. In these children's stories authors serve to reaffirm the authority of medicine when it comes to treating and understanding ADHD. Consequently, both stories may confirm the social acceptability of children taking medication to treat the disorder and may serve to present beliefs about ADHD in keeping with the beliefs held by participants in this study.

Likewise, keyword searches for the phrase "attention deficit hyperactivity disorder" in the three major research databases Medline, Academic Search Premiere, and

Article First provided an indication of the pervasiveness of ADHD. For the period 1990-1999, searches of each of these databases returned 3,181; 1,411 and 1,040 article citations respectively. Compare this to the period 2000-2005 which returned 4,053; 3,008 and 1,379 from each of the same databases. This reveals that the number of article citations for ADHD has grown considerably in the past four years. As this evidence suggests ADHD continues to accumulate coverage on the Internet, in books and in research. The condition of ADHD has also led to the development of research journals created specifically for the publication of relevant ADHD research and findings (e.g., *Journal of Attention Disorders* and *The ADHD Report*). With each year, interest in ADHD generates greater visibility as a childhood disorder.

Newspapers and magazines also regularly feature columns on ADHD. For example, over a four-year period (i.e., January, 2001 to January, 2005) two local newspapers, The Kirkbride Daily Herald and the Kirkbride Monitor featured 63 articles in which authors made direct reference to ADHD. This corresponds to a little over one article per month. Articles ranged in length from short commentaries of one or two paragraphs to special features of one or two pages.

A search of the English language Internet web pages between 1990 and 2000 where the term "ADHD" appears anywhere in the page using Google.com's advanced search option, retrieved 614,000 pages. Searching the same term for the period 2000-2005 yielded 895,000 pages (Google.com, May 1, 2005). This reveals an increase of 281,000 web pages, a 45% growth in four and a half years.

Some researchers have also maintained that the Internet has made information from authorized sources increasingly available to the general public. For example, within

a few days of the introduction of new stimulant medication, hundreds of patients widely dispersed geographically will share their experiences and thoughts on medication. They provide their own detailed product reports, forums, discussion lists, bulletin boards, news groups and e-mail chains. In this regard, the Internet may provide the unique medium for "direct, instant, and international diffusion" (Cohen, McCubbin, Collin, & Perodeau 2001, p. 455). All of these communication mediums have the potential to influence the beliefs of participants. Specifically, beliefs in the biological basis of ADHD, value of medication as treatment, and the belief that these are not bad students but people suffering from a disorder.

Use of ADHD in Everyday Language

Another metric of the degree to which ADHD has caught on amongst the lay public in North America comes in the form of a 2001 study of "ADHD in everyday language" conducted by Danforth and Navarro. The research assistants responsible for data collection in the study were 31 university students enrolled in a program designed to impart the skills and knowledge necessary for the education of students with special needs. The "assistants were instructed to keep a daily record of events in the course of their day-to-day lives, outside of university classes, in which they witnessed a spoken, written, or media reference to ADHD. They did not initiate conversations related to ADHD but were allowed to participate naturally in discussions initiated by family and friends" (pp. 170-171). Over the eight consecutive weeks of data collection the 31 student data collectors documented 224 examples of "discursive events using a vocabulary of ADHD" in their data journals (p. 170). This works out to a remarkable average of .9 events collected per person per week. In other words, in their daily lives, each of these 31

college students bumped into nearly one ADHD language event each week for eight consecutive weeks. Importantly, the language users in this study drew heavily from the discourses of medicine and education in which ADHD is characterized as an individual phenomenon "subject to medical diagnosis and intervention" (p. 186).

All of these sources reveal ADHD has pervaded much of popular culture. It has become a common moniker used to describe children who display hyperactive, impulsive behaviour in a school setting. Likewise, medication is often presented as a socially accepted treatment. As such, ADHD has become a taken for granted way of understanding childhood behaviour in school. The accumulation of messages, their repetition and resurfacing over several communication mediums serve to affirm what the disorder looks like, and how it is treated. Over time, popular culture normalizes ADHD, as the concept is provided with a considerable number of avenues to enter the consciousness of more and more people. In this manner it is difficult to imagine popular culture having had no influence on the beliefs of participants in this study.

The Politics of ADHD

Generally speaking, politics refers to the exercise of power (Cushman, 1995). Government legislation, which influences how students with ADHD are treated in the education system, may provide an example whereby the politics of ADHD is played out. In North America, the use of a categorical system to finance special educational services is still the norm (Couture et al., 2003). Thus, to receive special services in school, North American students must fit into one of the categories of difficulty or handicap that are recognized within their country's legislation. This practice may lead to the normalization of the use of medical labels to explain educational difficulties, and may make the concept

of ADHD less threatening for practitioners and the general population who have become accustomed to this sort of labeling (Couture et al., 2003).

CHADD

CHADD is the nation's leading non-profit organization serving people with Attention Deficit/Hyperactivity. The organization has over 20,000 members and 200 affiliates in the U.S. and Canada (ChAdd.org, May1, 2005). As the leading advocacy organization for ADHD they may have a significant influence on participants' understandings of ADHD. According to the CHADD website, ADHD is characterized by developmentally inappropriate levels of inattention, impulsivity, and hyperactivity. ADHD is a neurobiological disorder that affects 3-7% of school age children. The organization has an extensive communication network to meet the "information needs of both professionals and the general public" (ChAdd.org, May 1, 2005).

For example, CHADD recently created the National Resource Center on ADHD and online library. This center has been established with funding from the U.S. Centers for Disease Control and Prevention (CDC) to be a national clearinghouse of information and resources concerning ADHD and provides an online data base as well as a library in Landover Maryland (ChAdd.org, May 1, 2005). CHADD also publishes a bimonthly magazine, *Attention!*, that has been in publication for over ten years. The magazine has a world-wide distribution. As well, CHADD produces a monthly on-line newsletter for subscribers and distributes regular on-line fact sheets. The organization has also declared September 7 to be National ADHD Awareness Day (ChAdd.org, May 1, 2005).

Through all of these mediums, CHADD disseminates information and maintains a close watch over information relevant to people with ADHD. For example, CHADD

regularly solicits efforts from subscribers designed to influence mental health legislation. For example, CHADD sought to protect health insurance coverage for people with mental health issues, and to ensure that the Individuals with Disabilities Education Act (IDEA) addressed the needs of students with ADHD (News From CHADD Online Newsletter, 04/22/05, and 02/11/05). In both of these efforts, subscribers are urged to contact congress by using an on-line sample letter. CHADD also provides funding and forums for regular regional and nationwide conferences featuring presentations by professionals in the field of ADHD research. They also feature monthly on-line Ask the Expert Chats on their web site.

CHADD has the resources and the support of 20,000 members, 200 affiliates and an extensive communication network that includes a national resource center, monthly magazine and internet newsletter, as well as regular yearly conferences on ADHD makes them a formidable power in the political world of ADHD. They respond regularly to media coverage in order to establish the facts, pressure legislators with mass mailings, and provide an extensive support network for students, parents and teachers. CHADD is a significant political force connected to ADHD and have the potential to influence the beliefs of participants in this study.

Economic Interests and the Pharmaceutical Industry

Teachers' beliefs about the social acceptability of medication and willingness to support both implicitly and explicitly the use of medication to treat students in their class may also be influenced by the pharmaceutical industry. First, participants may become more aware of the viability of stimulant medication due to direct consumer advertising efforts created by representatives of the pharmaceutical industry. Second, the

pharmaceutical industry may have a significant influence on the prescribing practices of physicians as well as continuing medical education programs (CME) designed to educate physicians about available medications. Motivated largely by profit, the pharmaceutical industry has the potential to exert considerable influence on the beliefs of parents, physicians and teachers, which may all play out in the classroom.

Ciba, the manufacturer of Ritalin, began advertising in 1961. In the beginning, they only advertised on a small scale in medical journals and with direct mailing and efforts of the “detail men” given the responsibility of providing the *details* on a particular medication to interested medical professionals. Advertising by the pharmaceutical industry for the treatment of hyperkinesis was directed mainly to the medical profession although some promotional efforts targeted the educational sector (Conrad, 1976).

The relationship between the pharmaceutical industry, the medical profession and potential consumers of stimulant medication changed in April of 2001. According to Bailey (2004), pharmaceutical companies in the United States, breached a 30-year international marketing agreement and began direct-to-consumer advertising. Regulations established by the 1971 United Nations Convention prevented pharmaceutical companies from marketing controlled substances directly to consumers. However, representatives from the pharmaceutical industry maintained that direct-to-consumer marketing provided a public service by increasing awareness of ADHD and available treatment options (Diller, 2001). Advertisements specifically targeting parents of children with ADHD began to appear in television commercials, magazines and brochures ads (Thomas, 2001). The ads typically appeared in women’s magazines and featured the drug’s brand name,

toll free numbers, web address and mailing cards; consumers could now inquire and make requests with their family physician about treatment options for their children.

One brochure, created by Cell Tech pharmaceuticals, manufacturers of Metadate CD (Methylphenidate), features a picture of a smiling young boy and his mother. The mother is on her haunches and is adjusting the boy's school bag. The brochure reads, "Early to Rise" and upon opening the brochure completely, the same boy featured is on the inside cover smiling and holding a pencil and seated at a desk in a classroom. The caption reads, "And Shines All Day." On the lower left corner of the brochure is a cartoon image of a capsule separated into two halves. Small red and blue granules appear pouring out of the split capsule. The caption below this image reads: "Can be Sprinkled!" (Celltech, 2001). Ads for ADHD medication also appear on cable TV channels including Discovery and A&E.

Wazana (2000) conducted a study in the United States and Canada and concluded that more than \$11 billion a year is spent by pharmaceutical companies on promotion and marketing. Wazana (2000) maintains that physicians regularly rely on commercial rather than scientific sources of information about medication. According to Kennedy (1991), pharmaceutical companies spend between \$8,000 and \$13,000 per year on each physician. The perks include free samples of medication, industry paid meals, funding for travel or lodging to attend educational symposia, honoraria, research funding, and employment. The medical profession has largely given up its responsibility to educate medical students and doctors when it comes to prescription drugs. Drug companies now deliver most of the continuing medical education (CME), provided at medical conferences and meetings of professional associations (Angell, 2004). In Canada, this has

led some in the medical profession to call for the development of ethical guidelines to guide the behaviour of professionals in medical education programs and pharmaceutical companies (see Marlow, 2004; Davis, 2004)

Possibly as a result of extensive marketing efforts, pharmaceutical companies consistently post record profits. For example, in 2002 the top 10 pharmaceutical companies in the United States had a median profit margin of 17%, compared to only 3.1% for all other industries on the Fortune 500 list (Pattison & Warren, 2002). The median profit margin provides an indicator of profitability by calculating net earnings after taxes divided by revenues. In other words, Pharmaceutical companies had a median profit of 17%, which means half the pharmaceutical companies had a profit greater than 17% and the other half were below that percentage.

Angell (2004) contends that the top ten pharmaceutical companies show profits in excess of the remaining 490 companies on the fortune 500 list combined. The pharmaceutical industry is a highly profitable industry and, like most for-profit corporations, is motivated primarily by financial interests of investors and executives. Year after year, pharmaceutical companies enjoy higher profits than any other industry. This has led some to contend that drug companies increasingly promote diseases to fit the drugs, rather than the reverse (Angell, 2004).

The precise degree of influence of pharmaceutical companies on participants' beliefs about the use of medication to treat ADHD is beyond the scope of this study. However, when considering the extent of the influence of the pharmaceutical industry, it has the potential to influence many players in the diagnosis and treatment of students with ADHD, including the participants of this study.

Summary

This hermeneutic analysis may reveal the significant influence of historical conceptions of inattentive and hyperactive behaviours as both troublesome and a sign of underlying pathology. Likewise, the conceptual history of ADHD may indicate the high degree of significance afforded neurobiological explanations. Taken together these historical precedents may help to account for participants' beliefs that ADHD type behaviours pose considerable challenges for teachers, may be a sign of an underlying disorder that set students apart, and likely have a neurobiological basis.

ADHD is regularly portrayed in pop culture via television, motion pictures, music, books, the Internet, print media, children's literature and used frequently in everyday language. Typically, ADHD is portrayed as a biologically based disorder that requires treatment with medication. Furthermore, advocacy organizations like CHADD place political pressure on government bodies, popular media, researchers, and the general public to recognize ADHD as a neurobiological disorder to be treated with stimulant medication. Finally, the economic power of pharmaceutical companies provides substantial resources to influence the beliefs and practices of parents, teachers and medical professionals. By contextualizing ADHD within this historical, cultural, political, and economic atmosphere, participant beliefs become an extension of the socio-cultural backdrop that created them.

CHAPTER 5

FINDINGS AND DISCUSSION

In this chapter I present my three (3) research questions followed by a summary of the major findings from the study. Then, I discuss relationships between the findings and those of similar studies. Next, I address the educational implications and conclude with study limitations and future directions.

Three questions guided the collection and analysis of the data: (1) What are participant's beliefs about ADHD?; (2) How are their beliefs reflected in practice?; and (3) How might the larger social context contribute to the development of participants' beliefs?

Teacher Beliefs and Practice

A first major finding from this study was that participants believed ADHD was a neurobiological disorder. As well, they asserted that a diagnosis with ADHD set students apart from students without the condition. Participants believed ADHD had a negative influence on student behaviour and learning in the classroom. However, not all participants attributed students' classroom struggles to ADHD. For example, one participant attributed his student's academic struggles to lack of effort. Participants also expressed the belief that a diagnosis of ADHD meant challenging behaviour was non-volitional. Consequently, participants believed students diagnosed with ADHD were not "bad" kids. This belief was also reflected in practice, as participants were less likely to hold students with ADHD accountable for their behaviour. Lastly, six of seven participants expressed a desire to treat all of their students equally regardless of a diagnosis with ADHD. As a result, six of seven participants expressed a reluctance to

single students out for special treatment, which may be necessary when implementing educational interventions for ADHD.

Participants were unwilling to develop and implement educational interventions that involved changes to classroom management strategies, instruction, assessment, or curriculum content. One participant did enact a behaviour management strategy with the use of a behaviour rating home book. Importantly, this strategy was not part of a comprehensive plan. All participants employed accommodating strategies like preferential seating, referrals to school counselors, social development teachers and school psychologists. As well, participants relied on medication either explicitly or implicitly and cited its positive influences on students' behaviour. In this regard medication may have offered teachers an escape from the challenging behaviour of ADHD. Two participants completed the Conners' Rating Scale (CRS) for students with ADHD, and most provided regular verbal reports to parents and physicians, and frequently checked with students to determine their medication status.

Finally, participants identified several factors that may have made it difficult for them to address the needs of students diagnosed with ADHD in their classrooms. For example, participants felt the sheer number and variety of individual needs in their classrooms prevented them from developing educational interventions for students with ADHD. As well, three participants identified students' home lives as mediating factors possibly influencing the manifestation of ADHD. One participant identified lack of time, resources and the attitudes of colleagues as factors preventing him from developing educational interventions. At the same time, participants may have viewed medical

interventions as a means of helping students with ADHD to access greater resources and improve their behaviour in the classroom.

Teachers' Beliefs and the Larger Social Context

An analysis of the larger historical, cultural, political and economic context of ADHD yielded several predecessors to participants' expressed beliefs about ADHD. This analysis also revealed several political and economic pressures that may influence the development of participants' beliefs about ADHD. Early literary and clinical references to hyperactivity portray a troublesome disorder that is evidence of an underlying disease. Likewise, the conceptual history of ADHD points to a neurobiological disorder commonly treated with medication. Participants' beliefs may be similar to historical portrayals of ADHD as hyperactive, inattentive, and impulsive behaviours that are neurobiologically based. Participants also demonstrated beliefs and practices that affirmed medication as the best treatment for ADHD. As a way of understanding childhood behaviour, ADHD is spread throughout popular culture via several mediums including television, motion pictures, music, and children's literature. All references to ADHD in popular culture can contribute information needed to form beliefs about ADHD. Likewise, the political pressures of advocacy organizations like CHADD and the economic interests of pharmaceutical companies may also influence understandings of the condition.

Connections to Past Research

Several of the findings from the present study are in keeping with findings from Couture et al. (2003) and Arcia et al. (2000). For example, in the present study,

participants' beliefs are consistent with the allopathic medical beliefs expressed by Quebec and British teachers as outlined by Couture et al. (2003). People who adhere to this belief system view ADHD "as a biological problem with no conscious control from the individual" (Couture et al. p. 287). Furthermore, those who adhere to this belief system recommend medical treatments (Couture et al., 2003). However, participants did not adhere entirely to the allopathic perspective. For example, they did not appear to support the use of psychosocial therapy and firm discipline, two additional features of allopathic beliefs according to Couture et al. (2003).

Similar to the present study, participants in Arcia et al.'s (2000) study understood ADHD behaviours as non-volitional. As well, none of the teachers in their study had a fully coherent or systematic strategy for addressing students' needs. Similarly, six of seven participants in the current study relied mainly on medication to address students' needs. According to Arcia et al. (2000), "teachers did not seem to have a strong preference for those strategies that required a great deal of their time thus the frequent mention of interventions such as preferential seating, writing students' names on the board, and peer tutoring" (p. 97). Although participants in the present study did not typically write students names on the board, five participants did utilize preferential seating and three used peer tutors.

However, some findings in the current study are inconsistent with past research. For example, according to Arcia et al. (2000) only three of their participants attributed neurobiological or biological causes to ADHD. As well, Arcia et al. (2000) maintained most participants attributed students' difficulties to environmental causes. This was not the case in the present study where only three of the seven participants identified

environmental factors as playing a role in ADHD. In contrast with the teachers from the Arcia et al. (2000) study, from the perspectives of the three teachers in this study, the environment played a mediating and not a causal role in the manifestation of ADHD-type behaviours. Arcia et al. (2000) claimed that when causes are perceived to be outside the realm of education, teachers are less likely to try to address them (Arcia et al., 2000). In the same way, disorders conceived as neurobiological in origin may be perceived as lying outside of the realm of education.

Educational Implications

What follows are some of the implications of this study. Included are three emergent implications and their relevance to educational practice.

The Challenge and Responsibility of Understanding

The rise of the inclusive education movement—institutions where special needs students are to be given full access to and involvement in the daily life of the regular classroom—has now placed the teacher at the center of diagnosis and treatment of a growing number of learning and conduct disorders. Teachers are now expected to intervene on a wide range of educational differences. These differences may “not be either below the threshold of intervention or simply part of the human condition, but instead are now objective pathologies to be identified, categorized and normalized” (Tait, 2001, p. 93). Consequently, educators face the responsibility of remaining aware of the definitional standing of ADHD and its relevance for learning in the classroom. In this regard, it is important for teacher training and professional development to support teachers' changing roles.

Educational Interventions

Teachers require regular, to-date training relevant to ADHD, its diagnosis, and manifestation. The preservice curriculum for student teachers should include examples of effective educational interventions for students with ADHD. Furthermore, practicing teachers need regular updates as part of teacher in-service and professional development. Knowledge of viable educational interventions may prevent the likelihood of relying solely on medication when working with students with ADHD. Teachers also need training in order to understand the variety of questionnaires, and behaviour rating scales used to diagnose and monitor ADHD. Additionally, teachers need to be informed about issues surrounding the use of stimulant medication, its influence on behaviour, and likely side effects. This also includes introductory information about diagnostic scales, pharmacology of stimulants, and larger social and cultural issues relevant to ADHD and the use of medication.

Of course, these suggestions should be tempered with knowledge that educational interventions for students with ADHD can take considerable time and energy to develop and implement effectively. By their nature, educational interventions can be complex and time intensive (see Pfiffner & Barkley, 1990; Carlson, Pelham, Milich & Dixon, 1992; Fiore, Becker, & Nero, 1993; Purdie, Hattie, & Carroll, 2002). With large class sizes (e.g., 30 or more students per classroom) teachers require additional professional support to design and implement interventions for students with ADHD in a reliable and consistent manner (Arcia et al., 2000). In addition to support in the classroom, teachers can play a more central role in the development of school-based solutions.

Equity in the Decision-Making Process: Partners in Care

Classroom teachers typically spend significant amounts of time with their students, especially at the elementary level. As a result of this experience, they may have substantial knowledge about students' social and academic strengths and weaknesses. This knowledge is indispensable and can play an important role in developing a balanced intervention plan for students with ADHD. Verbal reports gathered from parents and teachers may be of equal importance to the numbers generated by the completion of questionnaires, and behaviour rating scales.

If teachers believe ADHD is neurobiologically based, they may be less inclined to make fundamental changes to their teaching practices. Recognizing a neurobiological basis may presuppose medical interventions designed to alleviate that condition. Furthermore, beliefs in a neurobiological basis may prevent efforts to address what could be complex causes of ADHD. For example, it is possible that students who "alleviate their problems with stimulant medication may be less likely to find deeper, more lasting solutions" (B. K. Alexander, personal communication, September 25, 2002). More specifically, when teachers rely on medication they too may be less likely to find deeper, more lasting solutions for students with ADHD. In the end, teachers may be reluctant to take ownership over interventions for disorders they believe are neurobiological in origin because such conditions are perceived to be beyond influence. It is also possible that beliefs in the neurobiological basis of ADHD may subordinate explanations that implicate social factors. Therefore, a diagnosis of ADHD may encourage teachers to overlook significant social challenges in students' lives.

For example, in the present study a diagnosis with ADHD and treatment with medication provided some recourse to address the behavioural challenges students faced

in school, but it might have diverted attention and resources away from addressing larger, more complex problems in students' lives. First, consider Ms. Collins and her observation that there may have been physical abuse in Amar's home. If such abuse was taking place it may have accounted for Amar's behaviour at school and was worthy of further investigation. However, such a possibility was given little consideration as a potential cause of Amar's troubling behaviour. Instead, participants may have relied on medication to address Amar's struggles at school and in so doing left the negative repercussions of an abusive home life largely unaddressed.

Kelly was another student who had a challenging childhood. As a foster child he traveled with his younger sister to many new homes. He also may have faced repercussions from his mother's inability to care for him and a lack of connection with his father (Student File). Factors such as these may have contributed to some of the troubling behaviours Kelly engaged in at school. For example, Kelly demonstrated a strong dependence on Ms. Thompson, a fear of being sent away, and repeatedly claimed that everyone hated him.

Finally, when Patrick engaged in troubling behaviours that coincided with the death of his grandmother and what he believed was the impending divorce of his parents, the two participants who worked with him identified the absence of medication as the likely cause of his inability to deal with these challenges and work effectively in school. In so doing, these participants may have underestimated the significance of three traumatic events in Patrick's life that might have accounted for his behaviour in school: (1) parental discord; (2) his grandmother's passing; and (3) moving to a new school. Each of these events appeared to be given little import as potential explanations for Patrick's

behaviour. Instead, diagnosis and treatment with medication was presented as the solution to his challenging behaviours. In this regard, participants may be more willing to support a common course of action that does not stray from established routines.

Reclaiming the Discourse

Social practices reflect the cultural horizon of their time and place, but also “unknowingly reproduce that landscape—the moral and political arrangements that frame and structure it” (Cushman, 1995, p. 279). The voice of medicine is deeply enmeshed in the field of education, such that in some cases it may prevent teachers from looking at ADHD from perspectives that permit educational interventions a more significant role in the process of change. This may happen for a variety of reasons. For teachers, greater efforts are necessary to reclaim the discourse and in so doing recognize the challenges students face from an educational perspective. This means taking ownership for the development and implementation of educational interventions for students with ADHD and recognizing that they too have a vital role to play in the lives of students with ADHD. More importantly, they may come to realize that efforts necessary to enable students with ADHD to succeed in the classroom are not the sole province of medicine.

Study Limitations

In the following section, I review and address the limitations of this study. I begin with some limits associated with determining participant beliefs and practices. Then, I turn to challenges inherent to the use of semi-structured interviews. Next, I discuss weaknesses that may result from researcher bias and document analysis. I conclude by

addressing some concerns over the low number of high school participant interviews and observations.

Participants did not report an exhaustive list of all their beliefs about ADHD, nor could I document all of their classroom practices during observations. In other words, it is possible that despite member checks, triangulation and thorough discussions about ADHD that I did not capture all participants' beliefs and practices. To accomplish this, it may be necessary to conduct long-term classroom observations over greater periods of time. In addition, a succession of interviews over an equally long period may be necessary to provide a more thorough understanding of participants' beliefs.

The use of semi-structured interviews also presented some limitations. Participant responses to unstructured questions and topics may not allow for direct comparisons. A possible solution is to use highly structured, standardized interviews to address this weakness. The comparison of responses from highly structured, standardized interviews can increase the validity of the data (Anderson & Burns, 1989; Cohen & Manion, 1989). However, the open-ended nature afforded by a semi-structured format allows interviews to take on a conversational nature. This may be more conducive to exploration of the ideas that do emerge. This benefit may have been missed had I used a highly structured, standardized interview format. Research that incorporates a semi-structured format and highly structured, standardized interviews may prove highly informative in future research.

As a researcher, I may have interjected biases into the observation notes or unintentionally misinterpreted events. In both situations, observation notes may reflect what I *thought* occurred rather than what actually *did* occur. This being said, directly

observing and noting events as they occurred was desirable because it allowed for verification of data that had been obtained from interviews, and document analysis. For example, each of the student files contained IEP's. Were teachers incorporating the recommendations outlined in the IEP in their classrooms? I did not have to rely solely on teachers' interview responses, as I could compare this data with data gathered from observations and document analysis. As well, being hermeneutically informed suggests that efforts to be "objective" may be distorting moves in themselves.

Additionally, misinterpretation of the data was minimized because participants were invited to comment on sections of the observation notes as part of the interview process. Likewise, all of the interview transcripts were passed onto each of the participants for their review to ensure accuracy. The employment of multiple observers may have helped to overcome the intrinsic bias that can come from single-methods, single observer studies (Denzin, 1989).

My presence in the classroom may have had an influence on the interactions that transpired between teachers and students. It is possible that each of the participants changed their behaviours in my presence. This may have influenced my interpretation of their beliefs. For example, they may have behaved differently because they felt they were under additional scrutiny that can come from having an additional person observing in the classroom. As a result, they may have felt the need to respond in a particular way. However, it is unlikely that participants could have maintained this façade over several months, especially in response to the variety of unique and spontaneous events that transpired during classroom observations.

Available documents used in document analysis may not represent the range of data that existed. This lack of representation may have resulted from the unintended loss of certain documents or from a biased selection of available documents. For example, it is possible that information about the implementation of IEPs as well as changes to course content, teaching strategies or learning outcomes were not part of the official documents. A second weakness is that to gain a thorough understanding of documents often requires verification or explanation of their contents. The Conner's Rating Scale provides one example as interpretation of the findings and recommendations required some expertise to understand. In this situation, I sought out supporting materials and experts in the field of child psychology to aid my analysis of this diagnostic instrument.

A final limitation of this study may have developed as a result of methods used to document the beliefs of high school participants. I conducted two classroom observations and two interviews of each high school participant. Additional data may have enabled a more detailed description of participant beliefs. However, when Patrick changed schools several practical challenges developed in seeking new participants and gaining consent for research at a new school site. The break in continuity may have limited the depth of analysis otherwise gained by focusing on one high school participant. In the following section, I list some future directions for research in the area of teachers' beliefs about ADHD.

Future Directions

The results of this study provide a preliminary look at teachers' beliefs about ADHD and their influence on classroom practice. Significant numbers of students continue to be diagnosed with ADHD each year. As such, additional research is

necessary to determine the viability of classroom based educational interventions. By classroom based educational interventions I am referring to unique interventions developed and implemented for students with ADHD whereby teachers take into account individual student needs. According to Purdie, Hattie, and Carroll (2002), drug interventions have a significantly greater effect on behavioural rather than educational outcomes. Furthermore, there is little support for what researchers have called “flow over effects”—the notion that reductions in behaviour problems lead to improvements in educational outcomes (Purdie et al., 2002). Continued research in this area may help to identify effective interventions designed to improve academic outcomes.

Furthermore, researchers in this area may need to focus on systemic features of the educational setting that prevent the development of classroom based educational interventions for ADHD. For example, school policy (i.e., class size), availability and cost of resources (i.e., support staff), preservice training and professional development opportunities may all influence the quality and availability of educational interventions for students with ADHD. Likewise, from an organizational and structural perspective, differences between elementary and high school may provide researchers with areas worthy of study. For example, variables such as student teacher relations, time spent with students, and the nature of course content may present significant challenges for students with ADHD. Longitudinal research designed to identify effective educational interventions may provide further insight into the influence of teacher beliefs on practice. In this regard, research that documents the development and implementation of curriculum specifically for students with ADHD may provide alternatives to teacher supported interventions that rely solely on the use of stimulant medication.

Direct classroom observations by multiple observers, and use of highly structured, standardized interview and survey formats may provide access to larger samples of teachers. This in turn will allow for the comparison and analysis of teacher beliefs across different geographical regions, and between different types of teachers (i.e., classroom teachers versus special education teachers). As well, surveys of existing teacher education program curricula may identify areas in need of change or revision. In this way, the research literature on teachers' beliefs and practice may inform preservice and professional development program reform. In this regard, education and training efforts for new and experienced teachers may reflect the changing roles and responsibilities of classroom teachers.

The above research suggestions may provide further insight into the influence of teachers' beliefs on practice. The findings may also help to determine what educational interventions work best in the classroom for students with ADHD. Additionally, the suggested research may help to identify systemic features of the education system that prevent the development of classroom based educational interventions and provide guidance to those responsible for the development of preservice teacher curriculum and professional development. In the end, educators may be able to offer long term, sustainable classroom based educational interventions for students who display the excessively hyperactive, inattentive, and impulsive behaviours characteristic of Attention Deficit Hyperactivity Disorder.

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Appendix A: Information Sheet for Teachers

Study on Attention Deficit Hyperactivity Disorder (ADHD)

Rationale

To date there is very little research in the field of education on teacher's conceptions of ADHD. Much of the research that is available has relied on survey data as a means of uncovering teacher attitudes, beliefs and knowledge about ADHD. While such research may provide us with an initial understanding of teachers' conceptions of ADHD, it has serious limitations. Interviews and observations are needed to more deeply probe teachers' perspectives and beliefs. In order to respond to these limitations this study will utilize a qualitative case study approach to provide further insight into the complexity of teachers' conceptions of ADHD

Purpose

The purposes of this study are to describe how three teachers understand the concept of ADHD (their beliefs, their attitudes, their thoughts and their practices) and to place their understandings within the larger social context. What takes place in the classroom may reflect teachers' conceptions of ADHD, as a result I will gather data about the day-to-day life of the classroom.

Data Collection

Much of the data will be derived from interviews with teachers. Approximately seven one-hour interviews will take place over the course of the nine-month period. During this research period scheduled classroom observations will also be made. These observations will focus on teacher-student interactions. Follow-up interviews will be used to further clarify teachers' perceptions of what the classroom observations revealed. I will audiotape and transcribe all of the interviews and look for common themes. I will have each of the teachers review the transcriptions to verify their accuracy. When in the classroom I will act as a non-participant observer, which means I will sit quietly in one area of the room and document some of what transpires between teacher and student. I will take great care to ensure that the student with ADHD does not feel singled out, nor is aware that I am observing them.

Contact Information

If you currently have a student diagnosed with ADHD in your classroom and are interested in participating in this study please contact Michael Foy by telephone at 604-594-6999 or by email at mfoy@sfu.ca. Thank you in advance for your interest in this important research.

Appendix B: Informed Consent for Parents/Guardians and Student

Simon Fraser University and Michael Foy subscribe to the ethical conduct of research and to the protection at all times of the interests, comfort, and safety of our participants. This form and the information it contains are provided to insure that you have a full understanding of the procedures involved in this study. Your signature on this form will signify that you have received a document describing these procedures, that you have received an opportunity to consider the information in the document, and that you voluntarily agree to allow the child named below to participate in this study.

The purpose of this study is to describe how three teachers understand the concept of ADHD and to situate their understandings within the larger social context. As part of this process I would like to observe your child in the classroom over a five-month period and review your child's school file and other records you may have documenting his/her diagnosis with ADHD.

All information collected for this study will be kept confidential and reports, publications, and/or professional presentations about the research will not identify individuals, place names, or events. Only my advisor and myself will have access to the raw data, which will be maintained in a secure location.

Thank you in advance for your cooperation and support.

Michael Foy
Graduate Student
Faculty of Education
Simon Fraser University
8888 University Dr.
Burnaby, B.C.
V5A-1S6
(604)-594-7150

I understand the procedures to be used in Michael Foy's study of Attention Deficit Hyperactivity Disorder. Further, I understand that I may withdraw my child from participation in the study at any time.

Name of Parent, Guardian or other (Please print):

Who is the (relationship to child) (Please print):

of

First name of child (Please print):

Last name of child (Please print):

at (name of school where study will be carried out):

I certify that I understand the procedures to be used and they have been fully explained to:

Name of child (Please print):

and the subject knows that myself, or he or she (child's name) has the right to withdraw from the project at any time, and that any complaints about the experiment may be brought to Michael Foy at (604)-594-6999 or to Dr. Ian Andrews, Dean of the Faculty of Education at Simon Fraser University at (604)-291-3148, 8888 University Way, Simon Fraser University, Burnaby British Columbia, V5A-1S6, Canada. I may obtain copies of the results of this study, upon its completion by contacting Michael Foy.

Last name of Parent of guardian: First name of parent of guardian:

Child's Signature

Witness if required

Date mm/dd/yy

Appendix C: Informed Consent Form for Teachers

Simon Fraser University and Michael Foy subscribe to the ethical conduct of research and to the protection at all times of the interests, comfort, and safety of our participants. This form and the information it contains are provided to insure that you have a full understanding of the procedures involved in this study. Your signature on this form will signify that you have received a document describing these procedures, that you have received an opportunity to consider the information in the document, and that you voluntarily agree to participate in this study.

The purpose of this study is to describe how three teachers understand the concept of ADHD and to then situate this understanding within the larger social context. As part of this study I would like to conduct a series of interviews with you over the next five months. In addition, I would like to observe life in your classroom to provide a further understanding of your beliefs about ADHD.

With your permission I would like to audiotape the interviews so that I may examine the information more carefully at later date. All names and other identifying information will be removed when the tapes are transcribed. I will review the content of each interview to ensure its accuracy. Only my advisor and myself will have access to the raw data, which will be maintained in a secure location. All audiotapes will be erased within a year after the publication of the results of the research.

All information collected for this study will be kept confidential and reports, publications, and/or professional presentations about the research will not identify individuals, place names, or events.

Your participation in this research is completely voluntary and you may withdraw at any time. You may also decline to participate. At any time during this research should you have questions or concerns about the procedures, please call Michael Foy at (604)-594-6999. If you feel your rights as a research participant have been violated you may contact Dr. Ian Andrews, Dean of the Faculty of Education at Simon Fraser University at (604)-291-3148.

Thank you in advance for your cooperation and support.

Michael Foy
Graduate Student
Faculty of Education
Simon Fraser University
8888 University Dr.
Burnaby, B.C.
V5A-1S6

(604)-594-7150

Having been asked to participate in a research project I certify that I read the procedures specified in the Teacher Information Document, describing the research project. I understand the procedures to be used in this experiment and the personal risks, and benefits to me in taking part in the project.

I understand that all information collected from me in this study is completely confidential and will only be used for research purposes.

I understand that upon request Michael Foy will provide me with the results of this study once it has been completed.

I consent to engage in the research procedures described in this form.

Your Last Name (Please print):

Your First Name (Please print):

Address (Please print):

Signature X: _____

Date: _____

Thank you.

Appendix D: Teacher Interview Guide

Interview Overview

As part of the interview process I would like to have you talk about several different things. In general, I am hoping that we can cover these topics over the course of our meetings. Some of the topics I would like you to talk about are:

- What has been your experience with students with ADHD?
- What are some of your beliefs regarding ADHD?
- Describe the children in your class who have been diagnosed with ADHD?
- Describe some of the teaching strategies that you use when working with students diagnosed with ADHD.
- Where have you looked for information about ADHD? Conferences, school library, other?

Experience with ADHD as a Teacher

- First, I would like to find out what your experience as a teacher has been with ADHD?
- Have you had any specific teacher training for ADHD?
- Have you worked with students diagnosed with ADHD in the past? How would you describe that experience?
- If you were to describe ADHD to a new student teacher who is unfamiliar with the disorder, how would you describe it? Not the student, but the disorder.
- Tell me, what implications does ADHD have for your teaching practice?
- What changes do you make in your classroom when faced with the knowledge that you are working with a student with ADHD

Understanding of ADHD

- In the past can you describe what you did when you found out you would be working with a student diagnosed with ADHD?
- At the beginning of the year what did you do when you found out that a student with ADHD would be in your classroom?
- Did you try to find out more about the disorder? If so where did you look for information? What do you believe about what you have read, heard, or viewed?
- What do you believe causes ADHD?
- In your own words tell me what ADHD means to you.
- What do you accept as true about the disorder?
- Does ADHD fall somewhere on a continuum of normal behavior?
- Tell me what you would count as proof that someone has the disorder?
- Based on your experience do you think that ADHD is a learning disorder?
- Based on your experience do you think that ADHD is a behavior disorder?

Involvement with ADHD students

- Would you describe X for me?
- Describe some of the things that you say and do with X.
- What is your role in the classroom?
- If you could create the ideal classroom for X what would it look like?
- What sorts of things would you do for him? What would you change? What would you do the same? If I were to spend a day in X's classroom what sorts of things would I see? What sorts of skills do you hope to develop in X? What do you think will really help X in light of this condition?
- Do you believe that what you do in the classroom can help X? Tell me about his work, how do you evaluate his work? Do you speak to him differently than other students? Do you modify his work in any way? Walk me through your involvement with (student's name).
- What about one on one situations? Are they different for you? Do you work differently with the student diagnosed with ADHD in these situations.

Background of Interviewee (end of the interview)

- I would like you to tell me about yourself (years of teaching, education, your teaching experience, etc.)

Appendix E: Ms. Thompson's Behaviour Rating Home Book

Name: _____

Date: _____

5=excellent

4=very good

3=average

2=fair

1=poor

	5	4	3	2	1
Following Directions					
Cooperative & Respectful					
On Task					

Goal: _____					

Teacher Comments

Teacher Signature: _____

Parent Comments

Parent Signature: _____

Figure 1
Research Questions, Methodology and Data

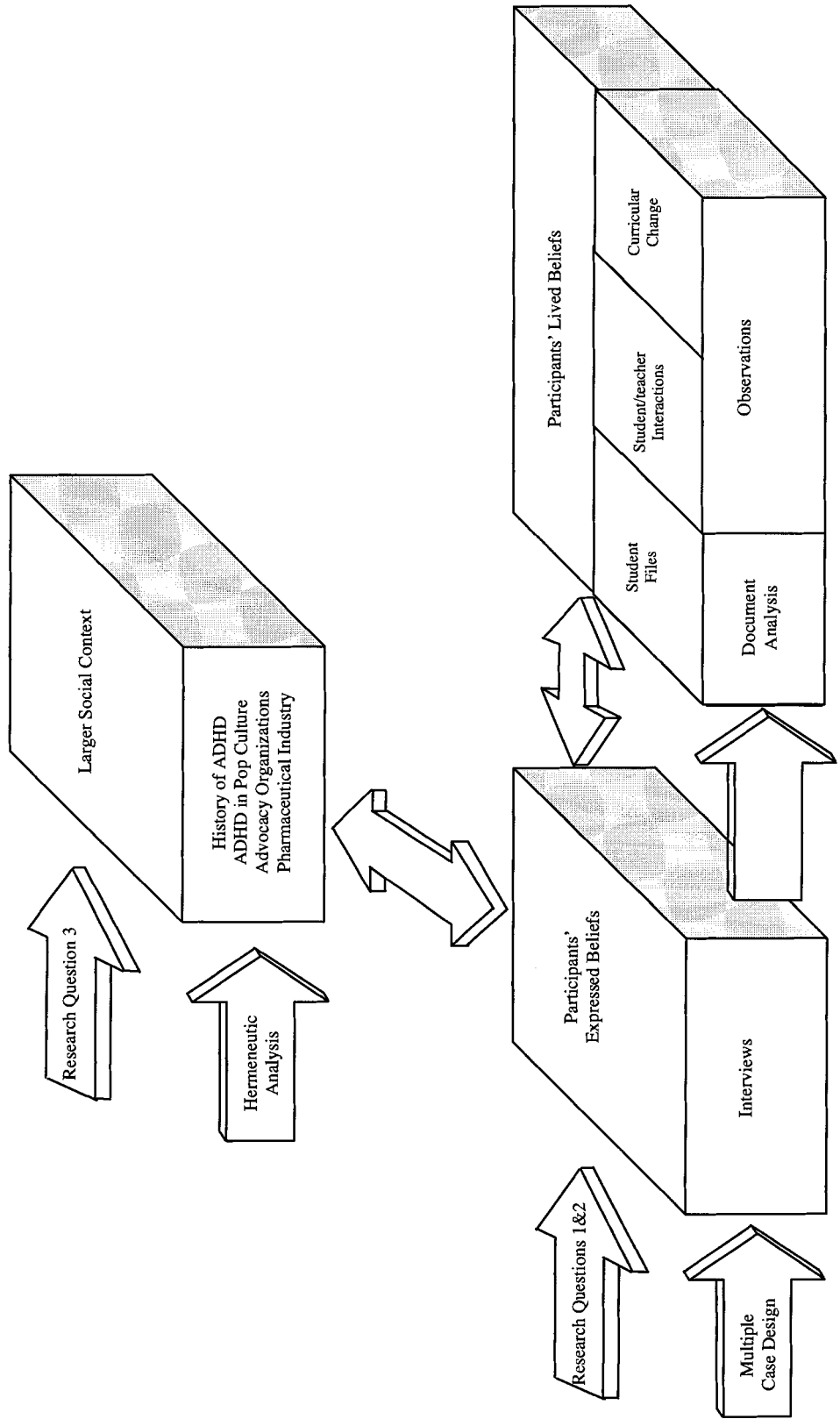
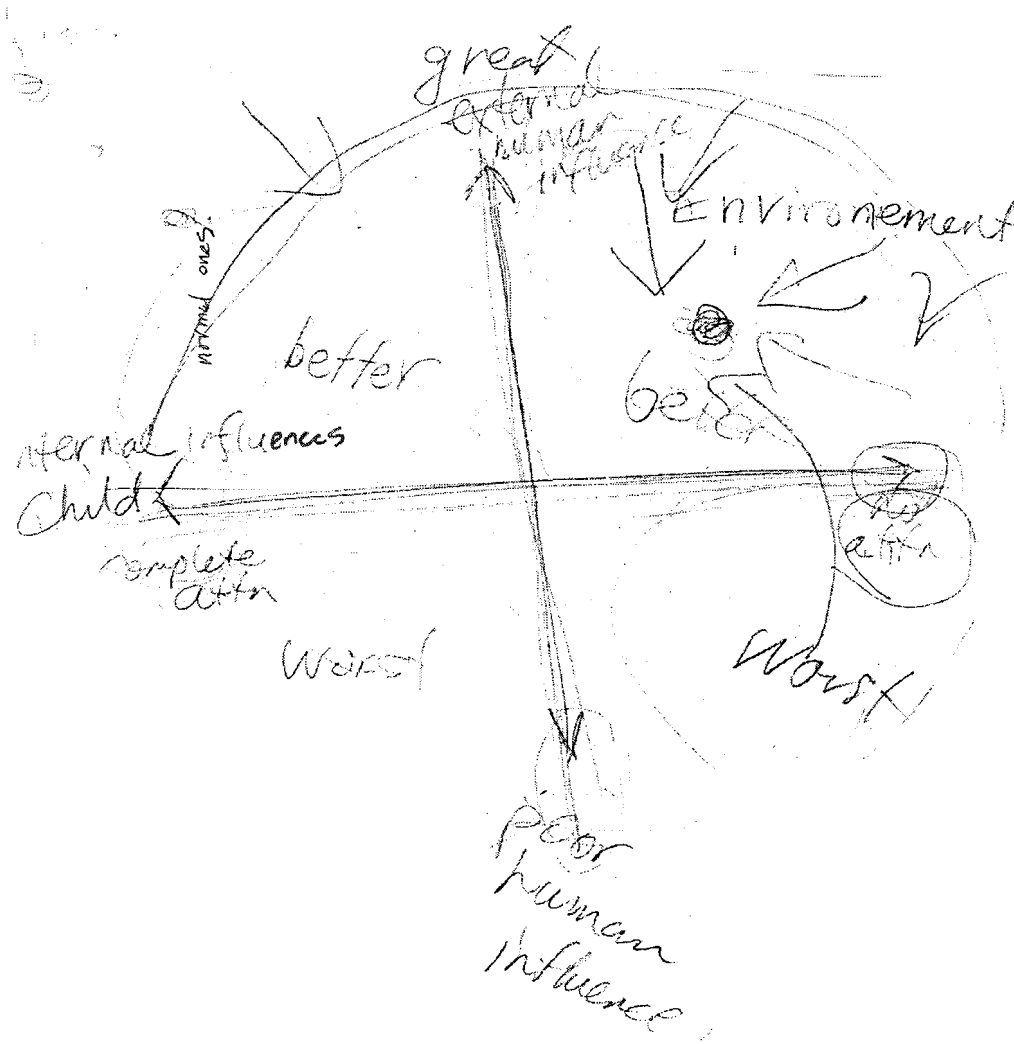


Figure 2
Ms. Charleston's Sketch of Causal Factors for ADHD



TABLES

Table 1
Participants their Students and Schools

<i>Teacher</i>	<i>Student</i>	<i>School</i>
Ms. Charleston Ms. Collins	Amar	Nicholson Elementary
Ms. Thompson	Kelly	Nicholson Elementary
Mr. Atwal	^a Patrick	Altec High School
Ms. Gallagher Ms. Johnson Ms. Baker	^a Patrick	Carlton High School

Note. All names used in this study are pseudonyms.

^aThis student changed schools part way through the school year.

Table 2
Informal Interactions Between Teacher and Student

Table

Type of Interaction between Teacher and Student

	D-RD	D	MS	P	A/Q	+ve/-ve	NA	Total
Ms. Charleston	53	5	7	8	36	25	3	137
Ms. Collins	63	2	6	5	31	2	7	116
Ms. Thompson	72	9	2	9	27	26	2	145
Mr. Atwal	4	∅	1	∅	8	2	1	16
Ms. Gallagher	14	5	∅	∅	7	3	∅	29
Ms. Johnson	13	2	∅	1	16	∅	∅	31
Ms. Baker	10	3	1	1	13	4	∅	32

D-RD Directs-redirects. Teacher gives direction or redirects student. For example, what he or she should be working on, what to do next, makes suggestion about written work, or otherwise gives direction that student is expected to follow in order to complete some type of activity.

C Conference. Teacher meets with small group of students, including student with ADHD

D Discussion. Student and teacher engage in a discussion with several questions asked and answered over the course of the discussion.

MS Move student. Student is moved to a new location.

P Proximity. Teacher stands close to student, in order to offer assistance, or to monitor behavior.

A/Q Question and answer. Teacher asks student a question or answers question posed by student.

+ve/-ve positive or negative appraisals. Teacher praises student work or alternatively suggests change

NA- No observed action.
