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LOYOLA UNIVERSITY CHICAGO

AN EXPLORATORY STUDY OF THE MEANING OF PRESCRIPTION MEDICATION TO CHILDREN DIAGNOSED WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER

A DISSERTATION SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL IN CANDIDACY FOR THE DEGREE OF DOCTOR OF SOCIAL WORK

DEPARTMENT OF SOCIAL WORK

BY

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CHICAGO, ILLINOIS
MAY, 1997
Abstract

This qualitative study explored the question: "What is the meaning of being medicated for Attention Deficit Hyperactivity Disorder to children receiving stimulants or other medication for this condition?"

Twenty children diagnosed with ADHD, who were being treated with medication, served as subjects. Children were interviewed individually, using a semi-structured questionnaire. Two main areas which the interview questions probed were (1) the effects of the medication experience on children's self-narratives and sense of self-competence, and (2) children's perception of the effect of their receiving medication on the response of peers and adults to them, with regard to meeting or frustrating their needs for affirmation, security, and to feel a sense of alikeness with peers.

Results indicated that the majority of respondents experienced an increased ability in academic performance and/or social functioning on the medication which controlled inattention, impulsivity, and hyperactivity. Perceived efficacy of the medication tended to lessen over time. Positive effects of increased ability on children's self-narratives and sense of self-competence tended to be reduced or counteracted by anxiety related to perceived dependence on medication for adequate academic or social functioning.

When on medication, some respondents experienced improvement in interactions with peers and adults, in that adults responded to them with fewer sanctions and more affirmation, and peer acceptance of them increased. On the other hand, objections to being medicated on the part of several respondents resulted in increased conflict with authority figures. Moreover, perception of stigma attached to the circumstance of being
medicated, and acute feelings of being different from peers because of needing medication, impacted peer relationships negatively.

Findings further revealed a strong desire for self-reliance, which may account for the inverse relationship found between perceived dependence on medication and positive acceptance of medication. Anxiety related to perceptions of dependence on medication tended to increase with time. Also, expectation that time on medication would be limited was associated with better acceptance of medication. Interventions for fostering children's sense of agency and for combating feelings of dependence on medication are suggested. The importance of academic and behavioral interventions in treatment is strongly stressed.
Acknowledgments.

My interest in ADHD and its treatment originated in the context of my work as a school social worker in a school district where children diagnosed with the disorder are the focus of consistent attention and therapeutic intervention. Many people were instrumental in developing and channeling this interest and in enabling the accomplishment of this research endeavor to which it ultimately lead. I am pleased to acknowledge their contribution.

First, I would like to thank the members of my dissertation committee: Dr. Alan Levy, who chaired the committee, for his able, scholarly, and constructive direction, and for many interesting and instructive times spent in consultation with him; Dr. Carolyn Saari, for her stimulating and inspiring teaching which contributed so significantly to my understanding of clinical theory, and for her welcome and creative suggestions which helped shape the course of this study; and Dr. Steven Miller, for sharing with me his impressive knowledge of qualitative research, and for his insightful, extremely helpful, and timely feedback during the analysis stage, which greatly influenced the quality of the research and expedited its completion.

I am much indebted to Dr. Kathryn Tyson whose excellent advice and recommendations early on, helped me to demarcate an area of study and formulate a research question.

The support of the Superintendent, administration, special education staff, and teachers of the schools in which I work went a very long way in making a potentially daunting and frustrating enterprise more readily achievable and even pleasant. I am very grateful for their helpfulness, flexibility, and encouragement. I especially want to
acknowledge Catherine Ilic Sieling, whose concern for children and unfailing efforts on their behalf have always impressed me, and whose lively and ever-active interest in ADHD initially sparked my curiosity and prompted my investigation of this topic. I would also like to thank Donna Getz, Holly Hoheisel-Petrelli, and Carol Palter, whose willingness to listen, reassurance, and good humor often provided the necessary motivation to see this venture through.

Without the indulgence and endurance of my family I could never have juggled the demands of my job, home, and studies, and finished this work. I thank my husband, Graham, for staying this course with me, for many hours of invaluable assistance, and for the benefit of his considerable computer skills; and my children, Melissa (who ably transcribed the interviews), Elaine, and Andrew, for their optimistic and enthusiastic support.

Finally, I would like to express my sincere appreciation to the parents of the participants in the study for the pleasure and privilege of learning so extensively from their children. To the children whose willingness to share their thoughts, feelings, and experiences with me made the entire enterprise possible and worthwhile, I dedicate this dissertation.
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Chapter 1

Introduction.

Attention Deficit Disorder has become one of the most commonly diagnosed childhood disorders in the United States (Reid et al, 1994). It is estimated that between 3% and 6% of the school-age population are currently diagnosed with this disorder (APA, 1994; Swanson et al, 1995).

The three essential features of ADHD are inattention, hyperactivity, and impulsivity. Behaviors resulting from the disorder make children with ADHD difficult to manage in the home, and this places considerable strain on parents. This probably accounts for the fact that Attention Deficit Disorder is also the disorder for which children are most frequently referred to child psychiatry clinics (Alston and Romney, 1992). In a school situation, which requires sustained attention and confines children to their desks for considerable periods of time, the difficulties of children with ADHD become more pronounced. Therefore the disorder is usually diagnosed in the elementary school years (APA, 1994). Predictably, controlling and teaching these children effectively, taxes the skills and patience of teachers. Consequently, children with ADHD are increasingly beginning to swell the caseloads of clinicians within the school, such as school psychologists and school social workers.

The principal treatment for ADHD is psychostimulant medication. It is estimated that 80% to 90% of children diagnosed with ADHD have been treated with stimulants at some time (Carlson and Bunner, 1993). Moreover, the use of stimulants to control the symptoms of ADHD has increased steadily over the past two decades. Wilens and Biederman (1992) estimate that since 1971 their use has doubled every four to seven years.
The disorder and its treatment with stimulants have become the focus of a great deal of research. Studies on the subject accessible on computer through Psyc Lit, Psyc Info, and Medline number in the thousands. However, a search of the literature revealed that, despite the burgeoning literature on ADHD, the perspective of children with ADHD is vastly understudied. Studies in which children themselves are questioned regarding their experience of the disorder or being medicated for its symptoms, are few and far between. Moreover, diagnosis of the disorder and prescription of stimulants for its treatment are made on the basis of reports of adults, both parents and teachers (Riccio et al, 1993; Searight et al, 1995; Stoner et al, 1994) and only minimally, if at all, by consulting the children concerned. Again, reliance is on adult input when the efficacy of the medication in alleviating symptoms is evaluated, and not on the reported experience of the child.

A significant gap in our knowledge regarding children medicated for ADHD is evident here. Efforts at parenting, educating, and clinically treating these children are insufficiently informed and likely to be less effective if the child's experience and point of view are left out of account. Moreover, the problem for which medication is prescribed in the case of children with ADHD is peculiar. Children generally associate medication with the relieving of physical pain or curing of an illness, not with behavioral control or academic performance. It is therefore difficult to speculate about their perception of a medication prescribed to control their behavior or improve their ability to concentrate and comply with directions in class. Furthermore, the influence of needing a pill in order to behave acceptably or achieve academically on children's perceptions of themselves, invites consideration and serious investigation.

This study was undertaken in an effort to focus on an area largely neglected in the research on ADHD and its treatment, namely the perspective and experience of children medicated for ADHD. Its purpose was to investigate the meaning which children who receive medication to alleviate the symptoms of ADHD might attach to such medication.
It was exploratory in nature, attempting to elicit various meanings children may draw from the experience of having to take medication in order to improve their functioning from day to day.

Interviewing these children and providing them the opportunity of being heard, revealed the relevance and importance of such research in understanding this population. Children held strong opinions regarding their experience of being medicated for ADHD, and demonstrated a great willingness and eagerness to express them. Yet they also reported great reluctance to discuss their disorder and the medication openly with peers and adults, for fear of being perceived negatively or forfeiting peer acceptance.

Indeed, findings of this the study indicated that children do not accept medication in order to function more adequately without reservation. A strong desire for self-reliance on the part of respondents was evident. Perceived dependence on the medication, or fear of such dependence, emerged as an important factor mitigating against positive acceptance of the medication and willing compliance with the medication regimen. Moreover, indications were that anxieties related to such perceived dependence tend to intensify as the time children spend on medication increases. The study thus demonstrated the need for interventions to counteract or prevent too strong a sense of dependence on medication on the part of children medicated for ADHD, and the importance of stressing and developing children's own talents and competencies.

The study showed that children's attitudes to medication prescribed for ADHD were governed significantly by the meanings with which they endowed the medication experience, and such meanings were varied. Insight into such meanings gleaned from the findings afforded greater cognizance of the needs of these children and the difficulties the medication experience presents for them. Such knowledge is clearly of import to parents, teachers, clinicians, and others who interact with these children in a helping capacity.
Chapter 2
Review of the Literature

This chapter provides a review of the literature on ADHD pertaining to the following topics: Characteristics of the disorder; etiology; associated features; course of the disorder; stimulant medication and its effects on symptoms, academics, and social experience; and compliance with medication. A review of relevant studies in the area of children's attitudes to medication for ADHD is then presented. This is followed by a discussion of theories which guided the research.

Characteristics

Over the years the disorder has been called by many names, depending on the symptoms or etiology most focused upon at the time. Included in this nomenclature were minimal brain dysfunction, hyperactivity, hyperkinesis, and attention deficit disorder. The current term for the disorder, as employed in the DSM IV, is Attention-Deficit /Hyperactivity Disorder (ADHD).

The three essential features of ADHD are inattention, hyperactivity, and impulsivity. According to the DSM IV, for such symptoms to constitute ADHD, they must be more severe and frequent than is typically observed to be age appropriate, and must have been present before the age of seven years.

It is further noted that whereas most individuals experience symptoms of both inattention and hyperactivity-impulsivity, one or the other pattern may predominate in some cases. Therefore, three subtypes of the disorder are specified:

ADHD, Combined Type, where six or more symptoms of inattention, and six or more symptoms of hyperactivity-impulsivity have persisted for at least six months.
ADHD, Predominantly Inattentive Type, where six or more symptoms of inattention, but fewer than six symptoms of hyperactivity-impulsivity, have persisted for more than six months.

ADHD, Predominantly Hyperactive-Impulsive Type, where six or more symptoms of hyperactivity-impulsivity, but fewer than six symptoms of inattention, have persisted for at least six months.

According to the DSM IV the diagnostic criteria for ADHD are as follows:

A. Either (1) or (2):

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

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

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

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

**Impulsivity:**

(g) often blurts out answers before the questions have been completed
(h) often has difficulty awaiting turn
(i) often interrupts or intrudes on others (e.g., butts into conversations or games)

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

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

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

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

**Etiology.**

The causes of ADHD have not been definitely established. The majority of researchers in the area appear to support some physiological etiology, rather than a purely psychosocial cause such as inadequate parenting. The current consensus seems to be that ADHD may have several causes (Anastoupolos et al, 1994; Aust, 1994). Nevertheless, the disorder remains insufficiently understood and assertions that it is organic in nature are still speculative (Jacobvitz et al, 1990; Reid et al, 1994).

Suggested causes for the disorder have been varied. Originally, in the 1940's, it was suspected that the symptoms now associated with ADHD were due to brain damage (Stevenson and Wolraich, 1989). In the absence of demonstrable evidence of brain injury in the majority of children exhibiting the symptoms, the idea was discarded, and other etiologies of an organic or physical nature were proposed. Beliefs prevalent in the past that the disorder may be caused by food additives or excess sugar in the diet,
elevated levels of lead in the blood, allergies, maternal smoking during pregnancy, or low birth weight, are not sufficiently supported by research evidence to be conclusive in any way (Barkley, 1990, 1991; Hynd et al, 1991). Research may lend some support for an inherited predisposition to ADHD. Parents of children with ADHD are four times as likely to have a family history of ADHD symptoms than parents of normal children (Cantwell, 1972). First degree relatives of children with ADHD have a significantly increased incidence of ADHD (Biederman et al, 1990). A study on twins showed that monozygotic twins were more alike than same sex dizygotic pairs on objective measures of attentiveness and on parent and teacher ratings of hyperactivity (Goodman and Stevenson, 1989). Moreover, Morrison and Stewart (1973) showed that adoptive relatives of children with ADHD are less likely to have ADHD or associated disorders than biological relatives of such children. Also biological relatives of ADHD children perform worse on standardized measures of attention than do adoptive relatives of ADHD children (Alberts-Corush et al, 1986).

However, a definitive mode of inheritance, or a chromosomal marker for the disorder has not been established (Hechtman, 1994; Hynd et al, 1991; Tyson, 1991) and the uncertainty of diagnosis associated with ADHD makes such a task difficult (Pauls, 1991). Hechtman (1994) offers the following perspective on genetics and ADHD: "If the complete genetic make-up of an individual could be determined and our diagnostic assessments were certain, only a portion of an individual's future children's ADHD can be predicted genetically. The remainder may be accounted for by "environmental" factors such as events during pregnancy, delivery, diet, toxins, temperament, and parenting styles."

Many researchers endorse the theory of a neurological basis for ADHD (Aust, 1994; Hynd et al, 1991; Weiss, 1990). Two studies are frequently referenced as seminal in providing support for this position. Zametkin et al (1990) found lowered glucose metabolism in the brains of adults with retrospective histories of childhood hyperactivity,
and who met Utah standards for adult ADHD, and Lou et al (1989) found decreased blood flow to the striatum and pre-frontal regions of the brains of children with ADHD. However, neither study has gone unchallenged. For instance, the Zametkin study is criticized on the grounds that the experimental group and the control group (which consisted of adults of similar age, sex, and IQ) did not differ significantly on the very measure of attention employed in the study, namely the continuous performance test (CPT). Also, the study did not address whether the differences in glucose metabolism rates were a cause or an effect of attention problems (Reid et al, 1994; Tyson, 1991). Moreover, the diagnosis of the subjects was based on retrospective reports, which also compromises the validity of the study (Hechtman, 1994). With regard to the study on cerebral blood flow, Tyson (1991) points out that the experimental sample consisted not only of hyperactive children, but of children with multiple diagnoses. Furthermore, by the authors' own admission, decreased regional cerebral blood flow is not a measure of brain function. Thus, conclusions of both studies must be considered to be speculative.

Another neurological explanation for ADHD is a deficiency in catecholamines, the neurotransmitters which control the attentional system. The fact that children exhibiting the symptomatology of the disorder respond positively to stimulant medication suggests that neurotransmitters may play a role in its etiology (Searight et al, 1995). Hechtman (1994) concludes that research suggests that neurotransmitters such as norepinephrine, dopamine, and serotonin contribute to the condition, but that no one neurotransmitter adequately explains ADHD. She speculates that it is more likely that the condition results from an interaction of different neurotransmitters. To date, however, conclusive evidence that neurotransmitters contribute to the disorder has not been demonstrated (Stevenson and Wolraich, 1989; Barkley, 1991). Searight et al (1995, P272) refer to investigations into the contribution of frontal lobe dysfunction and neurotransmitters to the etiology of ADHD as "potentially profitable lines of
"investigation", which suggests that such suppositions may hold promise, but research is as yet inconclusive.

At the present time, then, no neurological or biochemical marker for ADHD has been found (Jacobvitz et al, 1990; Hynd et al, 1991; Swanson et al, 1995) but, as indicated, many researchers endorse an organic etiology. The contribution of environmental factors to the symptomatology of the disorder, however, cannot be discounted. A study by Biederman et al (1995) found a positive association between Rutter's Indicators of Adversity and the risk for ADHD, and the authors stress the importance of adverse family environment variables as risk factors in ADHD.

No testing procedure currently exists that can confirm or rule out the diagnosis of ADHD (Klein, 1992). Diagnosis must of necessity be made on the basis of behavioral observation (Riccio et al, 1993). Searight et al point out, "Accurate diagnosis is complicated by heavy reliance on reports of adults for determining the presence of AD/HD and the absence of laboratory or radiographic data diagnostic of the syndrome." (Searight et al, 1995, P 270).

**Associated features of ADHD.**

**Variability of test performance.**

Barkley (1991) postulates variability of task performance as a probable hallmark of ADHD. His observation is that, for the ADHD child, task accuracy, task productivity, cooperation, and following directions can vary from moment to moment and day to day, even in the same setting. This frequently results in such children being viewed as able, but merely lazy and unwilling to put forth effort.
Motor problems.

Poor motor coordination is frequently associated with ADHD, as manifested in difficulty with handwriting and drawing, which require adequate fine motor skills (Barkley, 1991; Szatmari et al, 1989).

Emotional and conduct problems.

ADHD is often comorbid with other emotional and behavior disorders such as conduct disorder and oppositional defiant disorder (Keller et al, 1992; Searight et al, 1995) affective disorders, and anxiety disorder (Barkley, 1991). Children with ADHD are often observed to be aggressive, either verbally or physically (Hinshaw, 1987; Szatmari et al, 1989). They also tend to have lower self-esteem, are more prone to depression, and exhibit more symptoms of anxiety (Barkley, 1990; Szatmari et al, 1989).

Academic problems.

Between 25% and 50% of children with ADHD have been found to experience notable learning difficulties of some sort, as manifested in school failure, teacher ratings of learning problems, academic underachievement, and specific learning disabilities (Carlson and Bunner, 1993). Approximately 20% exhibit a learning disability in reading, spelling, and mathematics (Searight et al, 1995). Up to 40% may be placed in Special Education programs, and at least 35% will have been retained in grade at least once before reaching high school (Barkley, 1991). Even with remedial efforts, the majority of ADHD students perform below grade level (Wilens and Biederman, 1992). It is, however, not possible to determine whether ADHD simply coexists with these academic skill deficits, or whether difficulty in concentrating and control of impulsivity characteristic of the disorder in fact impair the acquisition of academic skills (Searight et al, 1995).
Problems with social relationships.

Children with ADHD typically experience difficulty in their interactions with both adults and peers. Over 50% of children with ADHD have significant problems in social relationships with peers (Pelham and Bender, 1982). They tend to be more aggressive, disruptive, and domineering than normal peers (Barkley, 1991). They engage in higher rates of social interaction (Pelham and Bender, 1982), but they do so in an inept, immature, and intrusive manner (Whalen and Henker, 1991). Social communication poses problems for them. Both Landau and Milich (1988) and Whalen et al (1979) in observing the responses of children with ADHD when placed in a position where different roles were required of them, found that these children were unable to modulate and adjust social behaviors in response to changing environmental situations and role demands. For instance, when required to play the role of both host and subsequently guest, on a mock television talk-show, they could not vary their style of interacting as they switched from one role to another.

Barkley (1990) observed that children with ADHD are less likely to initiate and respond appropriately to questions and verbal interactions with peers. Thus, there appears to be less reciprocity in their communication with peers. This may be due to inadequate knowledge regarding social skills and appropriate behavior (Barkley, 1991), or to difficulty in inhibiting inappropriate responses as a result of the impulsivity which marks the disorder (Whalen and Henker, 1991). This inability to interact adequately, elicits sanctions and negative responses from peers. Peers react with criticism, controlling behavior, rejection, and counter aggression, and have been observed to withdraw socially from children with ADHD (Barkley, 1990; Clark et al, 1988; de Haas and Young, 1986; Pelham and Bender, 1982).

In their interactions with adults, such as parents and teachers, children with ADHD tend to be oppositional, non-compliant, and difficult to control. As a result, parents are more commanding, more controlling, more directive, and reprimand more
than parents of normal children (Cunningham and Barkley, 1979; Fischer, 1990). If parents feel powerless to alter the child's behavior, even disengagement and avoidance of the child may result (Barkley, 1981). In addition, parents tend to be less responsive to the positive and neutral communications of children with ADHD.

Teacher response to children with ADHD is similar. Teachers are more directive, controlling, and intense in their interactions with them and will, in fact, direct more negative attention at an entire class when children with ADHD are present (Frederick and Olmi, 1994; Whalen et al, 1981).

The course of ADHD

According to the DSM IV, the disorder is first diagnosed during elementary school years and is relatively stable through early adolescence. Symptoms tend to attenuate during late adolescence and adulthood. A minority of individuals still experience all the symptoms of ADHD by mid-adulthood. Others retain some of the symptoms (APA, 1994). Hill and Schoener (1996) in an examination and analysis of nine studies in which groups of children diagnosed with ADHD were reexamined 4-16 years later, found that the rate of ADHD in a given age group declined by 50% approximately every five years. The decline of the prevalence of symptoms in later adolescence and adulthood is thus significant.

Stimulant treatment for ADHD

The principal treatment for ADHD is psychostimulant medication. Methylphenidate (Ritalin) is most commonly prescribed, but d-amphetamine (Dexedrine) and pemoline (Cylert) are also used (Barkley, 1990; Wilens and Biederman, 1992; Yelich and Salamone, 1994). As noted in the introduction, it is estimated that 80% to 90% of children diagnosed with ADHD have been treated with stimulants at some time (Carlson
and Bunner, 1993). Moreover, 60% to 90% receive stimulants for prolonged periods during their school careers (Whalen and Henker, 1991).

Clonidine, (not a stimulant) is sometimes administered to children with ADHD who do not tolerate stimulants, with some demonstrated clinical efficacy (Searight et al, 1995).

**The effects of stimulant treatment on the symptoms of ADHD**

The effect of stimulants in mitigating the symptoms of ADHD is impressive. Approximately 70% of children exhibit improvement in some behavioral, attentional, or academic performance area in response to medication with stimulants (Barkley, 1990; Wilens and Biederman, 1992; Yelich and Salamone, 1994). Thus approximately 30% of such children are "non-responders". Criteria used to judge improvement are performance at laboratory tasks such as word matching and doing sums, observation in the classroom, and, most commonly, parent and teacher ratings (Yelich and Salamone, 1994). Studies examining differences in response to stimulants and placebos, report a placebo response ranging from 3% (Kavale, 1982) to 39% (Barkley, 1977). Two meta-analyses referencing different studies, (only 6 of the articles overlapped) found very different placebo effects. The meta-analysis referencing 74 articles performed by Kavale (1982) attributed only 3% of the improvement shown by children treated with stimulants to a placebo effect. On the other hand, a meta-analysis of 61 studies performed by Ottenbacher and Cooper (1983) indicated a placebo effect of approximately 30%.

**The effect of stimulants on academics**

The wide use of stimulants in the treatment of children with ADHD is probably due in a large part to the striking and immediate effect these drugs have on the core symptoms of the disorder. Stimulants clearly and quickly reduce inattention, impulsivity, and overactivity (Barkley, 1991; Bush, 1993; Ullman and Sleater, 1985). As a result, task irrelevant activities such as fidgeting, finger tapping, and other gross and fine
motor movements decrease (Abikoff and Gittelman, 1985). Non-compliance and disruptive behavior in the classroom are also decreased (Barkley, 1991; Swanson et al, 1993).

The effects of stimulants on cognitive ability and academic competence are less clear. Reviews of studies examining the effects of stimulants on learning indicate that scores on intelligence and academic achievement tests such as the Wechsler Intelligence Test and the Wide Range Achievement Test (WRAT) are largely unaffected by stimulants (Barkley and Cunningham, 1978; Du Paul et al, 1991). When meta-analysis is used as the method of analyzing the data, modest drug effects on academic performance and intellectual measures have been found (Kavale, 1982; Ottenbacher and Cooper, 1983; Thurber and Walker, 1983). There was very little overlap in the studies included in the three meta-analyses. Of the 300 articles reviewed, only 23 were represented in two of the three bibliographies, and not one article appeared in all three (Swanson et al, 1993). Nevertheless, all three reviews consistently concluded that the effect size of stimulants on behavior was much larger than the effect size on learning.

If, however, academic performance is measured by using written classroom tasks designed by teachers, rather than standardized achievement tests, stimulants are found to enhance performance considerably (Du Paul et al, 1991). On assignments such as practicing arithmetic problems, spelling, and handwriting, time on task, accuracy (number answers correct) and productivity (number of answers completed) are increased (Bush, 1993; Du Paul and Rapport, 1993; Pelham, 1993; Rapport et al, 1994). In addition, because of their effect on sustained attention (vigilance) stimulants enable children to work longer on long and boring tasks. (Dykman et al, 1980; Michael et al, 1981). It could be argued that success at completing more sums and spelling more words correctly is not necessarily indicative of academic competence, but merely show that stimulants serve to make children more compliant and able to persevere at boring, repetitive tasks (Mac Guinness, 1989). On the other hand, considering that children are engaged in
mundane and routine tasks such as practice and drill for a large part of the school day, Gadow (1983) and Pelham (1986) contend that such practice should lead to skill acquisition and retention.

Research provides little support for such an assumption. Studies assessing the effectiveness of stimulants in the long term yield little evidence of academic gains. Riddle and Rapoport (1976) in a two year follow-up study of hyperactive children medicated with stimulants, found no positive effects as measured on the WRAT. Similarly Charles and Schain (1981), assessing the effects of stimulants in a four year follow-up study, found that children in their sample still taking medication and children who had discontinued taking stimulants, did not differ significantly on number of failed grades or on scores on the WRAT or PIAT (Peabody Intelligence Achievement Test). Length of drug taking also did not impact results. Weber et al (1992) endeavored to assess the effect of stimulants on academic success in the long term by investigating the scores of children with ADHD on annual group achievement tests given routinely in schools. No increase in academic achievement was noted after one to two years of treatment with stimulants. Finally, Hechtman et al (1984) studied young ADHD adults in their twenties who had been medicated for at least three years between the ages of six and twelve years. When compared with a control group of ADHD adults who had never been medicated, no significant difference was found in number of grades failed in high school, drop-out rate in high school, or average academic standing.

Methodological problems with long term studies, such as lack of random assignment of comparison groups have been noted, (Carlson and Bunner (1993), but at present research reveals little evidence of positive effects of stimulants in the long term.

The effect of stimulants on the social experience of children with ADHD.

Stimulants have their most powerful effect in the reduction of the core symptoms of ADHD, namely inattention, impulsivity, and hyperactivity. As these are the very
symptoms leading to the behaviors which cause problems in relating appropriately to others, it is not surprising that stimulants have been found to enhance the interpersonal relationships of children with ADHD. Medication increases compliance with parental directives, resulting in decreased control and criticism on the part of mothers, and an increase in maternal warmth and responsiveness (Barkley, 1990; Fischer, 1990; Whalen and Henker, 1991).

Improved behavior in medicated children is also accompanied by concomitant changes in the behavior of peers. Peers decrease their own activity level, off-task behavior, and verbal aggression. They become less controlling and more accepting of children with ADHD (Cunningham et al, 1985; Gadow et al, 1992). Moreover, the social standing of children with ADHD increases. When medicated, they are more likely to be nominated by peers as best friends, cooperative, and fun to be with (Whalen et al, 1989).

Teachers also respond more positively to children with ADHD when such children are medicated. Stimulants reduce non-compliance, interference, and solicitation of teacher attention (Abikoff and Gittelman, 1985). Teachers, in turn, become less controlling and directive, and increase praise and positive responsiveness (Barkley, 1990; Whalen et al, 1981).

In the study on young adults who had received long-term stimulant treatment as children, cited earlier (Hechtman et al, 1984) the adult subjects who demonstrated no differences from untreated controls in areas related to academics, nevertheless did better than their untreated counterparts in areas related to social interaction. They reported a more positive view of their childhood, their social skills were better, and their self-esteem was higher.

**Compliance with stimulant medication**

Compliance with stimulant medication presents a significant problem for ADHD populations. This was evident from the findings of two studies investigating such
compliance. Brown et al (1987) found that of the 58 children in their sample, only 34% completed the three month program which consisted of a combination of psychotherapy and medication. In fact, 33% of the children never began the medication, and 13% dropped out expressly because they did not want to take the medication. The 34% who completed the program had a non-compliance rate of 25%, as measured by pill count. The authors considered this an underestimation, as it did not include pills discarded rather than returned to the pharmacist. In contrast, there was only an 8% rate of non-adherence with psychotherapy.

Another study assessing adherence to stimulants yielded comparable results. Firestone (1982) investigated the compliance with stimulant medication of 68 children with ADHD. The duration of the investigation was 12 months. Approximately 26% of the children never began the medication treatment, 20% stopped using it by the end of the fourth month, and by the end of the tenth month only 55% were still taking medication.

Long-term investigations into stimulant use suggest that most children with ADHD do not take the medication for longer than 3 years (Satterfield et al, 1980, 1981). Cessation of symptoms is not likely to account for this, as the decline noted in symptomatology of ADHD only becomes significant during late adolescence. Nevertheless, Sherman and Hertzig (1991) report that about 75% of prescriptions for stimulants are written for children between 6 and 11 years of age. They also indicate that in about half the cases single prescriptions are written, so the actual length of treatment for some children may be only a few months. In addition, compliance while the treatment regimen continues is poor. Generally, compliance rates of children with ADHD on stimulants ranges between 20% and 70% (Stine, 1994).

**Summary and discussion.**

The survey of literature on the effects of stimulants on the symptoms of ADHD thus indicates the following:
1. Approximately 30% of children with ADHD treated with stimulant medication show no improvement in symptoms.

2. The most striking effect of the medication is on the core features of the disorder, namely inattention, impulsivity, and hyperactivity.

3. The effect is observed in improved ability to stay on task, increased accuracy and productivity, and more compliant and appropriate behavior both inside and outside the classroom.

4. The effect on learning and retention as measured by traditional standardized tests, when one can be established, is very much smaller.

5. In changing the child's behavior, stimulants also alter the way in which significant others react to the child, in that they become more accepting of the child and more positive in their interactions with him/her.

7. Few long term benefits of stimulants have been demonstrated. Such as have been found appear to be almost exclusively in the areas of social relationships and self-esteem.

8. A placebo effect which varies widely between studies, has been demonstrated.

9. The rate of compliance of children with ADHD with stimulant medication tends to be low.

The non-responsiveness of a considerable number of children with ADHD to treatment with stimulants is problematic. Also puzzling and of concern is the seeming paradox of enhanced attention and improved classroom performance which stimulant treatment produces, and the concomitant lack of comparable academic gain, especially in the long term.

Conclusive explanations for the limitations of stimulant treatment have not been found. A plausible explanation, however, is that, given the demonstrated low compliance with stimulant medication, non-adherence on the part of subjects may be an important confounding variable in clinical research on ADHD (Brown, et al 1985, 1987; Firestone, 1882; Sleator, et al 1982). However, this poses the further question of how to
account for non-compliance in the face of clearly demonstrated positive effects of stimulant treatment. Research in the area of compliance with medication is ongoing, and researchers have come to recognize the extent to which compliance hinges on the meaning of the medication to the individual (Morris and Schultz, 1993; Stine, 1994). This insight may shed light on some aspects of the effectiveness and limitations of stimulant treatment, and suggests that there are factors other than the pharmacological action of stimulants which require exploration if the impact of stimulants on the child with ADHD is to be understood.

The effect of stimulant treatment manifestly extends beyond the medication itself. ADHD may have organic or neurological underpinnings, and its core symptoms have been demonstrated to be responsive to stimulants. However, it may reasonably be postulated that the manifestation and severity of the symptoms are influenced significantly by the interaction of others to the child. Their more positive and favorable responses to the child, typically observed after stimulant treatment, very probably contributes in no small measure to symptom alleviation and to the child's sense of well being and self-esteem. Clearly then, the focus when studying the impact of medicating the ADHD child, should not be narrowly on the physical effects of stimulants.

From the review of literature presented here, it is evident that the effects of stimulant treatment on the interpersonal world of a child has received a fair amount of research attention. However, a further dimension, which may be of prime significance to an understanding of the phenomenon of medicating children with ADHD and which may shed light on the differential response of children to stimulants, is the dimension of the meaning of being medicated to the child. Not only compliance with medication, but also response to medication may depend to a significant degree on the meaning the child attaches to being medicated. Positive effects of medication could conceivably be compromised if a child experiences the taking of medication negatively, for instance as shameful or indicative of personal illness or weakness. Conversely, a child who is not
threatened by the medication and who holds positive expectations for the treatment, may contribute to enhancing its effectiveness. The meaning of the medication to the child could, in addition, logically account for the placebo effect, of whatever size, observed with stimulant medication. An understanding of the meaning of stimulant medication to children with ADHD will inform not only the researcher, but also the clinician, who needs to be cognizant of how these children experience being medicated, in order to correct misconceptions and provide sensitive support in dealing with both the symptomatology and treatment of ADHD.

Although ADHD is one of the most commonly diagnosed and extensively studied disorders of childhood (Reid et al, 1994) the experience of the medicated child and the meaning the medication has for him/her, has been vastly understudied. Significantly, the child's difficulties are defined by others, not expressed by the child. The diagnosis of ADHD, as well as the evaluation of the effectiveness of stimulant medication, is made on the basis of observations, opinions, and reports of parents and teachers, and not on the perceptions of the child receiving the medication. (Firestone, 1982; Klein, 1992). Studies in which children with ADHD have been questioned directly about their feelings regarding having to take stimulants are very few and far between. They were undertaken mostly out of concern that having to take medication in order to function academically and socially, would influence a child's sense of self-competency. The focus is therefore largely on children's attributions regarding the medication, whether they attribute improved performance or behavior to their own efforts or to the medication.

Review of studies.

A pioneer study in this area was undertaken by Henker and Whalen, (1980). They attempted to ascertain what they termed the children's "source attributions" (their explanation for the etiology of their behaviors) and their "solution attributions" (their explanation of what was responsible for behavior change when it occurred). Their
findings indicated that most children attributed their symptoms to physical rather than personal or social causes. They believed they had a physical disorder. They credited the medication with causing their improved behavior and expressed reliance on the drug for coping in the classroom and in social relationships. A very small sub-group maintained an adaptive balance between personal responsibility and reliance on medication. They felt that their problem was physical and that therefore they needed the pill, but they also expressed a sense of responsibility for their own improvement. They viewed the medication as helping them control their behavior, not controlling it for them. The majority of the children considered both the cause and the remedy to be beyond their control. Furthermore, the researchers found a universal dislike of the pill and a strong desire to be off it, despite recognition of its benefits. A sense of embarrassment and concern about stigma associated with the need to take medication was also evident.

Similarly, Sleator et al (1982) questioned children with ADHD regarding their acceptance of stimulant medication and their perception of its helpfulness. They, too, found a pervasive dislike of taking the medication on the part of the children. A number of children tried to avoid taking their pills, sometimes "cheeking" them, or else throwing them away. In the case of some children who expressed enthusiasm for the medication to the researchers, cross checking with parents and teachers revealed that these children in actuality objected to taking it and would go to great lengths to avoid it. Similar cross checks in the case of children who admitted disliking the medication revealed no such discrepancies. The authors note that only 11 out of 52 children studied regarded the medication as essential for their adequate functioning.

On the other hand, Rosen et al (1985) in a single case study of a 9 year old boy, found that the child could function equally well at school on either stimulant medication or placebo. He attributed all his success to the pill. Withdrawal of the pill, whether stimulant or placebo, resulted in markedly deteriorated performance.
More recent studies investigating the effect of stimulant medication on the self-cognitions and attribution patterns of children with ADHD produced mixed results. Whalen et al (1991) found that ADHD boys predicted that they would perform better on computer tasks when told that they had taken stimulants than when they were told that they had been given a placebo. This applied regardless of whether they had in actuality been given medication or placebo. They also predicted poorer performance when asked what would happen if they shifted from medication to placebo. Moreover, they predicted better effort on their part when told they were on medication and rated themselves more positively on self-evaluations. These results thus appear to indicate confidence in the medication to enhance both effort and performance.

On the other hand, in a study of ADHD boys attending an 8 week summer camp, Pelham et al (1992) reported that on days when the boys were medicated, and objective measures showed improved behavior, the boys themselves attributed their performance to effort rather than to the pill. They also reported being happier and liking themselves more on such days. In contrast, on days when they were on placebo and experienced less success, they made more pill attributions. These findings are supported by Milich et al (1991) who reported that the children with ADHD they studied tended to make effort attributions after failure to solve puzzles when on placebo (the failure was due to lack of effort on the part of the child) and task attributions when on medication (the failure was due to the task being too difficult). Thus, the medication reduced their perceived sense of responsibility for failure. Pelham et al (1992) and Milich (1994) maintain that this pattern of internal (effort) attributions for success and external (pill or task) attributions for failure is healthy and adaptive, especially in the case of children with ADHD whose affect and self-esteem are likely to be impacted by frequent failure. It does, however, raise the concern that the availability of a pill on which to blame failure may encourage children to avoid responsibility for their own actions. It also raises the question of how
aware children are of the contradiction inherent in such an attribution pattern, and how they deal with this awareness.

Discussion of theories that guided the research.
Learned Helplessness and the Effectance Motive.

Two theories which may inform research on children's attributions regarding stimulant medication are Maier and Seligman's theory of "learned helplessness", and Robert R. White's theory of the "Effectance Motive". Maier and Seligman (1976) advanced a theory of "learned helplessness" which assumes that when an individual experiences circumstances as uncontrollable the individual will acquire expectancies that personal actions do not affect outcome. Consequently, such an individual will not attempt or persevere at challenging tasks. Tarnowski and Nay (1989) using the Nowicki-Strickland Locus of Control Scale, found that children with ADHD were more external than children free from the disorder. This means that they are less likely to regard themselves as in control of circumstances. This raises the concern that, if medicated, they may rely overly on medication in order to cope and tend to regard themselves as ineffective without medication.

The "Effectance Motive", postulated by Robert R. White, is also relevant here. It is conceptualized as an intrinsic drive for transactions with the environment. When one's efforts have an effect on the environment, for instance, if one has the ability to balance blocks one on top of the other to build a castle, or one is able to solve math problems correctly, a sense of competence develops. Competence and self-esteem grow as a result of experiencing efficacy in one's transactions with the environment. Conversely, failure to affect one's environment will result in low self-esteem and a poor sense of competence (White, 1963).

An adequate sense of self-efficacy in relation to one's environment is thus desirable for healthy functioning and continued achievement. Determining the effect of
being medicated with stimulants on children's belief in their own self-efficacy is thus crucial. Of the essence is to what extent such medication enhances perception of self-efficacy by enabling children to experience greater academic and social success, and to what extent it serves to decrease perceptions of personal competence in that success is attributed to a pill. It may be, however, that children's sense of self-efficacy stems not from the attributions per se, but from children's own perceptions of such attributions.

To a researcher it may seem that attributing success to a pill would lower children's sense of self-competency and self-esteem. Some children, however, may be experiencing feelings of greater self-competency, because of new found academic or social success when they started taking medication. Again, while a researcher may regard an attribution pattern of self-attributions for success and pill attributions for failure as healthy and adaptive, it is conceivable that some children may have grave misgivings about taking a pill, which they do not or will not regard as necessary for their success and which cannot consistently be relied upon to prevent failure.

Research on children's experience of being medicated for ADHD, thus far, has indeed focused mainly on attributions and has, moreover, yielded contradictory results. Clearly, the meaning which children are likely to attach to the taking of stimulants extends beyond the attributions they make regarding the medication. The scope of such research is too narrow to afford an understanding of the meaning of medication to children with ADHD. More in-depth probing of children's feelings about stimulant medication is needed. Thus, in order to gain insight into ADHD children's experience of being medicated for their disorder, children will need to be questioned more widely.

Information and guidance on relevant and fruitful areas to explore in an investigation of this nature, can be gleaned from diverse theories. A consideration of several such theories follows:
Self Psychology

Heinz Kohut is the author of this theory. The concepts of "self" and "selfobject" are central to the theory. Kohut defines the “self” as “a unit, cohesive in space and enduring in time, which is the center of initiative and a recipient of impressions” (Kohut, 1990, p99). Kohut speculates that a rudimentary self may well exist from earliest infancy, given that the human environment reacts to the infant as if the infant possesses such a self. He believed that the self, in a sense, continues to form or be “laid down” through interactions with selfobjects who respond empathetically to the individual throughout life (Kohut, 1990, p100). Selfobjects are objects which are experienced as part of the self, not as independent of the self. One expects to control them as one would one’s own body and mind, as opposed to the control one expects over others. Selfobjects provide internal functions and emotional stability. They meet the internal needs people cannot meet for themselves, termed "selfobject needs" (Baker & Baker, 1987, P2).

Kohut postulated three functions provided for the child by early selfobjects. First, the infant needs to display its evolving capabilities and be admired for them. This represents the infant’s healthy sense of omnipotence and grandiosity (Greenberg & Mitchell, 1983). Kohut termed this the “grandiose self” (Kohut, 1992). The mirroring selfobject provides these functions for the child. Second, the infant needs to form an idealized image of a parent, to see the parent as extremely powerful, and to experience a sense of merger with the calmness and power of this selfobject (Greenberg & Mitchell, 1983). Internalized as the Idealized Parent Imago, this selfobject provides the function of making the infant feel safe, comfortable, and calm. Third, the child needs to experience a sense of closeness and commonality with others, a sense of possessing competencies like others. A boy, for instance, will shave with his father using a toy razor. The “alter-ego” or "twinship" selfobject fulfills this need.

Kohut held that the healthy individual will develop endopsychic structures which assume the functions initially fulfilled by selfobjects. A healthy, developing person
becomes increasingly more internally competent, and less externally needy (Baker & Baker, 1987). Through a process of "transmuting internalization" the child acquires internal psychic structures which later take over the functions of selfobjects. Stated very briefly, the process of "transmuting internalization" involves the following: Psychic structure is built up through the inevitable empathic failures, over time, of the idealized parent to fully live up to the child's ideal, and of the mirroring parent to mirror the child's grandiosity perfectly (Greenberg & Mitchell, 1983; Kohut, 1992). Because selfobjects do not meet the child's selfobject needs perfectly, the individual begins to build his or her own psychic structure to meet these needs. In this way the individual will acquire as part of the self the ability for affect regulation and self-soothing from interactions with the idealized parent; a sense of self-confidence, assertiveness, and worthiness from the mirroring parent; and a sense of belonging from interactions with the parent who fulfills the alterego selfobject functions. The structure of the self which thus forms out of the interaction between the child and selfobjects is conceptualized as consisting of two poles. The one pole, which develops as a result of the internalization of the idealized parent imago, harbors one's ideals and values. The other pole, derived from the interactions with the mirroring selfobject, harbors one's ambitions and self-confident strivings for success (Kohut & Wolf, 1978; Greenberg & Mitchell, 1983). Between the two poles, Kohut conceptualizes a tension arc which enhances the development of skills and talents needed for the realization of the ambitions and ideals laid down in the two polar areas. These skills and talents develop from the relationship with the selfobject that meets the alterego needs (Baker & Baker, 1987).

Kohut gives the impression that this structure is not "permanent" and "complete." There is a sense in which the self continues to form with the help of people who perform selfobject functions for the individual throughout life. Despite the internalization of such functions, the need for selfobjects persists throughout life, and is present in everyone (Kohut, 1990; Palombo, 1988). However, for the individual with a
healthy self, selfobject needs develop and mature (Baker and Baker, 1987). The "mirroring" needs will mature from demands for perfect and constant attention, to self-confidence and only a healthy need for occasional appreciation and praise. The idealization needs will mature from the initial wish to merge with the Idealized Parent, to a need to be near such a source of comfort and power, to merely a healthy need for family and friends in stressful times. In the case of twinship needs, there is initially a need for great closeness, then greater toleration for being different, although the need for fitting in and being like one's peers is very strong in adolescence. Eventually, one accepts difference and is left with some healthy needs such as pride in a home team or a need to be patriotic.

These tenets of self psychology may be usefully applied to a consideration of the functions which stimulant medication may serve for children with ADHD and of how they may experience taking it. Self psychology holds that children have a need for affirmation and to be experienced as possessing value and worth. This they receive from the mirroring selfobject. For the child, parents and teachers most often serve this function. Stimulant medication increases children's ability to manage their behavior in class and at home. In this way, the medication secures for them desired selfobject functions, as appropriate and more controlled behavior tends to elicit positive mirroring from parents and teachers.

The capacity for self-soothing and affect regulation is a function of the idealized parent imago. Hyperactive children, who have great difficulty in this area, have particular need of selfobjects to fulfill this function. Yet their out of control behavior tends to isolate them and elicit sanctions rather than support from others. Stimulant medication, which paradoxically serves to inhibit hyperactive behavior, may in helping children regulate behavior, enable them to interact more closely with parents and teachers, and procure supportive and soothing responses rather than sanctions from these significant others. Adult observation of parent/child and teacher/student interaction
indeed revealed friendlier and less critical responses on the part of the adults when children with ADHD were medicated (Barkley, 1990; Fischer, 1990; Whalen and Henker, 1991; Whalen et al, 1981). It would therefore be interesting to investigate whether children with ADHD also perceive this improvement in relationships with parents and teachers after medication is introduced.

The "twinship" need to experience a sense of alikeness, commonality, and kinship with others, as well as a sense of possessing the competencies that others possess, which self psychology postulates, is also pertinent. Medication may enable children with ADHD to feel more like their peers in that it may help them to concentrate better, complete their work more quickly and more accurately, control their own behavior better and interact more acceptably with peers. On the other hand, having to take medication may signify to children with ADHD that they are different, "sick", or defective in some way and therefore not as competent as others.

Another relevant tenet of self psychology is that for the child, parents are the providers of values and ideals for the idealized parent imago which determines the child's value system. Most parents, and teachers too, consistently warn against the danger of drugs to solve problems. Many parents are suspicious of stimulants, but agree to try Ritalin as a last resort and "the lesser of two evils" when weary of coping with a child's unruly behavior. Children are often aware of these tensions. The values internalized by the idealized parent imago may conflict with taking the medication which can be regarded as a drug. Thus children may feel ill at ease with having to take stimulants.

Theories on the making of meaning through mental representations of events and self-narratives.

The idea that the activity of meaning-making is fundamental to human existence and occurs in the context of interpersonal interaction, is central to these theories. Thus Carolyn Saari (1991) explains that the content of a person's meaning system reflects that
person's experiences in an environment that is both social and physical. She holds that a person's meaning system, constructed through internalizing experiences in daily life, constitutes such person's identity.

Similarly, Joseph Palombo (1994) maintains that the growing child, interacting with others in a community, "imbibes" the meanings of that community through language, facial expressions, and gestures. Shared experience provides the basis of shared meaning (Palombo, 1991). However, no two people experience life in exactly the same way. All people are to some extent differently endowed constitutionally. Physically, cognitively, and in emotional responses, people differ. The faculties with which each person is innately endowed determine how that person will register experiences. Palombo holds that when a mental representation of an experience is formed, the experience is filtered through an individual's unique sensory perceptual system and does not simply mirror the environment perceived by the senses (Palombo, 1991). Moreover, there is an affective component to such mental representations of experience, in that affect experienced by the person at the time of the registration will attach to or "color" the representation. Each person then, to some extent, attaches idiosyncratic meaning to an experience. As a result, each individual has a personal meaning system in addition to the shared meanings which he or she holds in common with other members of the community.

Akin to Palombo's mental representations, are Katherine Nelson's "event representations" or ERs (Nelson, 1986). Nelson holds that children experience the world as a series of ongoing events. They form mental representations of events directly experienced in everyday life. ERs are formed from immediate perception. Cognition then operates on the ERs of experienced events, and not on "objective" real world phenomena.

It is not possible to know which characteristics of an event to which a child is given access will enter into the child's perceptual experience and will become accessible
to cognitive operations. One cannot therefore assume that all children exposed to a particular event will learn the same thing from it or extract the same meaning from it. Moreover, Nelson (1986) states that perception of an event is determined by expectations and by prior schemas, so that different individuals experience the same objective event differently. Once a representation of an event has been formed based on immediate perception, all other representations will be derived from it. Thus, Nelson concludes, the initial perception of an event is constrained by prior knowledge, and the acquisition of new knowledge is constrained by the initial perceptual representation. Although no two people will have identical ERs of a mutually experienced event, people who interact routinely, such as children and parents, will have at least some shared interpretation of experiences. In thus bringing about shared knowledge, ERs form the basis of shared meaning (Nelson, 1985).

Saari (1991) points out that human beings have a need for a sense of continuity and organization. She holds that this is achieved through the construction of a self-narrative, which, in effect, constitutes a person's identity. As she puts it, "The "I" of identity is a narrative construction" (Saari 1991, p147). In Nelson's theory ERs form the basis of narrative construction (Nelson, 1985) and in Palombo's theory self-narratives are constructed from personal and shared meanings. Palombo states that throughout life, the individual strives to understand daily experience, synthesizes old and new experiences, and interprets new experiences in the light of old ones, and vice versa. In this way a self-narrative which serves to make sense of an individual's experience, is constructed (Palombo, 1990, 1991, 1994). If personal and shared meanings cannot be integrated into the narrative, the narrative will be incoherent (Palombo, 1994). It could be assumed that if personal meanings predominate and there is insufficient shared meaning in a person's life, such a person could feel misunderstood and isolated. Furthermore, each narrative has a central organizing motif. Once that motif is established, each new life experience
is interpreted to accord with this motif, and is taken as confirming the motif (Palombo, 1991).

The views of Gergen and Gergen (1987) on narrative construction are also relevant here. They hold that the construction of a good narrative involves the establishment of an end point or goal state. Furthermore, in constructing a narrative, a person may select events that are relevant to that goal state and that are causally linked in order to lead up to that goal state. The end point of a narrative is typically weighted with value. Narratives can be progressive, when events lead up to a valued and desirable end point or regressive, if the end point is negative.

Such theories on meaning-making and narrative construction provide a basis for speculation on the meaning systems of children with ADHD. One might assume that such children may register an experience differently than others. Central to this disorder is the inability to sustain attention to the task at hand adequately, either as a result of inattentiveness or poor impulse control. Therefore, much of what takes place in the classroom and in social situations may not enter the perceptual field of children with ADHD. Moreover, their tendency to be distracted by non-task relevant stimuli may cause their ERs for a particular event to be very different from those of other children. Their ERs may include a car passing the window or a classmate sharpening a pencil and exclude the teacher giving directions. Their ERs may consequently come to include the teacher reprimanding them and other children laughing at them.

It is not only in the classroom that a child may miss or partially miss and thus misunderstand directions, but also in social situations where the child may miss relevant “social cues,” either in the form of verbal or facial expressions or gestures. The child experiences and interprets the interaction differently, and thus responds differently. Such children may interrupt, fail to follow directions, speak out of turn, or give answers irrelevant to the conversation whose drift they failed to follow. This elicits negative responses from peers and adults who may regard such children as willfully inconsiderate.
There is a failure to establish shared meaning, as these others have drawn different meanings from similar experiences. It is then likely that children with ADHD will find the reactions of significant others difficult to integrate into their personal narratives, which then become incoherent. The central motif of the narrative may become "I am odd" or "I am misunderstood." If, moreover, an individual tends to interpret each experience to accord with the organizing motif of the self-narrative, the ADHD child's view of the meaning of having to take stimulants to facilitate learning and control behavior will be strongly colored by this motif. The medication may be regarded as confirmation that the child is odd or different.

On the other hand, some parents or teachers have a low tolerance for slower learning or hyperactive behavior and may see medication as a solution, whereas the child concerned may not be as troubled by these difficulties. Moreover, for such a child who feels well, natural associations of sickness with medication may not fit, and therefore integration of the medication experience into the self-narrative may be problematic. The child may then either object to the medication, or alternatively, the self-narrative may be altered. The central motif may change from "I'm okay," to "I can't function on my own like other children, I need a pill to function." Conversely, the medication experience may change a negative self narrative with a central motif such as "Nobody likes me, I'm unacceptable" to a positive self-narrative with the central motif "I'm okay, people like me", should the medication improve the child's behavior, and concomitantly, the responses of others to the child.

Viewed in Gergen and Gergen's terms, the introduction of stimulants into a child's life may be an event that plays an important part in determining the goal state of a self-narrative, in that it may influence other experiences in the child's life. If it causes the child to have more positive experiences, it can contribute to a progressive narrative with a positive end point, and vice versa. Similarly, following Katherine Nelson's theory, stimulant medication may alter the nature of children's ERs, which may become either
more pleasant, for instance, by including approving smiles from teachers and less teasing from classmates, or more negative, by including jeering expressions on the faces of peers who regard them as different.

The content of children's ERs may well determine their response to stimulant medication significantly. ERs, of course, are also formed for the act of pill taking itself. Such ERs may likewise influence children's experience of being medicated. For instance, if a child's ERs for leaving the classroom to go to the nurse's office where the medication is given includes heads turning and other children staring, the child will be embarrassed and object to taking the medication. As the child's perception of the event is strongly determined by expectation and prior schemas, the child who expects to be stared at or was stared at previously, will focus in on children's expressions, and any glance is likely to be included in the event representation and interpreted as "staring." Moreover, the ERs children hold related to their introduction to the medication are likely to influence the meaning with which they endow the medication. If such ERs include an anxious expression on a parent's face, arguments between parents, yelling, or unpleasant coercion, the medication is likely to be regarded differently than if the ERs include friendly, confident smiles and kind, supportive gestures. Knowledge of children's ERs associated with the taking of stimulants as well as their self-narratives can thus lead to greater insight regarding the meaning the medication has for them.

Lev Semanovich Vygotsky's theories related to the power of words to engender meaning.

Vygotsky awakened an awareness of the complexity and power of words. He demonstrated that words are polysemantic and that the meaning of a word when used at a particular time is determined by the context in which the word is used, or by the tone in which it is pronounced (Vygotsky, 1978). For instance, the word "pot" has a very different meaning when used in a kitchen context than when used in the context of the drug scene.
Moreover, Vygotsky recognized what he called the "semantic field" that surrounds every word. A word not only indicates an object, it also elicits several associations to that object. Luria (1981) explaining Vygotsky's theory, illustrates that the word "garden" may involuntarily call to mind "tree", "flowers", "bench", "rendezvous", etc. Thus a word generates images and other words become connotatively connected to it. This constitutes its "semantic field".

Vygotsky also drew a distinction between the meaning of a word and its sense (Luria, 1981). The meaning of a word is what is given by its lexical definition. It is a socially accepted meaning, it is the same for everyone. Sense, on the other hand, refers to the particular meaning, selected from all possible meanings, which a word has for a particular person at a particular time. Luria (1981) uses an example of the word 'coal.' For a housewife it would mean something to heat a stove and for an artist something with which to outline a sketch. Luria (1981) also states that the sense of the word has affective connotations.

Vygotsky's insights can serve to illuminate the meaning systems of children with ADHD taking stimulants. Clearly, children do not learn words out of a dictionary, but from hearing them repeated. Thus they learn them in a context. Each child will learn the words "Attention Deficit Disorder" or "ADD" and "Ritalin" in a particular context. The sense of each of these words and its semantic field are thus likely to be different for each child. The sense attributed to the words is context dependent. The child to whom the disorder is explained and the medicine introduced calmly and positively, will draw a different sense from the words than the child who is accused of being "out of control" and therefore in need of "medication". Words will also arouse different affect depending on their sense. The semantic fields and sense of words associated with their disorder therefore provide an avenue to understanding the meaning systems of children with ADHD.
Furthermore, concerning the development of word meaning, Vygotsky observed that although a word has the same object reference for a person at age 3 years, 7 years, and 30 years, it does not have the same meaning. (Luria, 1981). Luria, (1981) states that for a young child a word has strong emotional associations and the affective sense of the word is the essence of its meaning. Thus for the young child the word “dog” would mainly stand for “fierce” or “friendly”. For the older child, the affective sense becomes secondary and the word denotes a more concrete image. The word “dog” is more likely to denote an image of a dog guarding a home, fighting a cat, or being fed. For the older child or the adult, logical or abstract connotations are paramount. A dog would be associated with a category of “animals”, for instance. However, Luria notes that even at the later stages, the connections that characterize the previous stages are covertly preserved.

It therefore seemed relevant to ascertain whether for some children the affective sense of certain words might predominate, even at an age where they might be capable of more concrete or even logical conceptions of a word. Thus, a word like “Ritalin” or “pill” or “medicine” might flood a child with affective connotations of fear or sickness or even shame. A child who draws such meaning from the taking of medication is likely to respond with anxiety and strong reluctance.

The theories discussed above provided a framework for the investigation of the meaning of being medicated with stimulants for children with ADHD from a variety of angles, affording the possibility of tapping the variety of children's meanings.
Chapter 3
Methodology.

Rationale for the use of qualitative methods.

The study was exploratory in nature, as, despite the extensive research undertaken to date on ADHD, the child's perspective remained under-researched, and as such, significant variables for research, for the most part, had not yet been identified. Qualitative research methods were employed as they are uniquely strong for exploratory research that searches for a deeper understanding of lived experience (Marshall and Rossman, 1995). Moreover, the complexity of meaning is not readily captured with quantitative measures such as objectively interpretable check lists or survey forms. Qualitative methods are more suited for identifying and describing complex phenomena (Marshall and Rossman, 1995; Stake, 1995). The depth, detail, and richness of "thick description" (Geertz, 1973) characteristically employed in qualitative research, serve to convey more fully the world views and meanings of respondents. In this study statistical significance was not of the essence. The intention was rather to uncover and create an awareness of the many meanings with which children may endow the taking of stimulant medication for academic improvement or behavior control. Moreover, according to Stake (1995) whereas in quantitative research generalization is an aim, qualitative researchers are more inclined to treat uniqueness of phenomena as important to understanding. The likelihood exists that significant meaning may emerge from the observation of a single instance of a phenomenon. Marshall and Rossman (1995) also caution that the tightly structured and highly organized data gathering and analyzing schemes characteristic of quantitative research filter out the unusual and the
serendipitous. As the research was exploratory in nature, the aim was to take account of the unique and the unusual, and to consider its contribution to the illumination of meaning.

Qualitative research generally tends to be data driven and proceed inductively. However, Miles and Huberman (1994) point out the relevance of conceptual frameworks in that they serve to focus, bound, and give direction to the research. Therefore this study employed a-priori theories to guide the research.

Research Question
What is the meaning of being medicated for Attention Deficit Hyperactivity Disorder to children receiving stimulants or other medication for this condition?

Conceptual Framework
Attention Deficit Hyperactivity Disorder was determined by the diagnosis of a physician or other licensed mental health professional qualified to make such diagnosis. Meaning referred to an individual's cognitive and affective experience.

The literature search and the theories selected to guide this research suggested several categories of meaning:

- Children's perceptions of the medication experience as either enhancing or diminishing their sense of self-competence. Children's expressions of viewing themselves either as more able or as less able as a result of being medicated, were taken as indicators of self-competence. Two sub-categories were therefore established:
  
a) Perception that ability increases on the medication.
  
b) Perception that ability decreases on the medication.
Children's association of the medication experience with the fulfillment or frustration of selfobject needs. Selfobject needs are the following:

The need to be affirmed and appreciated.

The need to experience calmness, comfort, and security through the presence of another whom one perceives as powerful, i.e. parents and teachers.

The need to feel a sense of alikeness with one's peers, a sense of possessing the same competencies as others.

The fulfillment of selfobject needs was indicated by children's references to experiencing praise, affirmation, friendliness, warmth, kindness, and support in interactions with parents and teachers, and by children's reports of experiencing themselves as socially accepted and/or able to keep up with peers academically.

Frustration of selfobject needs was indicated by children's references to feeling different, flawed in some way, or less competent than peers because of having to be medicated.

The following sub-categories were therefore established:

a) Perceived effect of children's being medicated on the behavior of teachers.

b) Perceived effect of children's being medicated on the behavior of peers.

c) Perceived effect of children's being medicated on the behavior of parents.

d) Perceived effect of children's being medicated on children's feelings of "alikeness" or "difference" from peers.

The congruence of the medication experience with children's value systems. Value systems were defined as children's beliefs regarding right and wrong behavior and what is acceptable and desirable in the community of which they are a part. These were ascertained from children's own statements regarding their beliefs.

Children's event representations related to the medication experience. Event representations were defined as mental representations or mental pictures of directly experienced events in everyday life. They were ascertained from children's accounts of their experiences of being medicated.
• The semantic fields and sense of words related to the medication experience. The semantic field of a word was defined as the associations to the object which the word indicates, which are elicited when the word is used.

The sense of a word was defined as the particular meaning (as opposed to the generally accepted lexical definition) of a word for a particular individual at a particular time.

Both the semantic field and the sense of words were ascertained from children's statements pertaining to such words.

• The influence of the medication experience on children's self-narratives. A self-narrative was defined as a story about the self which an individual constructs from the meanings derived from self-experiences, and which determines how the individual views himself or herself. The content of children's self-narratives were ascertained from children's responses and self-statements during the interview.

Miles and Huberman (1994) hold that in qualitative research categories may be pre-existing, or may emerge from the data, and that they typically emerge from an interaction of theory and data. Therefore it was anticipated that in addition to the categories of meaning stated above which were suggested by the guiding theories and literature review, other categories of meaning might be formed inductively as they emerged from the data during the course of the research. The following categories were coded:

• Children's knowledge regarding the medication, under the sub-categories of
  a) Knowledge of the name of the medication.
  b) Understanding of reasons why the medication is prescribed.

• Physical side effects of the medication.

• Perception of lack of any effects produced by the medication.

• Fears associated with the taking of the medication.
- Reasons children gave for their reluctance to take the medication.
- Children's association of their disorder with sickness requiring medication.
- Concerns regarding dependence on the medication for adequate functioning.
- The role of parents and teachers in influencing perceived dependence on medication.

**Research Design**

**Setting**

The setting was a suburban grade school in a suburban school district. Three grade schools comprise the school district. The three schools collectively serve close to two thousand children. Grades range from Kindergarten to the eighth grade.

**Sampling Plan.**

Children who had been diagnosed with ADHD, and for whom stimulant medication had been prescribed by a physician, were included in the study. A sample of about twenty children was drawn. Qualitative research typically involves small samples, so that subjects may be studied in depth. Sandelowski (1995) stresses that in qualitative research in-depth understanding is valued above the generalizability to larger populations which random and statistically representative samples permit. Therefore, qualitative research typically employs purposive rather than probability sampling. Each case in the sample is included because he or she is judged to be able to provide information which will contribute to an analytic goal, and not in order to generalize to other persons with similar demographic characteristics. As such, the number of cases included in the sample need not correspond proportionally on demographic characteristics to the general population. Sandelowski (1995) points out in this respect that a sample can be informationally representative even if it is statistically non-representative, in that the
persons included can stand for other persons with similar characteristics. Sampling for this study proceeded according to the following dimensions: age, length of time on medication, attending or not attending a school within the district, and gender.

**Age:**

About 75% of prescriptions for stimulants are written for children between the ages of six and eleven years (Sherman and Hertzig, 1991). This age group could thus logically and appropriately be sampled for a study such as this. It was decided to make age eight years, rather than age six years, the cut-off point for inclusion, to ensure that children interviewed were sufficiently verbal to respond adequately to the kinds of questions employed in the study. It was also decided to extend the age for inclusion to fourteen years to ensure that some long term users of stimulants were included. Moreover, it seemed of interest to note any differences in perception of the medication experience as children get older. Age categories therefore included ages eight to nine years; ten to eleven years; and twelve to fourteen years.

**Length of time on medication:**

The literature surveyed suggested that the positive effects of stimulants tend to be short term, and consequently it might be expected that duration of the medication experience could affect children's perceptions. Therefore, children who had been medicated for different periods of time were included. Length of time on medication categories included less than one year, one to three years, and longer than three years.

**Attending or not attending school within the district:**

Seventy five percent of respondents were drawn from within the district, that is, from amongst students who attended the three public schools which comprised the school district. The remaining 25% of respondents were recruited either from outside the district or from parochial schools in the district. The reasons for recruiting most of the respondents from within the public schools in the district were the researcher's familiarity with these schools, the ready availability of subjects, and the willingness of district
administrators and parents to support the study. Moreover, the composition of the student body was fairly typical of suburban school districts, and was somewhat diverse regarding socio-economic status. It was not racially diverse, as most students were Caucasian. However, a small, qualitative study such as the one conducted, does not aim predominantly for representativeness or comprehensiveness in the variables included. It was not possible within the confines of such a small study, to sample for variation in demographic characteristics such as race and socio-economic status. However, it was assumed that characteristics of the setting itself might influence the data significantly. For instance, event representations of children receiving medication at school in one district might be very different from those of children in another district, attitudes of teachers to medication, and their resultant treatment of medicated children, might differ from district to district, and acceptance by peers might differ between districts. Therefore, children from other districts were included in the study.

The possibility also existed that the researcher's identity as the social worker in the district might influence children's responses. On the one hand, it was possible that being familiar with the researcher to some extent might help children feel at ease and more able to express their opinions freely and honestly. On the other hand, it seemed possible that children might tend to associate the researcher with the school personnel, and give her the types of answers they perceived to be acceptable to their teachers. For instance, in an effort to help children feel comfortable about beginning a trial of stimulant medication, teachers tend to inform children of their expectations that the medication will help them concentrate, sit still, and feel better about their work, and children might feel they have to report these results. In an effort to elicit honest opinions, children were informed that the researcher would like to find out what they think, and that it's "okay" to tell her both what they like and don't like about the medication, and, in addition, were assured of confidentiality. Children who had been in therapy with the researcher and who had discussed their medication with her at length, were excluded
from the study, as their responses were likely to have been influenced by her opinions. In the case of children from outside the district to whom the researcher was a stranger, it was thought that the above might not apply, which made their inclusion desirable. They were, however, given same assurances.

Fifteen children, then, from within the public schools in the district were included, and five from elsewhere. Of these, three were from parochial schools in the district, and two from schools outside the district.

**Gender:**

The literature on ADHD indicates that boys are studied significantly more than girls. Therefore, in order to ascertain whether gender might be an influencing factor in children's perception of being medicated for ADHD, the researcher intended to include both boys and girls in the study, preferably in comparable numbers. However, it was anticipated that the number of available boys would likely be higher, considering that the ratio of males to females identified and diagnosed with ADHD ranges from 4:1 to 9:1 (APA, 1994). This difficulty with recruiting female respondents was in fact encountered, as it was possible to recruit only four girls for the study.

The following table displays the make-up of the sample:

<table>
<thead>
<tr>
<th>BOYS</th>
<th>&lt; 1 YR</th>
<th>1 - 3 YRS</th>
<th>&gt; 3 YRS</th>
<th>TOTAL</th>
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<tbody>
<tr>
<td>AGE</td>
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<td>ON MED</td>
<td>ON MED</td>
<td>BOYS</td>
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<tr>
<td>8 - 9</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>6</td>
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<td>10 - 11</td>
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<table>
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<tr>
<th>GIRLS</th>
<th>&lt; 1 YR</th>
<th>1 - 3 YRS</th>
<th>&gt; 3 YRS</th>
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<tr>
<td>AGE</td>
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<td>GIRLS</td>
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<td>10 - 11</td>
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<td>12 - 14</td>
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</table>

Letters informing parents of the study and requesting parents' permission for their children to participate in the study were sent to parents of all children in the district and
those identified outside the district as meeting the requirements of the study. (See Appendix C). Assurance of confidentiality was given, and a form for granting permission for the children's participation in the study was enclosed with each letter. (See Appendix D). Parents were required to sign the form in order for their children to be eligible for inclusion in the study.

Children were assured of confidentiality. They were told that their names would not be revealed, their responses would not be discussed with anyone who knows them, and when the researcher reported the data, no one would be able to tell which child gave which answers.

**Data Collection**

In depth interviewing of each child, one-on-one, was the data collection method. A semi-structured questionnaire was developed beforehand for use in the interviews. (See Appendix A). Miles and Huberman (1994) suggest that developing instruments prior to the interview prevents the gathering of superfluous information leading to data overload which tends to compromise the efficiency and power of the analysis. It is also likely to facilitate duplication of a study. Moreover, since this study involved multiple cases, a questionnaire served to ensure some uniformity in questioning which facilitated comparison. On the other hand, it was anticipated that questions suggested by the guiding theories might not be sufficient or always relevant. Therefore the instrument was not considered as complete. Rubin and Rubin (1995) insist that in qualitative interviewing respondents should help to guide the interview and their lead should be followed. Thus, interviews were allowed to proceed beyond the bounds of the questionnaire. Interviews were semi-structured, rather than structured, in order to allow opportunity for children to express their own thoughts and feelings.
There were three sections to the interview. In the first section children were asked to respond to a number of questions. In the second section children were presented with a number of pictures, each depicting some aspect of the experience of children with ADHD, and asked to answer questions concerning the pictures. In the third section children were told the beginnings of vignettes related to children with ADHD, and then asked to complete them. Miles and Huberman (1994) describe a vignette as a focused description of a series of events which has a narrative structure. They point out the usefulness of vignettes for reporting vividly and powerfully events observed in a study, when employed in the reporting of data. They mention that vignettes can also be used to engage participants in actively producing data. Ericksen (1986) who also discusses vignettes from the point of view of their suitability for reporting events observed during field research, mentions that vignettes are not accurate representations of originally observed events, but rather abstractions for the purpose of giving the reader a clear picture of the interpretive point the researcher intends to make. In an attempt to encourage respondents in this study to reveal their perspectives, it was thought that requesting that they complete vignettes might serve to elicit their interpretations of the events they imagined and recalled.

A further reason for the inclusion of the pictures and vignettes, in addition to questioning children directly, was the concern that children might become uncomfortable or self-conscious when questioned at length about their own thoughts and feelings. It was assumed that they might be more at ease and share their thoughts more readily when talking about other children with experiences similar to theirs. There was also the assumption that pictures and stories might spur children's imaginations and prevent "I don't know" responses. When children were interviewed, questions from the three sections were interspersed.

Questions, pictures, and vignettes were designed to explore the meaning categories designated above, with a few questions covering demographics added.
However, qualitative research design is intentionally flexible in order to allow the unanticipated to emerge (Marshall and Rossmann, 1995). Therefore, the researcher remained free to stray from or add to previously formulated questions in order to follow a child's lead, or as dictated by the course the interview took.

Prior to the study itself, a small pilot study, with three children as respondents, was conducted in order to assess children's understanding of the questions and their ability to respond to them. The pilot study indicated that introductory demographic questions included to acclimate children to the interview situation (See Appendix A) were superfluous, as children readily became engaged in responding to the interviewer's questions. With the exception of the question calling for the name of the medication, such questions were therefore omitted from subsequent interviews. Any demographic information needed was obtained from student records or parents. The pilot study revealed no further unsuitable elements in the questionnaire.

Interviews took place in the social worker's office/playroom. At the beginning of the interview, children were told that they were being interviewed in order to help the researcher understand children with ADHD who take medication, and that the researcher felt that children themselves were the best people to learn from. Thereafter, all questions included in the questionnaire were put to all respondents. If further in-depth questioning was needed to pursue children's meanings, children were asked to clarify or expand on their answers.

At the end of the interview children were each given a $5 gift certificate to spend at a local restaurant as a token of appreciation for their participation.

The interviews were audiotaped with the children's permission, and then transcribed for analysis.
Analysis Plan.

Each of the categories of meaning suggested by the literature were coded in order to form a "start list" of codes (Miles and Huberman 1994, p58) prior to beginning the analysis. These categories were:

Children's perception of the medication in relation to their sense of self-competency, as increasing or decreasing their abilities.

Children's perception of the medication in relation to the fulfillment or frustration of selfobject needs.

The congruence of the medication experience with children's value systems.

The influence of the medication on children's self-narratives.

Children's event representations related to the medication experience.

The semantic fields and sense of words related to the medication.

The responses of the children were then examined for these categories, and coded accordingly, as a first rough attempt at coding. Codes took the form of letter abbreviations or short words. For instance, "Perceived increased ability on medication" was coded as "Incr abil" and "Event representation is pleasant or positive" as "ER+" Subsequently, "sub-codes" within some categories were noted. For instance, selfobject needs were further divided into the sub categories of "mirroring selfobject needs" coded as "Mir s/o", when children reported more affirmation and praise on medication, and "Idealized Parent Imago selfobject needs" coded as "IPI s/o", when children reported experiencing fewer sanctions, more warmth, and more friendliness on medication.

As coding preceded, additional categories emerged and were coded accordingly. These were:

Children's knowledge regarding the medication.

Physical side effects of the medication.

Perception of lack of effects.

Fears associated with taking the medication.
Reasons given for reluctance to take medication.

Association of the disorder with sickness.

Concerns regarding dependence on medication.

The role of parents and teachers in influencing perceived dependence on medication.

Again, some sub-categories needed to be coded. For instance, "Fears associated with the taking of medication" fell into two distinguishable sub-categories of initial and ongoing fear, coded as "Fear (init)" and "Fear (ong)" respectively. The final list of codes and the categories and sub-categories to which they correspond, can be found in Appendix B.

Subsequent to categories being established and coded, data were examined for relations between variables that emerged, such as relationships between time on medication and children's attitude toward taking it, and between perceived dependence on medication and children's acceptance of it.

The data were reported in narrative form. Where applicable, respondents' own words were used to illustrate assertions and help the reader gain insight into the children's thinking.

Limitations of the study.

The validity of the study.

Kirk and Miller (1986) define validity as the degree to which a finding is interpreted correctly. They further define apparent validity—where it is "apparent" that an instrument is providing correct data, and instrumental validity—where it can be shown that observations match those generated by an alternative procedure that is itself accepted as valid. Maxwell (1992) distinguishes between three kinds of validity relevant here:
descriptive validity—the factual accuracy of the account of the data, interpretive validity—
the meaning that the data reported hold for the respondents themselves, and theoretical
validity—the validity of abstract explanations or theories generated from the data, offered
in the account.

Firstly, with regard to the validity of the interview schedule employed in this
research, its validity would depend upon the extent to which it yields truthful findings.
Neither apparent validity nor instrumental validity can be claimed for an instrument such
as this. However, such a non-standardized, loosely structured instrument is more likely
to produce data which capture the meanings of the respondents themselves, thus arguing
for interpretive validity.

With reference to descriptive validity in this study, Maxwell (1992) points out
that it is never perfect, as not everything that transpires in an interview can be included in
an account. In order to increase descriptive validity, interviews were tape recorded and
subsequently transcribed so as to prevent data from being lost by failure to remember all
that was said in the interview. Moreover, ample use was made of verbatim reporting of
respondents' utterances, which tends to strengthen both descriptive and interpretive
validity.

Fundamentally, interpretive validity depends upon whether children report their
true thoughts and feelings. The possibility exists that children may say what they think is
expected of them, or what they want the researcher to hear. Understanding children's
meanings, as well as inferring explanations from them, depends critically upon the
truthfulness of children's utterances. The semi-structured interview schedule, rather than
a standardized instrument used in this research, allowed for further in-depth questioning
which could likely serve to discourage "acceptable" answers, thereby eliciting more
truthful responses and, conceivably, increasing the validity of the study. As a further
strategy, triangulation was used in gathering the data. Triangulation involves the use of
multiple methods, data sources, or researchers to enhance the validity of data (Mathison,
In this research, triangulation by data sources was employed. This consisted in collecting data by direct questioning, inviting comments on pictures, and vignette completion by respondents. With very minor exceptions the findings from the three sources were highly convergent. In fact, children switched readily for commenting on "Emily" or "Tommy" in the picture or the vignette in the third person, to recounting their own experiences in the first person, sometimes in mid-sentence. An example of slight discrepancies is the comment of one respondent that kids wouldn't play with "Tommy" at recess, because "he's too wild" without his Ritalin, and subsequently reporting that he himself had always had "lots of friends" on or off the Ritalin. A probable explanation for this discrepancy might be that the respondent had witnessed other children being avoided by peers because of "wild" behavior, but had not experienced this kind of rejection himself, either because his behavior was not "wild" enough, or other factors such as his pleasant personality had compensated for poor self-control. Another example was provided by a fourth grader who predicted that "Lisa" would not tell her best friend about the Ritalin "because she doesn't want her not to be her friend." Yet, later in the interview, she reported telling her own friends and added, "and they're still my friends." Further questioning revealed that she herself had been appreheensive about telling her friends because she thought they might think they could "catch ADD" from her, but she had found her fears to be groundless. The discrepancies in the comments of a third respondent in fact confirmed the consistency of her responses. She stated that "Tommy's" mom yells less at him when he's on Ritalin, because then he's less "hyper". On the other hand, when recounting her own experience she mentioned no yelling, which was consistent with her observations throughout the interview that she noticed little hyperactivity or inability to concentrate in herself either on or off the Ritalin. Triangulation thus tended to confirm the reliability and validity of children's responses.

External validity, which refers to the generalizability of data, is not claimed for the findings of this research. The respondents in this study may or may not be
representative of all children medicated for ADHD. However, the purpose of the study was to create an awareness of how some children may experience being medicated for the disorder, and possibly to generate hypotheses which may be tested on larger groups of children. In this respect, several suggestions for further research will be given in subsequent discussion.

Moreover, Maxwell (1992) states that qualitative research is usually not designed or intended to allow generalization to wider populations. Here generalization takes place through the development of abstract explanations or theory that can be relevant to other settings and populations. In addition, Miles and Huberman (1994) suggest that the validity of explanations of findings gains in strength if they are congruent with or confirmatory of other theories beyond the study itself. The relationship of this research to the guiding theories was illustrated throughout the analysis of the findings and some strong congruence was evident. For instance, self psychology's tenet of the satisfaction or frustration of selfobject needs provided one powerful explanation for children's acceptance of medication for ADHD or their reluctance to take it. Again, findings were congruent with White's (1963) theory that a sense of competence develops when an individual's efforts are perceived to have an effect on the environment. Respondents did report an increased ability to achieve academically or socially when on the medication, with a concomitant improvement in self-concept. As medicating children thus increased their sense of self-competence, it did appear to work against the development of learned helplessness (Maier and Seligman, 1976). However, an additional finding of this study prompted an alternative explanation. Anxiety about coping ability if medication were ever discontinued on the part of a number of respondents, as well as concern about needing a pill for adequate functioning, suggests that the medication may decrease self-esteem and may foster a sense of helplessness off medication. This explanation is clearly relevant for consideration in practice with all populations of children with ADHD and argues strongly for the importance of consistently connecting personal effort to personal
achievement in clinical practice with them. Thus, this study's findings suggest external validity in the sense of their relevance and the relevance of the explanations offered for them, for other populations of children with ADHD in other settings.

The reliability of the study.

Reliability is inevitably at issue when an interview schedule is only semi-structured and when questioning is allowed to go beyond the limits of the schedule. Kirk and Miller (1986) distinguish between three types of reliability: Quixotic, diachronic, and synchronic reliability.

Quixotic reliability is obtained when an instrument yields an unvarying result whenever it is used. Kirk and Miller warn that the achievement of quixotic reliability is usually an indication that an investigator has elicited pat answers, rather than useful information reflecting respondents' true opinions.

Diachronic reliability refers to the stability of observations taken at different times. This is only appropriate when observing something that remains unchanged over time.

Synchronic reliability refers to similarity of observations within the same time period.

Such distinctions are useful in considering the reliability of this study's schedule. Standardizing the questions in the schedule would clearly have facilitated reliability, but may have produced quixotic reliability at the expense of validity. Diachronic reliability is an unrealistic goal when investigating children's opinions, as they inevitably change over time. Synchronic, rather than quixotic reliability is desirable if validity is not to be compromised. Therefore, the semi-structured schedule was preferred. It assured some uniformity in questioning and replicability, which strengthened reliability, but allowed for further probing and pursuit of respondents' honest opinions which in turn strengthened validity, but weakened reliability. Essentially, all questions were put to all
respondents, and, where relevant, further questioning was mentioned in the report. However, verbatim replicability of the instrument is not possible, and, as such, some portion of reliability may have been compromised.

An additional limitation inherent in self-reporting must be noted. Because the child himself/herself reports the meaning of the medication, there is an assumption that it has direct bearing on the child's behavior, but the relationship between meaning and behavior is not well established at present. Attempting to ascertain how children's meaning systems affect their behavior is not within the scope of this study.
Chapter 4

Findings

This chapter summarizes the findings resulting from interviews with twenty children taking medication for ADHD, aimed at gaining insight into the meaning of receiving medication for the disorder to such children.

Introduction.

All respondents were very willing to participate in the study, and needed no encouragement. During the interviews they seemed at ease, and none of them demonstrated any noticeable hesitancy about sharing their thoughts concerning their disorder or being medicated for it. No one objected to the presence of the tape recorder. One respondent offered, and subsequently proceeded to hold the small microphone in her hands so she could talk into it more easily.

Children appeared to enjoy the role of "consultant" and sharing their views. When thanked for her participation at the end of her interview, a fourth grader replied, "Any time. This was fun. I liked talking about this." Moreover, most children seemed intensely engaged in the discussion, and eager to share their experience, especially when reporting concerns and difficulties related to their disorder and being medicated for it. The need to be heard seemed evident. One respondent asked, "Can we talk about this again some time?"

It may be of note that two of the respondents had received counseling from the researcher for several months, but had never mentioned their disorder or being medicated for it. During the interview, both these respondents expressed anxieties and reservations regarding taking medication for their disorder. It would appear that children are unlikely
to initiate a discussion about problems associated with having to take medication for ADHD, even in a counseling session with a therapist, but, if invited and given the opportunity to do so, they will talk readily and willingly.

**Children's knowledge regarding the medication.**

a) **Knowledge of the name of the medication**

Checking with parents or files indicated that eighteen of the respondents took Ritalin, one took Adderall, and one took Clonidine. Out of a sample of twenty only three did not know the name of the medication they were taking.

b) **Understanding of reasons why medication is prescribed**

The explanations given by all respondents as to why the medication was prescribed for children with ADHD in general, reflected one or more of the core symptoms of the disorder, namely inattention, impulsivity, and hyperactivity. Children thought that the medicine was intended to improve concentration and ability to pay attention in class, to lessen daydreaming and staring into space, to improve grades, to help children "behave better", "control how they act", "not pick fights", "not get real nervous and mad", and to calm children down so they would not be "real wild" or "hyper".

Reasons respondents gave for why they themselves were given the medicine generally corresponded to the above. Examples are: "So I'd move around less", "To concentrate better", "Because I don't pay attention", "Because they don't want me getting out of my seat", "I was a bit wild", "So I won't be hyper", and "I can't control my temper so good". When, however, children were questioned as to the effects they actually perceived the medicine to have in their own experience, their answers sometimes, but not always, corresponded to the above. It became evident that these children did not always experience the medicine as doing for them what, in their understanding, it was supposed to do. This finding will be discussed below. Respondents' perceptions of the
effects of the medication were ascertained both by questioning them directly, (for example posing questions such as, *What do you find the medicine does for you?* and, *What do you think would happen if they stopped making pills like these and you could not take your pills anymore?*) and by presenting them with the picture of a child with ADHD in class (See Picture 1, Appendix A), and inviting their comments on his behavior both on and off the medicine.

**Perception that ability increases on medication.**

With the exception of two, all respondents did notice their own ability increasing to varying extents as a result of taking the medicine. (However, in one case, and to varying degrees in other cases as well, this increased ability was not sustained over time, as will be noted later). The marked reduction in inattention, impulsivity, and hyperactivity after the introduction of stimulants reported in the literature on ADHD (Barkley, 1991; Bush, 1993; Ullman and Sleater, 1985) was indeed reported by a majority of children in this study. Respondents noted that they were able to pay attention in class and understand what is taught more easily, avoid "rushing through" assignments and handing in "sloppy" work, "stare" "space out", and daydream less, make fewer errors, write more neatly, and concentrate and complete homework more successfully. One fifth grader talked about his new found ability to ignore distractions: "Before I had my pill, if the teacher was talking to these other kids, I just started looking up and listening, and now I just keep on working." Eleven children reported an improvement in grades. The characteristic decrease in task irrelevant and distracting movements, both fine and gross motor, (Abikoff and Gittelman, 1985) was mentioned by eleven respondents. On the medication they could stay on task rather than be constantly "moving around" or leaving their seats, be less "jumpy", and "goof around" less. As one youngster put it, without Ritalin, he would spend his time in class "playing around with the pencil, like rolling it around on the desk and looking out the window." A decrease in disruptive behavior and
non-compliance in the classroom as noted by Barkley (1991) and Swanson et al (1993) was also reported.

The improvement in functioning which children experienced on the medication extended beyond the classroom and academics. Children who manifested hyperactivity, there were eight in this sample who reported this, found themselves more able to concentrate on games and play cooperatively with others as opposed to running around on their own, or irritating other children. Many echoed this response from a fourth grader, "It makes me not be real wild." Impulsivity also lessened. Commenting on the behavior of the boy with ADHD presented in the picture, a fifth grader said, "He'll say things you don't really mean, but on the pill he thinks before he says stuff." Moreover, the aggression and domineering behavior characteristic of some children with ADHD (Barkley, 1991) and reported by five respondents, tended also to be controlled on medication. A twelve year old who had taken Ritalin for about four months, had this to say: "If someone came to call me a name and I didn't take the Ritalin, I would, I would get madder, my, my temper would come back faster, and I would probably go after them, but if I take the Ritalin, I can control it, and just ignore them." An eleven year old experienced similar control in his interactions with his mother: "----it (the Ritalin) helps me be better so I'm not wild, and at home I can get along better with my mom and we don't fight."

These children then clearly experienced general improvement in their functioning on medication. The improvements noted above support findings in the review of literature. However, some respondents credited Ritalin with unexpected powers. Some examples are: "It helps me chase after kids who bother my friends, and catch them better", "it helps me believe I have time to do my work", "well, I couldn't talk very well because I almost got head damage when I was a child because I got wrapped up in an umbilical cord, and the Ritalin helped me talk better." The last respondent also assured the researcher that the boy with ADHD in the picture could talk better and more clearly
on Ritalin.

Each of the above three respondents was questioned further in an attempt to gain insight into what at first glance seemed to be gross misconceptions. It seemed possible that these statements were children's attempts at verbalizing genuine lived experiences on the medication. As neither the literature nor the responses of children in this study yielded any indication that Ritalin improved running speed, the first respondent was asked whether the Ritalin actually helped her to run faster. She replied that it would be more accurate to say that it helped her to keep on running, rather than give up the chase and start doing other things. It is possible that this student was attesting to greater ability to focus on and complete a task when on the Ritalin. Interestingly, although she believed that Ritalin was intended firstly to help children concentrate and secondly, to help them not be "hyper", she did not report much increased ability to concentrate in class when on the medication, and, not being hyperactive like her brothers (who were also on Ritalin) she did not notice a behavioral change on the Ritalin as she observed in them. The only noticeable effect of the medication that she could report was more persistence in running.

The student who stated that the Ritalin helped her believe that she had time to do her work explained that the Ritalin not only calmed her, but changed the way she thought, thus enabling her to take her time. She stressed that concentrating and working carefully and neatly was up to her, but she needed the Ritalin to believe she could do it. She added that it would upset and disappoint her if, in due course, that is, in a couple of years, she still needed it and did not feel that she could cope on her own. This student's response probably reflects an experience of increased ability on Ritalin, coupled with a desire for self-reliance, rather than a simple misconception.

Further questioning of the third respondent, who said the Ritalin improved his speech, could shed no further light on his response. In addition to improving his speech, this eight year old credited the Ritalin with improving his concentration, understanding of school work, and behavior, but added, "I don't really notice if it's working or not." His
speech at the time of the interview was clear, and he had never received speech therapy. This child was evidently not speaking from his own experience, but was merely trusting that the medication was doing what he had been told it would, with some apparent misunderstanding.

Perception that ability decreases on medication.

In addition to positive effects, many children also reported that they experienced a decrease in their abilities in several respects. For some, the abatement of the "wildness" was accompanied by a sense of tiredness and lethargy. A ten year old commented, "At recess I don't like want to run, like play, because it (the Ritalin) makes you tired." Another respondent said he couldn't kick a ball far enough and felt he "lost power" on Ritalin. Tiredness and loss of energy on the Ritalin was a common complaint: "I'm lazy, and I can't do as much, I mean, I'm more tired." One boy even said he was "getting used to being tired from taking the pills", and another explained, "On the Ritalin it's just like, you're really not in the mood to do anything." Several respondents reported that taking the medicine detrimentally affected their achievement in sports. Two respondents actually made the choice to discontinue the medication over weekends when they played sports, and resume taking it again on a Monday to help with concentration in school. Others did not note that the medication affected their sport.

Other physical side effects.

Additional physical side effects which could be detrimental to adequate functioning were also reported. These included stomach aches, headaches, loss of appetite, dizziness, sweating, and difficulty falling asleep. Some children coped more comfortably with these symptoms than others. The response of one twelve year old illustrates that the physical sensations can be almost frightening: "---as soon as you put it in your mouth, your heart starts beating real fast and for about fifteen minutes to twenty
you're really hyper, and um, you've got all this energy to waste.....and then after you use up all that energy you're just, you're tired and you're....lousy...and like lazy...and tired."

It is thus evident from this research that children with ADHD experience a clear increase in their functioning abilities, but also some diminishing of their powers when they are medicated. Significantly, it must be noted that the majority of respondents, seventeen out of twenty, felt more able on medication, to varying degrees. The response, "I can do more since I started taking the pill" is fairly representative. Relating this finding to the theory of Maier and Seligman (1976) it would appear that medication gives these children success experiences which would mitigate against their developing "learned helplessness". It also serves the "Effectance Motive" postulated by White (1963) in that children begin to experience positive effects of their efforts on the environment, which, according to this theory, fosters a sense of competence and raises self-esteem. However, recall that it was suggested in the review of literature that such a conclusion could not be reached straightforwardly, as dependence on a pill for adequate functioning may actually lower children's self-esteem. As concern about dependence on medication did, in fact, emerge as a significant category in this study, the question of the effect of medication on children's self-competence will be visited again later in the discussion of the "perceived dependence on medication" category.

**Perception of lack of any effects produced by the medication.**

To a greater or lesser extent, a number of children in this study did not experience the medication as very helpful. Two of them categorically declared that the medicine did not help them at all and that, on the contrary, it was making their daily lives worse, and not better. Both had been taking the medication for between two and three years. Each understood the intended effect of the medication, but did not feel that it was working. The first knew that he was taking it for concentration, but stated clearly, "But I can concentrate by myself!" He admitted to being distracted "when my friends start acting
goofy", but added that the Clonidine did nothing to change that. When asked what he thought would happen if there were no more Clonidine, he replied, "I don't think it would be a problem." The second said Ritalin had been prescribed for him "because I would get really mad and then I would do stuff......and get in trouble." However, his experience was that the little control the Ritalin gave him over his temper was offset by the fact that "sometimes it gets me even more mad when I have to take it." He added, "Sometimes I say to her (his mother) when I have to take them (the pills) 'They don't even work, why do I have to take them?'" Both respondents were concerned about possible detrimental physical side effects, and both experienced decreased energy on the medication. For the respondent on Ritalin, this sapping of energy was particularly trying, as sports, especially football, was his prime interest in life.

Other respondents also, who did report some benefit from the medication, were nevertheless aware that behaviors which the medication was intended to control, sometimes manifested themselves even when the child was on the medication. A girl taking Ritalin to help her pay attention and "not stare", observed, "I don't think it works that long because I still stare out the window, and sometimes I don't even know what we have to do so I gotta ask the kids in my group." A fifth grader who had understood that the Ritalin would focus his attention so that he would be better organized and complete his work, told how he had burst into tears when he discovered he had forgotten to do some pages of Math "even with the Ritalin." And a hyperactive eleven year old who took Ritalin to control his aggression so he would "not pick fights", recounted how he "got mad because this kid, he punched me on the back, and I turned around and BOOM!...and I was even on the Ritalin!"

Research appears to indicate that stimulants have little effect on academic achievement in the long term (Riddle and Rapoport, 1976; Charles and Schain, 1981; Weber et al, 1992; Hechtman et al, 1984). Of the respondents in this study who reported positive change on the medication, five reported a lessening of the efficacy of the
medication with the passing of time, even though doctors kept increasing the dosage, as will be noted in more detail when the effects of time on the medication experience are discussed.

**Perceived effect of medication on interpersonal relationships.**

Studies on children with ADHD revealed that these children typically experience difficulty in their interactions with adults and peers (Barkley, 1991; Fischer, 1990; Pelham and Bender, 1982). As will be shown, the results of this study support findings in the literature that stimulant medication effects marked improvement in the social relationships of children with ADHD. The principal theory guiding this part of the research was Heinz Kohut's Self Psychology, and specifically the selfobject needs which it postulates. It will be recalled that these are the need for affirmation and appreciation, the need to experience calmness and security through the presence of a powerful other, and the need to feel a sense of likeness with one's peers. As these needs are met through social relationships, this research examined whether medicating children with ADHD was instrumental in meeting or in frustrating their selfobject needs. It was assumed that if medication altered the behavior of children with ADHD, the responses of adults and peers to the children would change as well. Children's views as to how others related to them both before and after treatment with medication, were ascertained through direct questioning and through their comments on the experiences of the child with ADHD presented in the picture.

**Perceived effect of medicating children on the behavior of teachers.**

The observations of children in this study accord with those of Frederick and Olmi (1994) and Whalen et al (1981) that teachers tend to control, direct, and reprimand children with ADHD routinely, and even give the entire class more negative attention when children with ADHD are present. Suggestions as to how the teacher might react to
the boy with ADHD in the picture when he is unmedicated, ranged from, "Well, she
might just say 'Tommy, slow down, you need to concentrate and we'll give you a little
more minutes," and "She might say, 'Stop fooling around and jumping!'" to "She would
tell him, 'How come you're being so bad this past half hour? ....... You're just not trying at
all!" Several respondents suggested that the teacher would mete out punishment: "She's
gonna tell him to stop it and if he doesn't she's going to give him a bad grade, or, um, take
half his recess off." Another opinion was, "She'll be angry and send him to the principal's
office." Some respondents were aware that a child with ADHD could influence the
teacher's response to other children as well. They felt that his bad behavior rubbed off
on others who then ended up in the office with him, or as one child said, "When he goofs
off......the teacher starts getting mad and then starts giving everyone extra work."

The decrease in directives and reprimands on the part of teachers when their
students with ADHD were medicated, as well as the greater tendency to praise and
respond positively noted by Barkley (1990) and Whalen et al. (1981) was also reported by
most of the respondents. Some comments were, "The teacher's not on him as much now",
"she's nicer", "the teacher's not going to come bother him anymore", "she wouldn't be real
mad", "she'll like not yell so much, and not send anybody to the principal's office", "the
teacher would be more happy with the class because it wouldn't be disruptive", "she's
proud of him", "she praises him more", and "(she'd say) 'I'm proud of you! I can't believe
this is you!'"

It must be noted that one fourth of the respondents noticed very little difference in
their teachers' interaction with them on and off the medication. These were the children
who generally also did not notice a marked effect of the medicine on their own behavior
or academic performance. It was either non-existent or small. Predictably, the
magnitude of teacher response depends on the magnitude of improvement in behavior or
academics brought about by the medication.
Perceived effect of medicating children on the behavior of parents.

Parental response to medicated children with ADHD was found to be very similar to that of teachers, which supports the findings of Barkley (1990) Fischer (1990) and Whalen and Henker (1991) that medication increases compliance with parental directives, resulting in decreased control and criticism on the part of mothers, and an increase in maternal warmth and responsiveness. Fourteen respondents reported improved relationships with parents, less yelling, less punishment, more support and more praise from parents, because on the medication the children were more able to comply with directives ("now, the first time she talks to him, he listens") and complete homework, and less prone to fighting with siblings. Three respondents reported no change, and three reported worsened relationships with parents, in that interactions became more conflicted. Children who experience lethargy on the medication are less willing to react to parental directives, thus inviting more reprimand. A sixth grader who had taken Ritalin for about six months explained, "When I was not on Ritalin and my mom told me to go take out the garbage, I mean, I would do that, but when you're on Ritalin it's just like, I don't feel like it...." Also, children who perceived little or no benefit from the medication and resent being on it, reported a great deal of conflict with parents over having to keep taking it. Interestingly, negative effects such as these on parent-child relationships revealed in this research, are not reported in the literature.

Relating these results to the guiding theory, Self Psychology, it would appear that for most children with ADHD, receiving medication has the salutary effect of procuring for them the mirroring and idealized parent imago selfobject functions of mirroring and soothing affect regulation respectively, in that authority figures such as parents and teachers praise and affirm them more, and sanctions tend to give way to more supportive and calmer responses. As was illustrated, a few, regrettably but significantly, experience greater frustration of selfobject needs, in that the medication experience results in more conflict with authority figures.
Twinship or alterego selfobject needs are met in interaction with peers, and here again, the effects of the medication were not found to be uniform, as is discussed below.

**Perceived effect of medicating children on the behavior of peers.**

Research indicates that peers react negatively, with sanctions, rejection, and social withdrawal, to the impulsive, disruptive, and sometimes aggressive behavior of children with ADHD (Barkley, 1990; Clark et al, 1988; de Haas and Young, 1986; Pelham and Bender, 1982). It has also been found that medicating children with ADHD brings about improvement in peer relationships, in that peers become more accepting of these children, and, notably, become less aggressive and off-task themselves (Cunningham et al, 1985; Gadow et al, 1992; Whalen et al, 1989).

The results of this study support these findings only in part. Whereas ten children did report that being medicated improved their relationships with peers, seven children, five of whom displayed symptoms of hyperactivity, never reported experiencing rejection in the first place, and experienced no change on the medication. Significantly, three respondents experienced a deterioration in peer relationships.

Respondents were conscious of the fact that disruptive and aggressive behavior alienated peers, both in the classroom and during play, as the following comments on the behavior of "Tommy", the ADHD child in the picture, (See Picture 1, Appendix A) indicate: "They'll be kind of upset with him, because they're trying to learn and are trying to keep up with the class, but they can't because he keeps fooling around and keeps taking their attention away from the classroom." "He might be like throwing pens around.......and they'll be very mad." "They get mad at him pretty much, because he's up there in their faces and they don't like it." "Kids won't play with him because he'll be like real, real wild, and he probably won't be listening to how to play a game." They also felt that medicating children with ADHD would foster peer acceptance. This set of comments refers to the reaction of peers to ADHD children on medication: "He's not
disrupting the whole class, so no one's mad at him." "He'd probably not be as wild and running all over, and kids might hang with him a lot more." "Everyone's not afraid to bump into him anymore. No one wants to just stay clear of him all the time. They're willing to play with him and everything." "On the Ritalin I've gotten a lot more friends, and more people are comfortable with me."

However, as indicated, some respondents experienced no unpopularity with peers either on or off the medication and noticed no difference in peer relationships as a result of being medicated. They regarded children with ADHD as accepted and popular: "Kids play with him." "He plays with kids." "Kids like him." "Kids like me." Two of these respondents noted peer irritation in the classroom, but not at recess, where children "can finally run around."

Contrary to expectations based on previous research, five children felt that peer relationships became problematic for them as a result of being on the medication. A few referred to actual instances of teasing or ridicule by peers, such as: "Sometimes people on the football team, they know about me taking the pills, and they say, 'Don't take the pills tomorrow, I want to see you go hyper!'" Others believed that peers rejected them and regarded them as "stupid", "weird", or "sicko", and had even stopped associating with them because they took medication for ADHD, but could not present any definite evidence to support this perception. In this respect, the need of these children to feel a sense of alikeness with peers, as postulated by Self Psychology, may well account for their insecurity which leads to this kind of perception, or more probably, misperception. Having to take pills to function made them feel essentially "different", a perception which is then projected onto peers.
Effect of medicating children on their perception of "alikeness" or "difference" from peers.

Children in this study openly attested to the need to feel an alikeness with peers. Fourteen of them expressed the fear of being thought different or less competent than peers because of being medicated, thus supporting this tenet of Self Psychology. In addition to direct questioning, respondents' feelings in this regard were elicited by inviting their comments on whether the child with ADHD in the vignette (Vignette Number 1. See Appendix A) would tell her best friend that she was taking medication. Responses to questions calling for their Event Representations on the experience of taking medication at school, also provided insight. Event Representations will be more fully discussed below.

Children's responses revealed that it is comforting to them to know that there are others who are like them in that they also take Ritalin. They also found it easier to admit to taking the medication in the presence of such children. There was even a tendency for some respondents to assume that their acceptance by peers was due to the fact that the peers were either taking Ritalin themselves, or, at least, knew someone on it. One boy said he started feeling better about himself as soon as he knew other people who took Ritalin too, and added, "(my friend) knows that I take it, but he doesn't really care, because one of his other friends does for hyperactive, and he, I think he almost had to take it himself." Another respondent stated, ".....it doesn't really bug me at school, because I have my friends and some of my friends take Ritalin." And yet another said, "They think it (her taking Ritalin) is fine because they know some other girls, one of them does take Ritalin, but she takes it at home."

The need not to feel "different" was thus evident. However, not all respondents considered themselves essentially different from peers not on medication. Three children stated confidently that kids who need Ritalin are "not really different at all" from kids who don't. Moreover, taking the Ritalin can, in fact, serve to increase children's sense of
alikeness to peers in that it decreases the negative behaviors which make children with ADHD conspicuous, and, by improving both their academic performance and social interactions, it increases their sense of possessing the same competencies as their peers. Respondents who experienced positive effects on the medication often felt that being "less wild", able to move around less and concentrate more, made them feel more like "other kids", or even "regular kids".

For others, their need for medication in order to concentrate or behave, stamped them as being "different" and less able. The very fact that some respondents referred to non-ADHD children as "regular", confirms this. The awareness - and concern - that others "could pay attention on their own" was voiced frequently. One youngster admitted, "I kind of feel weird, because you need a pill to control yourself." A seventh grader believed that his body is so different that Ritalin would do "the exact opposite" to a "regular" kid than it does to him. And an eleven year old lived daily with the feeling that "everybody is different from me, and everyone else is saying 'You're not like me'.'

Such awareness leads to embarrassment and even shame, and an active concern about what others might think. Very few were comfortable with peers knowing about their taking medication. Sixteen believed that the girl in the vignette would not tell her best friend about the medication. Some suggested her friend might laugh, or even refuse to remain friends, for the reason that children who need medication in order to cope with school work or behave are considered stupid, weak, or "weird". Others suggested she would only tell "if she can trust her with the secret." One little boy simply stated, "Never, never, never!".

Medicating children with ADHD serves, it would appear, both to meet and frustrate children's "twinship" or "alter ego" needs. As this need appeared to be so pertinent and virtually universal in this study, and most children were so vehement in their articulation of it, this postulation of Self Psychology goes far in fostering insight
into children's attitudes to taking medication for ADHD, and the meaning they attach to it.

Children's event representations (ERs) related to the medication experience.

Katherine Nelson's theory (1986) of event representations (mental representations formed of events experienced in everyday life) which are central to children's thought processes, in that children's cognition operates on them rather than on objective phenomena they encounter in the outside world, prompted this study's investigation as to how children's ERs may determine their response to medication for ADHD and the meaning they attach to it. Two specific ERs were investigated, namely ERs of children's first experience of receiving medication, and ERs associated with receiving medication at school.

Event representations associated with children's first experience of receiving medication.

Not all children could recall this experience very well, and this was anticipated. Therefore, children were presented with a picture of "Tommy" being given his medication for the first time, (See Picture 2, Appendix A) and asked to explain what they thought that might be like for him. It was, however, observed that during the course of this account children were apt to change from "Tommy" to "I", and subsequently began to recount what they could remember of their own experiences.

With the exception of two, all respondents recalled their mothers giving them the medication the first time. The other two recalled their mothers bringing it to the school, and the nurse giving it to them. Only one respondent remembered his mother looking happy and smiling when she gave him his first dose of medication. Significantly, all this child's responses indicated that he remained unconcerned about the medication, even after being on it for three years. Seven respondents could not really recall or describe the expression on their mothers' faces, and eight recall their mothers looking nervous. One
said, "She looks nervous to see what happens, and hoping it works", and another, "She's nervous because she doesn't know how he's going to react to it." Three respondents thought their mothers looked neither happy nor sad, "sort of in the middle" as one put it, and a thirteen year old said, "She looks happy because he's actually taking it and not refusing, and kind of nervous because they don't really know if it's going to work."

Children's own feelings at the time seemed to reflect their mothers'. Some (four) felt a little excited in anticipation of experiencing positive effects, most (sixteen) felt nervous or scared to some extent. Reasons given for apprehension were: Natural fear of a new experience ("he might be a little scared because he never took it before", "he felt bad, because you're not really used to pills") concern about the number of pills that need to be taken ("how many of these do I have to take a day, or a whole year?") fear of side effects in the form of bodily harm ("he was scared he could get sick", "will it affect any part of my body?") the implications of having to take pills ("am I stupid or something? Do I have to take this because there's something wrong with me?") and in one instance, fear of loss of identity ("is this going to make me any different from the way I am now?"). One sixth grader who had watched his brother take ever increasing doses of Ritalin, remembered asking his mother, "Will I ever be able to not take this?" Finally, fear of ridicule was recalled by several children. A fourth grader, on Ritalin for only about six months, clearly recalled thinking aloud, "Ah, man! Everybody's gonna laugh at me!" To which her mother replied, "They won't, if you don't tell them about it."

One young man, a fifth grader, who had begun the Ritalin only a few months earlier, chose to concentrate on his ERs of the visit to the doctor's office when the Ritalin was prescribed, rather than on the ERs of the first time he received it. He recalled his parents raising the concern that Ritalin may stunt growth, and the doctor replying, "Not at low doses." He also remembered asking if the Ritalin would hurt him, and the doctor denying this, but being called from the room at that point, and not returning to the subject when he came back. This student seemed intent on relating the physical sensations he
was experiencing on the Ritalin, during the interview. He mentioned sweating, headaches, stomachaches, fatigue, and even poorer eyesight, and expressed much anxiety as to how the Ritalin might be affecting his body. Evidently, questions left unresolved when children are introduced to the medication can persist strongly in children's minds.

From children's accounts of their initial introduction to the medication it would seem that they received the impression that the medicine would accomplish certain specific things for them. Some were told academics would improve. For instance, when asked what Tommy's mother might have told him about the pills, children gave the following suggestions: "It will make you listen and pay attention more." "This is to help you understand and learn things better at school." "She tells him he's going to do fine and get better grades if he takes it." "It will help you do better in school." Others recall being told the medication would control their behavior and keep them out of trouble. For example, "You won't be goofing off as much and won't be in as much trouble." "You need to take this or you'll be real wild." "You'll get better and not do anything so you won't get grounded or anything." Notably, some of these ideas of what the medication can accomplish, go beyond the general expectations of improved ability to focus and being calmer.

Granted that children's recall cannot be expected to be accurate, these accounts nevertheless reflect in a general sense, the ERs which they held for this experience at the time of the interview. From these results it would appear that children's ERs for the occasion when the medication was first presented to them do have some bearing on the way they subsequently experience the medication. For most of those who remembered sensing concern on the part of their mothers on that first occasion, a general sense of concern seemed to linger, although some particular fears felt at the time dissipated as experience proved otherwise, as will be seen in the discussion on fears associated with the medication. Also, the girl who remembered her mother advising her not to tell her friends about the Ritalin, retained her sense of embarrassment. She could not keep it
from her friends as she took the medication at school, but she went to great pains to assure them that it was "just for concentration", and had nothing to do with her behavior. Similarly, as already noted, the boy who held the ER of his parents' concern in the doctor's office about physical side effects of Ritalin, became overly concerned about his body's reaction to the medication. Of course, there is no way of knowing whether children were truly describing ERs, or simply projecting present conceptions onto their past. It must be noted, though, that the experience was fairly recent for the last mentioned two children, so their recollections may be fairly accurate. Nevertheless, it would seem prudent to be aware of the significance of the manner in which the medication is introduced to children. It is also possible that the disillusionment which some children experience regarding the medication, as will be discussed later, may be related to the fact that they are initially given too definite and optimistic a picture of what the medication can do.

Event representations related to receiving medication at school.

Children's ERs for taking medication at school were elicited by presenting them with Vignette number 3 (see Appendix A) and inviting them to tell what it would be like for "Emily" to take medication for ADHD at the school the respondent attends. Here again, respondents readily identified with Emily and many started describing their experiences in the first person. The majority of in-district children's ERs (thirteen) included leaving to go to the nurse's office after lunch or recess, and joining a line of kids also waiting for medication. Sometimes they included other children noticing and possibly asking the child where she was going, sometimes not. If they did, most perceived the looks as friendly, and not embarrassing. It appeared that taking medication is very much accepted in this district. Even two respondents who described ERs of what happened when, on occasion, they forgot to go and get their medication and had to be called out of class by the nurse, reported no embarrassment. The discrepancy
here between children's apparent unconcern about going to get their medication in full view of other students, and the reluctance to reveal the fact that they take medication to peers, which several of them reported, can probably be explained by the fact that going to the nurse is so routine that children have become used to it, and no longer bother to ask questions about it. An additional explanation probably lies in this response from a fourth grader when asked how kids feel about "publicly" waiting in line for their pills: "They don't really care, because they'll probably think, 'hey, I don't care, because some other kids have to take it too!'". It appears that there's comfort in numbers, because, in Self Psychology terms, twinship selfobject needs are met.

Out-of-district respondents who take their pills out of the teacher's desk themselves, also experienced no embarrassing stares or questions.

There were, however, some exceptions. Two in-district respondents chose to describe their ERs for a particular year when the nurse distributed the pills in the lunch room, which was embarrassing because "then everybody saw", and it led to questioning and teasing from peers. Two out-of-district respondents also reported unpleasant ERs. One who used to have to keep her pills in the principal's office, recalled the principal's irritation at the disturbance, and also looks and questioning from peers: ".....and then like they'll be asking me, 'Where are you going?' and.. 'what's that?' and stuff." The other recalled some students noticing him going to the secretary's office to get his pills and getting teased: "...they first ask what it was for, and then they started like making fun like they knew what it was for and that." He remembers trying to ignore them.

Recollections such as these clearly influence children's medication experience. Although all three of the aforementioned respondents perceived deriving enough benefit from the medication to be willing to continue taking it, all three expressed a reluctance at having to keep taking it. One said she was "sick of taking it", and actually gave as the reason the fact that she had to put up with the looks and questions from peers. The other two both avoided letting peers know about the pills whenever possible. There was also
evidence of the tenet of Nelson's theory (1986) that children's perception of events, i.e. the contents of their ERs, are strongly determined by prior schemata and expectations. Children who felt severely embarrassed about taking pills and expected peer rejection, tended to retain ERs of hostile peers. A child who saw another student slip with a lunch tray, thought he saw him fling the hot lunch tray at him as he returned from the nurse after getting his pill. He added, "...most kids, like if they find the kids that take the medicine, they'll maybe trip them if they have hot lunch trays." Another respondent saw a group of his friends talking, and because he remembered one of them asking him what kind of pill he took, he was sure he saw them whispering about him and conspiring to exclude him. Neither of them had any proof of a connection between the medication and their peers' hostility. It is not unreasonable to assume that the nature these ERs are likely to color future perceptions.

The semantic fields and sense of words related to the medication experience. Vygotsky's concepts of the sense and semantic fields of words prompted the attempt to gain understanding of the meaning of medication for children by eliciting the associations which they hold for the name of the medication they take. Children's responses here seemed very weak. When asked for their associations to other words (not related to the medication) they could readily come up with some. For instance, the word "balloons" was associated with parties or hot air balloons, and "detention" with trouble or boredom. Children could report that they felt "happy", "sad", or "mad" when words such as the above were mentioned. However, words like Ritalin or Adderall evoked mostly specific concrete references to the pill itself, such as "a pill", or "my medicine", or "popping a pill into my mouth", or "a pill, water". A few respondents took it a little further, with responses such as, "a pill that helps me pay attention", or "a pill that helps me out". Responses such as "getting better grades", or "having more friends", or even "getting teased", were not forthcoming. Only one said, "maybe behaving." Recalling
Vygotsky's observation that for very young children the affective sense of words predominates, for children of seven years onwards, the concrete, and that logical and abstract connotations only become paramount for older children or adults, this response is probably due to the age of the children. In addition, only four children said the name of their medicine gave them a "nice", or a "positive" feeling. The majority reported an "in the middle" feeling. Responses were not strong, and children displayed little emotion. Facial expressions of only the few (three) children who, throughout the interview had expressed strongly negative thoughts about their experience on medication, visibly changed at the mention of the word. They could state more definitely that it was "not a good thought." It would thus appear that negative responses to the medication are much more emotionally laden than positive ones. However, in this sample, the number of children who reported extremely negative experiences on the medication, was small. Only three respondents fell into this category.

Viewed in their entirety, the results of this study would show that children tend to have "mixed feelings" about the medication, and are aware of both benefits and detriments. Their associations for words appear to reflect this.

Children's association of their disorder with sickness requiring medication.

During the discussion of their associations for the name of their medication, children were also asked whether their associations for a word such as "Tylenol" were similar in any way. None of their responses indicated that they regarded their disorder as physical sickness as this is generally understood. Some said Tylenol and Ritalin were alike, in that "they both help you", but in the sense that "the one gets rid of headaches, the other one helps you do better and stuff." Most echoed the opinion that "Tylenol is different from Ritalin, because Tylenol is a bad feeling, because you're sick."

However, during the course of their interviews, and not in direct response to a question, there were five children who revealed that they experienced themselves as
being "sick" in some way, either physically or mentally, because of having ADHD. A sixth grader said, "I think it is kind of a sickness, because it, it kind of takes over, I know it takes over my body, it's like you kind of know what you're doing, but it's like you don't have that much control." The same student said, "I kind of feel weird, because you need a pill to control you." Another referred to "this sickness that I have", but could not really explain what she meant. A ten year old feared that kids might not want to be friends with kids who take Ritalin because," that person has to take medicine, and they don't know what the medicine is for, and they don't wanna catch what that person's got." She added, however, "...but you can't catch ADD." One respondent felt that children with ADHD needed Ritalin "to help them get rid of the craziness." When asked if he really thought children with ADHD were crazy, he replied, "Maybe, because they go like , you know, they're wild, and they act funny and that." Another just preferred to keep the fact that he takes medication private, because others might infer from it that he was in some way sick or abnormal. "...there are some kids that just sit there and say, 'ah, he takes Ritalin, he's got to be a psycho or something.' So that's why I try to keep it to myself."

Thus, for some children there is a sense in which they associate their disorder with a sickness, even a sickness over which they have no control and need Ritalin to function in some cases, as was found in the Henker and Whalen study (1980). How this relates to children's sense of dependence on the medication and to their self-narratives, will be considered later.

The congruence of the medication experience with children's value systems.

The tenet of Self Psychology that parents are the providers of values and ideals for the idealized parent imago which determines the child's value system, led to the concern that taking a "drug" may make children uncomfortable, as this would conflict with the values internalized by the idealized parent imago. The fact that their parents make them take it may even confuse children, as parents characteristically warn their
children against drugs. Results indicated that, without exception, respondents drew a clear distinction between their medication and street drugs. Some examples of responses are: "No, because those drugs hurt your body and can like kill you. This helps your body to pay attention more and stuff." "No, it's not a drug, because the doctor prescribed it." "No, you don't go crazy. On other drugs you might." "They're not drugs. They're to help you, like, focus on the teacher. Drugs hurt your heart." Even the young respondent who was most vehement about not needing his medication, said, "No, it doesn't do anything (bad) to you, but it doesn't help you."

All respondents, then, were adamant that the pills they take for ADHD are in no way drugs. Interestingly, though, if children's fears regarding the medication are examined, they seem to correspond to many of the kinds of fears commonly associated with drug taking, as will be illustrated below.

Children's fears associated with the taking of the medication.

Sixteen respondents out of this sample of twenty reported experiencing initial fears when first introduced to their medication. The most common was the fear that the pills could harm children's bodies in some way. Some feared "side effects", or "that I might get sick." A fourteen year old who had been on medication for three years, described his initial fears this way: "When I first started taking it I thought that it was like a poison or something that was going to like transform your body and just like make you a mummy or something, a Zombie." Another respondent's comment also reflected fear of transformation of some kind. She wondered, "Is this going to make me any different than the way I am now?"

Children also reported fear of unfamiliar physical sensations. One second grader, on Ritalin for less than a year, said, "It all goes, slows down in my stomach and I'm not moving (so much) anymore." A sixth grader, also on Ritalin for less than a year, tried to describe his sensations this way: ".....when I took it my first time, I was a little, I was
scared, because like when I got all the energy, I couldn’t control that energy, but now I can control it, ... like when it starts, I can control it, because, I mean, I’m used to it."

Children’s experience on the medication, once they had taken it for a while, allayed these fears. They either suffered no notable side effects, or overcame them, and learned to manage physical sensations. And the girl who feared being changed, concluded, "It’s changed me in a good way." Other initial fears, which centered mainly around being ridiculed, also dissipated when children either experienced no ridicule, or overcame it. As a fourteen year old put it, "...basically, I’m one of the biggest and the strongest kids in the class, so if they mess with me they’re in trouble!"

There are, however, fears that persist. Concern about future physical harm if they stayed on the medication continued for six of the children. A short eleven year old who had been on Ritalin for five years, worried, "Sometimes I think it may be upsetting my growth, and I just feel I’m a little too short...." A fifth grader, on Ritalin for under a year, mused, "Sometimes I wonder, I mean I’m still young, and I’m not going to get like totally hurt by swallowing a pill,.......I just am scared that something does happen to me." There was even a ten year old who worried "that if they weren't the right pills."

Any apprehension children may feel regarding their medication is greatly exacerbated when the dosage is no longer effective and has to be increased. One student, on 25mg twice daily, related how he often asks his mother "if I could try maybe reducing it or not taking it". He explained, "Sometimes I just get tired of taking it, and taking so much." For some the anxiety goes beyond the monotony of routine. One young man seemed to fear that there may be a harmful cumulative effect: "I don't like to take two pills now........if I take too much, I might be in the hospital! " A sixth grader, on the medication for about six months, commented on his elder brother's experience of ever increasing doses of Ritalin: "Well, my brother, when he took it, I mean, he didn't like it at all, and he was always mad.......and he had to go to a higher mg., and it really didn't help, and they didn't think he could go higher...." He concluded, "In some people it changes
their lives big time and just kind of ruins it." This student himself was still on his initial dose of 5mg. and relying on coming off the medication within a matter of months.

The fear of becoming dependent on the medication was expressed by eleven respondents. The following excerpt from the interview with a twelve year old on medication for six years, captures the sentiments of these children very well: "I kind of wonder, because sometimes it's like I just sit and think, you know I've been taking it for a long time, and it hasn't.....I'm just wondering if I'm going to have to take it for my whole life, or if it's going to set me straight or whatever. I think what the doctors need to do is keep lowering the dosages little by little, as they get older. Like from their teenage years, just keep lowering it, because as they're on the Ritalin, they're dependent on it, and they're not doing that much themselves, so they're pretty much depending on the Ritalin to calm them down." A more comprehensive discussion of the issue of dependence on medication for ADHD will follow later.

The level of anxiety related to taking medication for ADHD varies considerably amongst children. Some children are naturally more trusting and accepting of treatment prescribed for them, some are less inclined to question, think, and reason, and for others the benefits experienced on the medication outweigh and overshadow the apprehension. For two respondents in this sample, the anxiety about their medication seems to be a constant companion. They constitute only ten percent of an already small sample, but their experience nevertheless contributes relevant information. Both were ten years old at the time of the interviews. The first had been on Ritalin for nine months, and the second for over two years. Both were concerned about the "slowing down" effect they experienced on the Ritalin. For the second, it was particularly limiting, as sports played a great roll in his life, and he regarded himself as "the fastest kid in our school." For both negative peer response and fear of detrimental physical effects were paramount. The first appeared to be so preoccupied with the effects of the Ritalin on his health, that he attributed every conceivable physical ailment and discomfort to the Ritalin. He
complained of dizziness, tiredness, excessive sweating, headaches, worsening astigmatism, blurry vision, and "sort of losing eyesight", all of which he felt was somehow connected to the Ritalin. He also fretted constantly about peer relationships, and blamed any rejection he experienced from peers on the Ritalin. The second child mentioned here conveyed the impression that his life had become a constant worry since he had started the Ritalin. He envisioned a much happier life "if there were no more Ritalin in the world", because "then I wouldn't concentrate on pills anymore. I wouldn't have to worry about 'em."

Many of the concerns noted above, such as fear of becoming dependent on pills, physical harm resulting from their use, or even of overdosing on too many, correspond pointedly to apprehensions commonly associated with drug taking. Thus it would seem that, while taking medication for ADHD is not incongruent with children's value systems in the sense that it violates their sense of morality as taking a street drug would do, children nevertheless tend to be uncomfortable and uncertain as to its effects.

**Reasons given by children for reluctance to take the medication.**

Although by now several reasons why children are reluctant or hesitant to take prescribed medication for ADHD are bound to have become evident to the reader, a few have not yet been mentioned during the course of this report, and need to be added. Complaints about the taste of the pills were common. Younger respondents found them difficult to swallow initially: "I started when I was in Kindergarten, yeah, I didn't know how to like swallow those big things, so I chewed it and when I chewed it up it had an awful taste to it, and I never wanted to take it." Irritation with the disruption in their daily routine, and the bother of having to report to the nurse's office are problems for most children. Fourteen children in this sample complained about this. As the medication is most commonly distributed during lunch or recess, it cuts into children's treasured leisure time, which they resent giving up. "I don't want to have to go in there
and take it, I want to get to the lunch room really quick." "It wastes time, because I'm already down there, so I have to walk about a mile to try and get there, and plus I have to go after lunch with all the seventh and eighth graders." And, as the comments of an eight year old reveal, the interruptions can continue after school: "It always seems like she gave it to me just five minutes ago, so it's like give me a break for a second! And when I have a friend over, it's just like, I want to play and not stop to take it. Because if we're outside, I have to run inside into the kitchen, get a glass of water, and run back outside."

The strongest objection of all, however, seemed to be to the sheer monotony of having to take the pills day after day. Nine out of the thirteen respondents who had been taking the medication for longer than one year referred to this monotony. One child's reflection sums it up perfectly: "The worst thing about having to take it, is just having to take it over and over and over again."

Age as a factor influencing children's medication experience.

There were no clear-cut differences in respondents' feelings regarding the medication amongst the three age groups in this sample. There was, however, a tendency for younger children, in the 8 to 9 years age group, to be more accepting of the medication. Five out of eight expressed only minor complaints such as the bother of having to take pills at lunch time. Older children tended to express more concerns and anxieties about taking medication. In each of the other age groups (ten to eleven, and twelve to fourteen) only one respondent expressed only minor concerns. This could, however, be related less to their age, and more to the fact that, being older, they were more likely to have been on the medication for longer periods.

As will be noted below, length of time on medication tended to influence children's attitude to taking medication.
Gender as a factor influencing children's medication experience.

No differences between boys and girls in attitude to the medication could be identified. However, considering the small number of girls in the sample, no reasonable comparison was possible.

In district or out of district status as a factor influencing children's medication experience.

Apart from differences in event representations for taking their pills at school, no notable differences in feelings regarding medication were found between in-district and out of district respondents. Again, a larger sample may have facilitated more extensive comparison, but these results indicate no significant differences in the ways that students with ADHD are treated or accepted in various schools.

Time on medication as a factor influencing children's medication experience.

Some initial anxieties related to taking the medication lessen or disappear with the passage of time, as was noted before. As one respondent put it, she began to regard the medication regimen as "no big deal anymore." However, children who had been on the medication for short periods (less than one year) tended to think most positively about the medication and report the least concerns. Children who had taken it for longer than a year were more likely to raise objections and express the fears and anxieties mentioned before. In addition, as was noted before, five respondents noticed a lessening in the effect of medication over time, despite increased dosages. An eleven year old, on Ritalin for five years, and on 25mg. twice a day at the time of the interview, explained, "It still helps, but it felt kind of like, it may have gone down a little.......Um, sometimes they tried to give me a little bit more of a dosage, but they don't want to give me too much." A fourteen year old, on medication for over five years, felt the medicine was no longer helping him: "Well, when I just started taking some of the medicine, then I noticed
a difference.........now, I don't really think it works that well........sometimes it's like I don't really notice anything different." Yet, he thought he would keep taking it "until my mom thinks I can manage on my own." The lessening effectiveness, as well as the concomitant increase in dosage is disconcerting to children, especially over the very long term. However, results revealed that the length of time that children had actually been taking the medication appeared to influence their feelings about taking medication less than the length of time they expected to remain on it. This ranged from a couple of months to the end of high school. Two to three years were most frequently projected.

Children who viewed their time on medication as definitely limited, were typically willing to take it. They thought that they would either outgrow their disorder, or somehow develop the ability to control its symptoms as they got older. An eighth grader explained, "I'll probably take it till I outgrow it. That's what the doctor said, that I should outgrow it." He expected this to have been accomplished by his second year in high school. A fourth grader said, "I'll probably stop in fifth or sixth grade, 'cause I'd be a lot older and I could control myself a lot." Another fourth grader, also expecting to stop taking his Ritalin in fifth or sixth grade felt the same way: "I feel like when I get older I won't have to take it, because I'm getting like better,.....and I'll be able to concentrate more." Five respondents gave the distinct impression that they would be seriously concerned about their own self-reliance if they thought that they would still need the pills when they were older (for instance, in high school). As one nine year old exclaimed when asked how she would feel about continuing the medication for say, another four or five years," I'd feel shocked! I mean, if I couldn't get my act together by then, I mean I'll feel.....mad!" The implications of feeling dependent on the medication "to get one's act together" emerged as a significant factor influencing the meaning children drew from the medication experience.
Children's perception of their own dependence on the medication for adequate functioning.

The degree of perceived dependence on medication differed considerably from one respondent to the next. It will be recalled that only two respondents reported no need for the medication. One insisted that he did not need the medication and could function better without it. He was adamant that he could concentrate by himself, and that the pills did nothing to stop his "goofiness" - which he did not consider a problem in the first place. The other was aware of his tendency to lose his temper, but he didn't feel that he needed to be medicated for it, and the medication did little to control it, and sometimes aggravated it. As is to be expected, children who feel quite able to function without the medication, or feel they would function better without it, are likely to object to taking it. Indeed, these two students expressed considerable anger and frustration at being forced to take medication against their will.

A few respondents, four in all, recognized the helpful effects of the medication, and acknowledged their need for it. However, for them, this acknowledged need did not amount to feeling dependent on the medication and relying on it for success. These children had a clear sense that their success depended on their own efforts, and not on the action of the medication. They attributed a bad grade to insufficient study on their part. This is how one student saw it: "Even if you take the pill, it's not going to control you, you have to control yourself. The pill's just there for support. If you don't choose to listen, the pill, it's not going to make a difference how much you take of it, or if you take it at all." These respondents, who seem to regard the medication merely as helpful to them in their efforts to concentrate or remain on task, experienced the medication most positively, and were happiest on it by far.

However, so healthy a conception of the medication experience was rare. To a greater or lesser extent, the other respondents in the sample felt dependent on their pills and predicted lower grades and less control over behavior if the medication were no
longer available to them. They also attributed failures to insufficient action on the part of the medicine, and to a much lesser extent, if at all, to lack of effort on their part. The Ritalin "wasn't working so well at the time", or "hasn't kicked in all the way." Here is an eight year old's delightful explanation of why he sometimes got Math sums wrong: "It's getting to it, (referring to his Ritalin) it needs more time to do its job. It has to go through my mouth and go through the, you know the thing where my food goes that's at the bottom of my neck? It has to go through there and it has to go down, all the way down, and it has to go inside my tummy."

For some respondents the prospect of being deprived of their pills implied more than just "not concentrating so well", or "goofing off more". At least four of the respondents predicted seriously impaired functioning if the medication were discontinued. The following scenario offered by a seventh grader on Ritalin for over six years, provides an example: "I guess I would have to deal with it, but I wouldn't be too happy with it because my grades would start to drop, I wouldn't, it would like put my whole life in a tailspin....because my grades would react .......and I would get all the dummy classes in high school, and high school goes on your college, and I wouldn't get into a good college, or I wouldn't get into college at all, so I wouldn't get a good job."

Considerations of the psychological effects of such reliance on a pill aside, one cannot but wonder about the accuracy of this young man's expectations for the medication, given research findings of dubious and limited long term effects of stimulants on academics (Charles and Schain, 1981; Hechtman et al, 1984; Riddle and Rapoport, 1976; Swanson et al, 1991; Weber et al, 1992).

This perceived dependence on a medication appeared to be very troubling to children. However, there was one respondent who seemed quite untroubled by it, and felt very comfortable with taking the pills. The eight year old mentioned above who blamed his Math mistakes on the Ritalin, found that he "goofs around and makes all sorts of errors" when off his pills, and consequently takes his medication enthusiastically. He
declared that taking Ritalin made him feel "smart", "like royalty", "like an important man."

Twelve children in the sample who confessed to feeling a sense of dependence on medication in order to function day by day, reported concomitant feelings of anxiety and apprehension. In some cases these feelings were fairly mild: "I would like to be to the point where I could control my temper on my own." For others, concerns about becoming "hooked" on the Ritalin were emerging. A nine year old girl expressed it this way: "When I'm older, I don't want to be taking my Ritalin, because then I'd be taking it like all the time, and I don't want to have to take it all the time." And a twelve year old wondered, "Will I ever be able to not take this?" A strong desire to be self-reliant was evident. Children's statements expressing the conviction that coping without their pills would be very difficult, tended to be followed by statements such as: "But I'd probably work at it pretty good.....every time someone would call me a name, I' just like stop and count to five....", and "Maybe if I just thought and believed in myself, and took the time and concentrated..." The twelve year old who, on the one hand, feared that his life would be "in a tail-spin" without his Ritalin, nevertheless remarked that he was currently noticing himself getting into less trouble when off the pills than he was able to do when he was younger. He also felt his successes were due somewhat more to his own efforts at present than when he was younger: "I think it's more me than the Ritalin now. But when I was younger it was all the Ritalin." He considered this new-found, though limited, control "a great accomplishment." The suggestion of a couple of respondents that the dosage should be lowered for older children so that they might develop the ability to rely more on themselves than on the medication, further reflects children's desire for self-reliance. The necessity to increase the dosage because of tolerance to the drug, which children encounter instead, serves only to heighten anxiety and frustration.

Most respondents inevitably experience times when the very behaviors for which they had been medicated reassert themselves even when the child has taken the pills.
Sixteen respondents attested to this. The meaning children attach to these experiences of "failure" appears to depend on how routinely they occur, and on the child's perceived level of dependence on the medication. Children who experienced many such "lapses", and who regarded themselves as significantly unable to cope without medication tended to experience a sense of disillusionment and insecurity. Recall the student who was reduced to tears when he found himself forgetting assignments even on his Ritalin. It could reasonably be supposed that the routine of taking medication daily, sharpens children's awareness of their own limitations and need for medication. For a child who has been on medication for a long time, finding that it no longer helps, can result in a sense of hopelessness. A fourteen year old, on medication for over five years, and finding it no longer effective despite having switched from one stimulant to another, named the medicine as the one thing in his life that he would change if he could. He said, "I'd take a medicine that works."

Nevertheless, with the exception of three students, all respondents said they would continue on their medication for the present if given a choice. A strong and positive reason for this choice was that they were seeing results. To varying degrees, they were experiencing themselves as more able on the medication. However, the question whether this increased ability to affect their environment, in the form of more academic or social success, actually resulted in raising children's self-esteem as White's theory (1963) would have it, cannot be answered unequivocally from these data. Clearly, most of the children did experience an increase in self-esteem. Some of them said in so many words that they felt better about themselves after beginning the medication treatment. But given the powerful manifestation of a desire to be self-reliant, it is not clear to what extent self-esteem is impacted negatively by having to rely on a pill for adequate functioning.

Similarly, referring to the theory of learned helplessness (Maier and Seligman, 1976) there is a strong sense in which children felt empowered by the medication. On
the other hand, children's willingness to stay on the medication if given a choice, could be a manifestation of insecurity without one's pills, rather than an endorsement of their salutary effects. As discussed above, children's responses seem to reveal that for some of them, not for all, feeling dependent on a pill convicts them of helplessness, to the extent that they are afraid to live without it.

The role of parents and teachers in influencing perceived dependence on medication.

From children's responses it became evident that authority figures who interact with children with ADHD can contribute to children's feeling unduly reliant on the medication. The following remarks from parents and teachers reported by respondents clearly reinforce children's sense of inability to cope without their pills: "..........my teachers ask me if I'm up out of my chair and everything.......they'll pull me to the side and whisper, "Did you take your Ritalin today?'" Such words not only suggest to the child that he is helplessly out of control, but the fact that they are whispered in private conveys the added impression that there is something shameful about the fact. Similarly, another student said, "My mom usually tells me to go home, have my snack, and do my homework, so that the medicine doesn't wear off." And yet another recounted how his mother would "back him up" by driving his Ritalin to school each time he forgets it. Such messages of dependence are, no doubt, conveyed unwittingly, but nevertheless reveal the need to make parents and teachers cognizant of the influence of their words on children's self-concepts.

The influence of the medication experience on children's self-narratives.

The views on narrative construction of Carolyn Saari (1991) Joseph Palombo (1990, 1991, 1994) and Gergen and Gergen (1987) provide the theoretical underpinnings of this section of the research. In summary, it will be recalled that human beings construct self-narratives from their life experiences in order to establish a sense of
continuity and organization in their lives. The self-narrative constitutes a person's identity (Saari, 1991). Each person's narrative has a central motif which influences every new life experience. (Palombo, 1991). The narrative has a value laden end point or goal state which determines whether the narrative is progressive, where the goal state is desirable, or regressive where the goal state is negative (Gergen and Gergen, 1987). The intention was to investigate how the fact of having to take medication shaped the self narratives of ADHD children. Given the limiting symptoms of the disorder, the concern is that these children's narratives may tend to be negative. They may see themselves as less capable than peers or even odd in some way. A question of interest was whether having to take medication confirmed children's sense of difference, or altered the goal state of the narrative to positive, as children began to see themselves as more successful and accepted.

An encouraging finding was that a few children in the sample did not conceive of themselves as essentially different from peers in any way. They were taking medicine to help them concentrate and get better grades, but did not see themselves as incapable for that reason. Notably, these three children had all been on medication for less than a year, were all taking Ritalin for concentration, not behavior, were noticing some difference, but not a vast difference on the medication, and believed that academic success depended on their own efforts. They also typically experienced no change in peer relationships on the Ritalin. These factors bear consideration in an attempt to understand aspects of the medication experience which may influence children's self perceptions.

As already noted, this study revealed that concerns about taking pills for ADHD increased with the passage of time. It may be that the sheer continual repetition of taking pills daily serves to hammer home the message that one is different in that one cannot function on a daily basis without a pill. Hence the relevance of a short time on medication. The fact that all three these respondents took Ritalin for concentration rather than behavior may also account for their feelings of "normality". Recalling the
respondent who tried to lessen her feelings of embarrassment by pointedly stressing that she took Ritalin only for concentration and not for behavior, it may be that needing help to concentrate on school work is less disturbing to children than needing help to control behavior. Moreover, as these respondents did not experience difficulties with peer relationships, their self concept was not threatened by the uncomfortable conviction that they needed a pill in order to behave in a manner acceptable to peers. In addition, the fact that these children did not experience a vast improvement on the pills probably facilitated their perception that their success depended on their own efforts rather than on the medication. As such, they did not feel unduly dependent on their pills. In the case of these children, then, taking medicine did not appear to be influencing the self-narrative substantially.

Most children, however, saw themselves as somehow different because of needing medication for adequate functioning, as the following excerpts from the interviews reveal: ".....feeling that everybody is different (from him) and that everybody else is saying, 'you're not like me.'" "I kind of feel weird, because you need like a pill to control yourself." "It (referring to taking medicine) it's not something to be proud of.......because you're different than everybody and other people can concentrate just on their own, like my friends, and sometimes they tell me don't worry about it......" The tendency on the part of some respondents to refer to non-ADHD kids as "regular" kids further illustrates these children's consciousness of being different.

That this sense of difference is connected to the fact of being medicated, and does not stem solely from having to deal with the symptoms of ADHD, is made clear in these event representation for being introduced to the medication reported by one of the respondents: He recalls wondering, "Is there anything wrong with me? Am I stupid or something? Do I have to take this because there's something wrong with me?"

Clearly then, children do appear to infer from the medication experience the meaning that they are different in a negative way. This would account for the shame and
fear of being perceived that way by peers. However, though worthy of serious consideration, this finding does not argue unambiguously for taking children off stimulants or not medicating them in the first place. Those children who experienced the medicine as helpful gave the distinct impression that there was a sense, strong for some, weaker for others, in which they felt better about themselves as a result of being medicated, as this comment for a fourth grader, on medication for nine months indicates: "When I didn't take the Ritalin, I kind of liked myself just a little bit, I wasn't too proud of myself because I was always getting bad grades. But now I'm happy." It would seem that stimulants can change a regressive narrative with a central motif such as "I'm unable to do well", or even "I'm stupid" or "I irritate people", to a progressive one with the central motif "I can achieve", or "people like me." One cannot avoid the impression, though, that a minor motif such as "But I can't do it on my own" or "I'm weird" lingers for most children. Which of the two predominates probably differs from child to child.

For a minority of children, notably those (three) who would stop taking the medication if they could, and two others who dwelt much more on their concerns about the medication than its benefits, and whose desire to continue was very weak, the self-narrative tended to become pessimistic after medication. Children gave the impression that their self-narratives might read, "I can't get anything right on my own", or "I'm stupid and weird and my friends know it" or, in the case of one child, "I have problems and I have to worry all the time."

There may also be a sense in which medicating children can cause their self-narratives to become incoherent, in that their own view of themselves does not mesh with those of others. In Palombo's terms, personal and shared meanings cannot be integrated into the narrative (Palombo, 1994). This would appear to apply to the child who felt well able to concentrate on his own, and who did not consider his "goofiness" a problem, as well as to the teenager who no longer perceived any helpful effects on the pills but had to
continue taking them because adults in authority believed, or maybe hoped, they might still be helping. Such incoherence results in deep frustration and disillusionment.

The findings of this study reveal the complexities associated with medicating children for ADHD, and argue plainly for consideration of factors beyond the medical in the process.
Introduction

The results of this study demonstrated that for the vast majority of children with ADHD, medication produced tangible and positive results. In reducing the severity of the core symptoms of the disorder, medication proved effective in increasing academic success and improving social relationships. Hence the willingness of most respondents to continue the medication. On the other hand, the research also uncovered reasons underlying children's reservations about being medicated, despite acknowledged benefits. That the extent and severity of these reservations suggests extreme caution when decisions to medicate are made, is obvious, and the point need not be belabored. More salient is taking the needed steps to ensure for children with ADHD the best possible experience on medication. Knowledge gleaned from the findings of this research may usefully inform such efforts.

The assumption underlying the study was that children's experience of the medication, and, at least to some extent, their perception of its effectiveness, hinged pertinently on the meaning with which they endowed the medication. Therefore the intention of the research was to explore the meaning of being medicated to children with ADHD. In summary, results demonstrated that on the one hand children attached positive meaning to the medication. They associated it with academic and social success, with decreased sanctions from teachers and parents, and with greater acceptance from peers. They experienced it as enabling, and appreciated their increased competency at concentration and self-control. On the other hand, the investigation revealed a proclivity for drawing self-deprecating meaning from the circumstance of having to be medicated.
for adequate functioning. To varying extents, children regarded themselves as helpless without the medication, saw their pill taking as confirmation that they were different or flawed in some way, and blamed the medication for actual or imagined negative responses from peers.

The study also yielded extensive information on children's fears and discomforts associated with being medicated, and provided insight into possible contributing factors to the peculiar difficulties of children receiving medication for ADHD. In the discussion which follows, salient findings and their bearing on the nature of children's medication experience will be considered, and avenues for prevention of negative experiences and intervention to address difficulties, will be suggested.

**Issues pertinent to children's initial introduction to medication for ADHD.**

The fact that most respondents attested to some degree of apprehension when first given the medication, and could readily come up with questions and doubts they had about it at the time, marks this occasion as a crucial opportunity to influence children's conceptions and attitudes regarding the medication. Recall that sixteen out of the twenty respondents reported initial fears, and although many of these fears disappeared later for some children, addressing fears and misconceptions early may spare children much emotional discomfort, and serve to instill a positive view of the experience. The most common fear respondents reported experiencing initially, was the fear of possible harm to the body. This fear is aggravated when, in due course, children do begin to experience one or more of the various unaccustomed and unpleasant physical sensations which constitute the side effects of stimulants. These fears are further compounded by children's demonstrated misconception of the scope of action of the medication. Some children tended to harbor unrealistic expectations for their medication, both in the sense of what it might accomplish for them and in the sense of possible harmful effects. It is thus imperative that misconceptions be countered with accurate information. Providing
accurate information realistically consists in acquainting children with the actual demonstrated effects of stimulants, namely lessening, not eliminating, inattention, impulsivity, and hyperactivity. Results such as improvement in grades, acquiring friends, keeping out of trouble, and remembering one's homework assignments may follow, but cannot be guaranteed, and should not be promised. If they are, disappointment and even disillusionment may result, and, in addition, the pill can become a convenient scapegoat for failure. On the other hand, children need firm assurances of the "safety" of the pills, and therefore adults who administer the medication need to be cognizant of the limits of its side effects, so that facts can be separated from fantasies in children's minds. For instance, diminished appetite and sleeplessness are documented side effects, but impaired eyesight and permanently stunted growth are not. Obviously, if side effects prove to be more serious, the advisability of continuing the medication should be reconsidered.

The recurrence of behaviors which the medicine was intended to control even while children are medicated, which respondents in this study reported, should be born in mind when initially presenting the medication to children. Warning children of this likelihood in advance can prevent anxiety and disappointment later when the pill does not appear to "work". In addition, it is important to bear in mind the research finding that around 30% of children do not respond to stimulants (Barkley, 1990) and guard against premature assurances of positive effects.

As parents are most commonly the ones to introduce children to medication for ADHD, the necessity for parents themselves to know the facts is clear. Moreover, children's accounts of their ERs for receiving medication for the first time illustrated that parental anxiety is apt to rub off on children. This points to a clear need for education and support for parents of ADHD children.
Medication in the school situation.

The short duration of the action of stimulants in the body (about four hours) necessitates the administration of a midday dose at school. Given respondents' demonstrated need to hide the fact that they take medication from peers, receiving it at school in full view of fellow students can be problematic. Respondents' revelation that pills for ADHD are distributed so routinely that the lines which form at the nurse's office are largely ignored, is reassuring, (although it does raise the common concern of the overidentification of children requiring medication for ADHD). The danger exists that routine may lead to carelessness, as evidenced by children's reports of the nurse distributing pills in the lunchroom. Continued sensitivity to children's feelings is important, as it appeared that children do not voice their objections at school to nurses, teachers, or other school personnel.

Considerations of dimensions of perceived dependence on medication.

Pill attributions versus effort attributions

The attribution pattern of internal or effort attributions for success, and external or pill attributions for failure noted by Pelham et al (1992) and Millich (1994) and which they regard as most healthy and adaptive for children with ADHD, was not demonstrated by this study's respondents. If children credited the pill with their successes, they also blamed it for their failures. Respondents did not make pill attributions exclusively, but for some the tendency to do so was strong, as was evident in the case of children who reported great disappointment and frustration when they experienced failure when on the pill, and also in the case of children who predicted significant deterioration in their functioning if the pill were no longer available to them. The same applied in the case of effort attributions. Only the two children who indicated that they did not need the medication, and the medication was doing nothing for them, could be regarded as making exclusively effort attributions. What this study revealed was that neither children who
made predominantly pill attributions, nor children who made almost exclusively effort attributions, reported the most satisfying experiences on the medication. A "combined" attribution set, where both successes and failures were attributed to both the efforts of the child and the workings of the pill, appeared to be most adaptive. Children who held this attribution pattern acknowledged the helpfulness of the medication, but recognized the need for their own efforts in the achievement of success, and accepted responsibility for their failures. These children were undeniably happiest on the medication.

This finding is consistent with another significant finding of this study, namely children's demonstrated desire for self-reliance, which was very strong. A strong desire for self-reliance is irreconcilable with consistent pill attributions. On the other hand, exclusive effort attributions totally denies the need for medication. A child who feels no need for medicinal help is likely to react with anger and frustration when forced to take pills. Such was indeed the case with the two respondents mentioned above. That children who conceived of this combined attribution pattern felt most successful and secure, thus makes logical sense. This conception enabled them to acknowledge their need for medication without violating their independence motive. They could view the pill as merely an aid to success, the achievement of which was not possible without their own efforts.

Further, regarding the balance of pill attributions and effort attributions, it must be recalled that results appeared to indicate that greater dependence on the medication (i.e. stronger pill attributions) tended to be associated with greater anxiety and concern regarding the medication, and a less positive attitude towards it. Maintaining children's sense of self-reliance and combating undue reliance on the pill, is thus imperative.

Interventions for preserving children's sense of agency.

Treatment with medicine for self-control and academic success can detract from children's sense of personal agency. However, as is illustrated in the case of respondents
who were able to view themselves as responsible for both successes and failures despite taking medication, acknowledging a need for medication does not have to translate to dependence on medication for children. Finding ways of counteracting the messages of powerlessness conveyed by a daily regimen of pill taking in order to help children maintain a sense of control in their own lives, is thus crucial.

Messages of ability to affect outcomes, and indeed responsibility for one's own actions, need to be conveyed through the language used with medicated children. References to the medication working or not working when a child succeeds or fails academically or behaviorally, can insidiously lessen personal effort. Conversely, references to children's own attempts, abilities, originality, and, indeed, accountability, are likely to increase motivation. True, children with severe symptoms may function very poorly without medicine, and sensitivity to this reality is necessary, but stressing this to a child can compromise both effort and pride in personal achievement.

An obvious objection to this line of reasoning may be anticipated. It may be argued that such severely symptomatic children whose functioning would be greatly impaired without medication, do, in fact, hold a realistic view of their dependence on medication. Therefore, supporting them in acknowledging their need for medication would be realistic and desirable, and is likely to serve to encourage positive acceptance of the medication. This is where this study's finding of a very strong desire for self-reliance on the part of children with ADHD becomes relevant once again. It suggests that children with ADHD are not likely to accept a pill on which they feel significantly dependent for academic or behavioral improvement, gratefully and enthusiastically. They may, in fact, be more accepting of the medication if they felt less dependent on it. In other words, if they could view the pill as more of an aid to academic success or behavioral control, and less as an absolute necessity. In fact, anxiety related to dependence on medication may well be a paramount contributing factor to the low
medication compliance noted in the literature on ADHD (Brown et al, 1987; Firestone, 1982; Stine, 1994). This hypothesis bears consideration for further research.

On the other hand, if behavioral and academic interventions go along with medication, the idea of personal responsibility for achievement is reinforced. Indeed, the stated desire for self-reliance can provide a lever for training in behavioral and academic skills. It is essential that the focus on both academic and behavioral interventions be maintained and not be allowed to slacken while children are on medication. A medicated child who is less in need of supervision or guidance because he or she is more able to remain on task and comply with directions, may inadvertently begin to receive less attention and eventually fall behind, especially in view of the fact that the long term effect of stimulants on academics is dubious. It is also important that the connection between their own academic efforts and results be consistently pointed out to these children. In addition to academic interventions, behavioral interventions are especially suitable and necessary for children with ADHD. Providing children with strategies for staying on task and anger control, and teaching them pro-social skills, sends a clear message of personal control over one's actions. Instilling such a mind-set can work powerfully against the development of learned helplessness (Maier and Seligman, 1976) and boost self-esteem.

Finding ways to give children a sense of managing their medication, rather than feeling managed by the medication further supports their sense of agency. Presenting the medication to them as a tool or aid that they themselves can use to make concentrating or sitting still easier, is much more conducive to self-reliance than presenting it as something which they need in order to function acceptably. In a sense, this can be viewed as simply a matter of semantics, pointing to the necessity of choosing one's words with care when discussing the medication with children. However, despite full awareness of the power of words, they need to be backed up with support for, and recognition of children's own efforts, as discussed above.
Moreover, giving older children some, even if limited, choice and control over their treatment, may well be advisable. It is interesting to note that the two children who elected to discontinue the medication in order to improve their sports performance over weekends, and who were allowed to do so, had a very positive attitude to the medication. On the other hand, the young football player, who complained earnestly about having less energy to run fast when on Ritalin, and was not allowed to discontinue the medication at any time, experienced the medication very negatively. The suggestion by some older respondents that the dosage be lowered after a while so that they may begin to learn to do without their pills, is relevant here. This suggestion not only embodies children's fear of total dependence on medication for their day to day functioning, but also reflects their desire for their concerns to be heard, and their needs and perspectives to be considered when treatment decisions are made. Lowering the dosage may not be effective, as development of tolerance over time necessitates higher dosages, but there may be some room for negotiation amongst parents, physicians, teachers, and children medicated for ADHD about possible drug holidays over weekends or school vacations. At the very least, negotiation involves discussion and some opportunity for children to feel heard and listened to. Moreover, having their input and concerns considered may serve to give children some sense of participation in their treatment, which could foster the sense of managing, to some extent, the medication, rather than being managed by it, which is here being suggested as being desirable.

In addition, spending some significant time off medication, may provide children the experience of being able to function and survive without it. This research indeed revealed that some children are, in fact, caught in a bind of being anxious about having to keep taking pills, as well as apprehensive of discontinuing them. This unenviable situation may be attenuated to some extent if children are provided some opportunities to select and experience drug free times. As in the case of the two children in this study who did opt for selected periods off the drugs, they are likely to find that the absence of
the pill does not, in reality, spell complete loss of control or total ineptitude, and learn a realistic appreciation for what their pill is able to help them accomplish, rather than fear the worst if they were deprived of it. Some opportunities for choice are, indeed, possible. Children who take medication for concentration may not need it when not engaged in schoolwork, and children who take it to control impulsivity or hyperactivity may not need it during unstructured times when free play is possible. Few children are so impaired as to need to take it consistently and continuously. Opportunities for choice may therefore prove to be desirable, and contribute to children's acceptance of the medication.

**Minimizing negative influences of pill taking on the self-narratives of children with ADHD.**

Results indicated that some children did tend to infer from the fact that they took pills to control behavior or improve academic performance that they were different, "weird" or flawed in some way. This conception resulted in a sense of shame or embarrassment, and a desire to hide the fact that they took medication from peers, who might regard them as either mentally or physically "ill". Presenting their need for medication to children in such a way that motifs such as "I am 'weird"", or "I am defective and I need a pill in order to function" do not become part of the self-narrative, is thus imperative. Although the consensus amongst the majority of researchers is that ADHD has a physiological etiology, the exact causes of the disorder have not been established (Hechtman, 1994; Hynd et al, 1991; Reid et al, 1994; Swanson et al, 1995). It is therefore not possible to explain to children the exact nature of their disorder. Presenting the disorder to children as a purely physical problem may serve to combat the perception of being psychologically "weird", but along with this conception may go the idea that there is a purely physical solution to the problem, i.e. a pill, which will provide a "fix". In the Henker and Whalen (1980) study it was indeed found that most of the respondents believed they had a physical disorder, and they relied on the pill for improved
functioning. The present research revealed a similar reliance on the pill on the part of some children, with concomitant disillusionment and anxiety when the pill proved unreliable. It may be more realistic, as well as more productive, to present the problem as probably physical, or, better still, to admit that the cause is unclear, but to present the solution clearly as medicinal only in part. The other part of the solution lies with the child. This goes along with the earlier insistence that children need to know that their own efforts in controlling their behavior and staying on task are relevant and necessary. It may be advisable to tell children in so many words that a pill cannot do Math, cannot complete homework, and cannot produce good grades or good behavior. The pill itself can be presented as having been found to be effective in making it easier for some children to concentrate, or move around less, or control their own acting out, but not as the main agent of children's accomplishment.

Furthermore, the limitations to the difficulties associated with their disorder need to be made clear to children with ADHD. Such difficulties do not extend to every facet of children's lives, or define who they are. The often heard expression, "he's ADD" or "I'm ADD" carries with it the impression of defining the person. Add to that an ongoing daily routine of taking pills for the condition, and children's perceptions of being different in a negative way, and sense of embarrassment become understandable. Instead, areas of impaired functioning can be clearly defined. Children may have difficulty concentrating, or remaining on task, or controlling themselves on the playground, or even all of the above. But beyond that, it is essential that children conceive of themselves and their functioning as fundamentally sound. The timely illustration and stressing of the natural strengths and talents of these children is clearly advisable.
The need for psychotherapy for children medicated for ADHD

That the dimensions of medicating children for academic or behavioral improvement extend far beyond the medical and physical, was consistently evident in this study. Cognitive and emotional implications of receiving medication were shown to be manifestly deserving of serious consideration if children were to benefit optimally from medication. It appeared that children's medication related conceptions and understanding were not always accurate or salutary, and that varying degrees of emotional discomfort and anxiety accompanied the taking of the medication. Misconceptions and fears cannot be addressed unless children are given the opportunity to express them, and this indicates an urgent need for the availability of therapy, at the very least in the short term, for children with ADHD. As issues of embarrassment, shame, and stigma are involved, the intimacy and confidentiality of the therapeutic relationship provides a suitable and safe context for supporting these children and helping them deal with troublesome thoughts and feelings. Moreover, it is important to take note of this study's finding that many of children's concerns surface months or years after medicinal treatment is begun. Thus, if the cost prohibits longer term therapy, the need for periodic checks of children's feelings and perceptions is strongly stressed.

In addition, considering evidence that factors other than physical or neurological may play a part in producing the symptoms constituting the diagnosis of ADHD (Biederman et al, 1995), emotional difficulties which may have contributed to children's symptomatology may become evident during therapy sessions, and can then be addressed.

In the light of children's demonstrated need not to feel "different" from peers, and their expressed feelings of comfort and reassurance when they become aware of other children who take pills for the same reason as they, the suitability of group therapy for children medicated for ADHD is evident. Group therapy provides not only the comforting experience of being "in the same boat" as one's peers, but also an excellent
opportunity to learn from the experience of others in similar circumstances. Concerns regarding present or future side effects of medication dissipate more easily with the knowledge that others can cope with them or have found them to be temporary. An informed and competent group therapist can further provide accurate information both on the disorder and the medication, and can correct misconceptions.

The very existence of misconceptions, coupled with respondents reported desire to keep their disorder private (sixteen respondents said that the girl in the vignette would not tell her best friend that she took medicine for ADHD) suggest that, of necessity, children suppress fears and feelings, and harbor unanswered questions. Also, not all respondents were fortunate enough to count other children receiving medication for ADHD amongst their friends. Given, moreover, the cost and limited availability of individual therapy for these children, groups for children with ADHD, especially in the school situation where services are free, could offer a much needed place to express concerns and feelings, have one's point of view heard, and receive answers to questions. Furthermore, groups have the added advantage over individual therapy of giving children the chance and meet and relate to people familiar with their disorder, and amongst whom they can more easily feel accepted.

Problems related to long term medicating with stimulants.

Research indicates that the symptomatology of ADHD remains stable through adolescence, but tends to attenuate during later adolescence and adulthood (APA, 1994; Hill and Schoener, 1996). Whether there is a physical or neurological explanation for this, or whether increased ability to compensate for the symptoms is acquired with time, does not appear to be certain. However, it does suggest a prognosis of having to be medicated over the long term for most children with ADHD. In the light of the findings of this study, this presents a problem. It will be recalled that results revealed a tendency for children medicated for short periods (under a year), to view the medication
experience most positively and to express the least anxieties concerning the medication. Moreover, the perception that time on medication would not be lengthy, also facilitated better acceptance of the medication. Also, concern about dependence on medication increased as time on medication increased. The problem is further compounded by the fact that the efficacy of stimulants seems to lessen over the long term, and long term compliance with stimulant medication is low.

Some possibilities for intervention to address this problem may be suggested. Firstly, given the likelihood that some children with ADHD will discontinue their medication in due course, the need for non-medical interventions gains relevance. The possibility that compensation could account for the attenuation of symptoms of ADHD as children get older argues strongly for the teaching of compensatory skills.

On the other hand, developing compensatory skills may give children a sense of mastery and accomplishment which may work against perceptions of dependency on medication. Taking into account the finding of this study that perception of significant dependency on medication discouraged positive acceptance of the medication, it may be that helping children feel more self-reliant will paradoxically increase acceptance of medication, and encourage compliance. Furthermore, acquainting children with the possibility that an end to their need for medication in the future is a realistic expectation, may also serve to encourage acceptance and allay anxiety.

Implications of discrepancies in the perceptions of respondents and significant adults concerning the efficacy of the medication.

A troubling revelation of this study which demands consideration, was that respondents and significant adults responsible for medicating them did not always agree on the efficacy of the medication. Examples are the two children who insisted that the medication was not helping them at all, the student who claimed that the medication had helped at one time, but was no longer effective, the girl who reported no effect on
medication beyond the ability to persist at running, and the boy who noticed no
difference on the medication, but credited it with improving concentration, behavior, and
speech.

The fact that adults continue to medicate while children perceive no benefits begs
some attempt at explanation. It is, on the one hand, entirely possible that adults keep
these children on medication for the logical reason that they do notice definite
improvements in these children's academic performance or behavior when the children
are on the medication. Some of the findings of this study indeed suggest reasons why
children might disagree. Having to take medication for adequate academic or behavioral
functioning may pose a threat to a child's positive self-narrative. It may well be that
children's desire for self-reliance, or fear of feeling different from peers, is so strong that
an admission of needing the pill is unacceptable. Hence the refusal to concede any
benefits from the medication, and insistence that it is not needed. It is also conceivable
that extreme reluctance to take a pill can compromise its efficacy. The respondent who
took Ritalin for anger control and claimed, "Sometimes it makes me even more mad
when I have to take it," could be attesting to exactly that. The pill may help with his
temper, but his very anger at having to take it compromises its effect.

On the other hand, the student who noted only a difference in ability to persist in
running and the student who reported an improvement in speech, seemed hard pressed to
come up with notable effects of the Ritalin. They did not claim that they did not need
medication, and were willing to take it if adults thought they needed it, they simply did
not notice its effect themselves. This also appeared to be the case with the respondent
who no longer noticed a positive effect in the long term. The discrepancy here could be
due to a failure on the part of these children to notice improvements on the medication
which are noticeable to adults, or, the possibility exists that these these children may
indeed be non-responders or weak responders to the Ritalin. If so, medicating these
children might be serving some needs of significant adults more than benefitting the
children directly. This study investigated only children's perspectives, therefore any speculation on the needs or perspectives of adults in this respect will not be attempted here.

**Implications for social work**

A distinguishing characteristic of the social work profession is its emphasis on maintaining a two-fold focus, on both the person and the environment, in practice. Social workers adhere to what has been termed the "person-in-situation" perspective, a term coined by Gordon Hamilton, an early pioneer in social work. In 1940 she wrote, "To understand treatment, we must remind ourselves what a social case is. Our individuation and particularization must cover not only the person himself, but the environment with which he is interacting. Our case always envisages person, behavior, and social setting, which includes other persons. Therefore, in some way, treatment must contemplate all these factors." (Hamilton 1940, P167).

This dual emphasis on both the person and the environment continues to constitute social work's unique perspective and strength. In fact, as Gordon and Schutz (1977) observe, the various specializations of social work such as medical, school, and mental health, were not determined arbitrarily, but evolved "from the unique nature of social work in response to the emerging needs of people in relation to their changing environments (Gordon and Schutz 1977, P432). Thus, the medical social worker works not only with the patient, but stands at the interface between the patient and all aspects of the medical environment to facilitate its responsiveness to the patient, and between the patient and the environment outside the hospital to which the patient will return. Similarly, the school social worker works not only with the student, but interfaces on the child's behalf with all aspects of the school environment, such as teachers, nurses, and fellow students, as well as with other elements in the child's environment, such as parents and physicians. To quote again from Gordon and Schutz, "...as long as a dual focus is used to achieve a better match between coping capability and the environment, and if
efforts to improve coping capabilities or the environment are not ignored, a social work specialization may be identified." (Gordon and Schutz 1977, P423).

The person-in-situation perspective is an excellent one from which to approach the problem of servicing children medicated for ADHD. In many respects both the person and the environment of a child with ADHD are neglected and under-serviced in the process of diagnosing the child and subsequently medicating him or her with stimulants.

With regard to the person, present practice largely ignores the child's input in the diagnosis of the disorder, the prescription of medication, and the evaluation of its effectiveness. Children are not consulted regarding their need for medication to manage behavior or improve concentration. The request that a child be evaluated for ADHD generally comes from parents or teachers who suspects that a child's problematic behavior may be controlled or alleviated with stimulant medication. In the absence of any objective test to determine the presence of ADHD, the physician makes the diagnosis on the basis of teacher or parental reports and/or checklists submitted by teachers (Riccio et al, 1993; Stoner et al, 1994). The problem is then treated as medical, and stimulants are prescribed. Subsequently, the effectiveness of the medication in altering the child's behavior is evaluated by consulting teachers and parents. This practice prompted the concern that minimal attention is paid to the child's opinion or experience in the process, which initially gave rise to the present study.

Social workers who encounter children medicated for ADHD in their practices, whether in a hospital, private, or school setting, have the opportunity to support and treat the "person", namely children with ADHD. Based on the results of this study, it is evident, as revealed earlier in this discussion, that both the disorder and the fact of being medicated for its symptoms have emotional and cognitive concomitants. The physician deals with the medicating aspect of treating ADHD. The cognitive and emotional needs
which emanate from the medication experience present a clear avenue of service for the social worker.

From a cognitive point of view, children's knowledge regarding the disorder and medication must be ascertained and inaccuracies corrected. To this end, social workers who treat such children need to be working from a solid knowledge base regarding ADHD and its treatment. Early preparation of children for the medication experience after diagnosis is also relevant in this respect. Presenting children with accurate information and providing informed answers to their questions at the outset, can serve to prevent misconceptions and unnecessary anxiety resulting from them. Encouraging early referral of children diagnosed with ADHD to the social worker would constitute sensible practice in all settings where social workers are employed.

Social workers' skills equip them well to address the emotional needs associated with medication for ADHD, through the establishment of a therapeutic relationship and/or safe group context within which children can be heard and receive empathic response. Moreover, the settings in which social workers operate present opportunities for both group and individual therapy. It is imperative that children receiving medication for ADHD be recognized as a category especially in need of individual and/or group therapy.

In addition to the focus on the person, the person-in-situation perspective requires a focus on the environment. In the case of medicated children with ADHD, the environment, like the child, also receives inadequate attention and consideration. Members of these children's environment such as teachers and parents are indeed consulted when children are diagnosed and medicated, but receive little, if any, support and information on how to help and deal effectively with children medicated for ADHD. Although the present research inquired only into children's perspectives, misconceptions and concerns expressed by respondents, as discussed in this report, would indicate that significant adults who interact with them are not addressing their qualms adequately in
many instances. Also, respondents' ERs of parents introducing the medication to them, or explaining it to them, included anxious and uncertain expressions on parents' faces in several cases. It would appear that parents, too, may continue to harbor uncertainties and reservations regarding the medication after leaving the physician's office with their children's medication prescriptions. Further research on prevalent parental and teachers' questions and concerns regarding the medication of children with ADHD is likely to yield very useful information.

Social workers' commitment to focus on persons in situation, not in isolation, obligates them to seek out and turn their professional attention to members of the environment of children medicated for ADHD. This may involve clinical work with parents and/or family members of these children, either individually or in groups, depending on what the setting in which the social worker operates will permit. At the very least, it may be possible to schedule a single informational meeting to provide parents the opportunity to raise troubling questions and concerns, and have them addressed.

Teachers, too, need guidance in how to respond to medicated children with ADHD. This study's finding of a tendency on the part of some teachers to reinforce children's sense of dependence on the medication through unwise, though well-intentioned comments, attests further to teachers' need for better understanding of the experience of these children, and the concerns peculiar to them. The social worker's office in the school setting could be a suitable focal point for teachers and other school personnel to receive information and address difficulties encountered in teaching and interacting with students with ADHD.

Another angle of focus on the environment is its investigation and evaluation to discover any environmental factors which may be contributing to the child's problem. The question as to in how far the cause of the symptoms of ADHD is physical or neurological, and in what ways environmental factors may contribute, does not yet
appear to be adequately resolved. Moreover, the DSM IV states that ADHD must be
distinguished from difficulty in goal-directed behavior in children from inadequate,
disorganized, or chaotic environments (APA, 1994). It is thus reasonable to assume that
interventions which might render the environment less chaotic or disorganized, and more
structured and adequate, are likely to improve the child's functioning. This would apply
both in the home and the classroom situation, which would indicate spheres of service for
both family therapists and school social workers.

Finally, social workers can help to facilitate the successful adjustment of children
with ADHD by teaching them prosocial skills and strategies for impulse and anger
control - behavioral interventions which serve to lessen the intensity of their symptoms.
This can be accomplished in individual sessions, group settings, or in the classroom.

The intention of this study, as well as the expectation the researcher holds for it,
is that it will contribute to the knowledge of social workers on the experience of children
medicated for ADHD, and furnish them with relevant and useful information which
might aid them in their efforts to help young clients with ADHD whom they encounter in
their practices.

**Suggestions for further research**

This study was exploratory in nature and involved a small sample of only twenty
children. The research identified a number of factors which appear to influence
children's acceptance of medication for ADHD and contribute to the nature and quality of
their medication experience. Some of its findings confirmed previous research, as
indicated in the report, but others may suggest avenues for further research, possibly on
larger samples. Two in particular bear further consideration. The first is the apparent
inverse relationship between children's feelings of dependence on medication for ADHD
and their positive acceptance of the medication, pertaining to respondents who admitted
some need for medication. (Respondents who professed not to need medication at all,
understandably rejected it. Respondents who attributed their successes and failures to their own efforts or lack thereof, rather than to the medication, expressed fewer reservations regarding the medication. Degree of perceived dependence on medication for ADHD is therefore suggested as a suitable variable for further research on children's attitudes to medication prescribed for ADHD. Longitudinal research over several years may further reveal whether perceived dependence on medication influences compliance with medication rates. Such findings could usefully guide the focus of efforts to foster children's acceptance of medication for their disorder, and to help them maintain a positive attitude towards it.

A second variable suggested by this research as influencing children's attitudes to medication is allowing children some participation in their treatment by allowing them some measure of input and choice. In this study only two respondents reported that their opinions were considered and they were allowed to discontinue their medication to play sports, where they felt the medication hampered their abilities. Both accepted the medication positively, one of them even after being on it for three years. Two respondents constitute a very small number, but an important variable affecting children's response to medication for ADHD may have been identified here, indicating a possible direction for research on larger samples. Giving children at least some limited choice in their treatment in the form of occasional breaks from the pill on occasions requested by the child, may make them feel heard and their concerns considered, and may also serve to break the monotonous regimen of daily pill taking which raised so many complaints amongst the respondents in this study. Research investigating which children fare best on medication for ADHD, those for whom a consistent routine is established and who are encouraged and assisted in keeping rigidly to this routine, or those who are permitted occasional breaks in the routine at their own request, may prove to be enlightening.

This research focused exclusively on the child's perspective. The perspectives of significant adults, such as parents and teachers, were not considered. It was therefore
difficult to account for the discrepancy between the views of children and adults in the case of children who failed to notice benefits on the medication, but remained on it. It was suggested that the fault could lie with the respondents themselves, who either did not notice, or refused to admit, benefits obvious to adults. Or, in some cases, it was suggested that medicating the child might be serving some needs of adults, rather than benefiting children. This points to a need for further research on the perspectives of parents and teachers when it comes to medicating children with ADHD. A single study investigating the views of the parents and teachers of the respondents, as well as those of the respondents themselves, may afford very interesting comparisons of the perspectives of significant people involved in the medication process. The authenticity of children's responses is inevitably in question in a study such as this, and gaining an understanding of the perspectives of parents and teachers may shed some light on the the extent to which children may simply be repeating what significant others have told them about their disorder and medication prescribed for it, rather than relating their own experience when questioned. Ascertaining and contrasting the expectations of children and adults for the medication, may also reveal which needs of each are served by medicating the child, and the contribution of each to compliance with medication. Such knowledge may be of great import to efforts to provide a satisfactory and positive experience on medication for children with ADHD.

Conclusion.

This research was undertaken in order to gain insight into and present the perspectives of children regarding medication for ADHD. The importance and relevance of the child's perspective may not be readily evident, and this may account to some extent for the fact it is under researched. The question, "Why consult the child?" may well arise. It could be reasonably argued that children's immaturity renders their judgement
inadequate and unreliable, and that adults are better able to make decisions for them without their input.

The results of this study would challenge that assumption. Children's responses demonstrated that taking a pill for academic or behavioral functioning has implications well beyond the medical. The ultimate influence on children's self-concepts is undeniable. Sensitivity to their concerns and sensibilities is thus imperative. Acquiring such sensitivity depends upon understanding the meaning with which children endow the medication experience. Such meaning critically determines their attitude to the medication, and their willingness to continue taking it. Unless children's meanings are understood, underlying fears and hesitations which work against positive acceptance of the medication cannot be addressed.

Moreover, children's eagerness and willingness to talk about their disorder and being medicated for it, which they revealed during the interviews, clearly indicates that children want to be heard and need to be heard. Providing them this opportunity is very likely to increase their willingness to take it. At the very least, listening to children and addressing their concerns can improve adherence to the medication. But beyond that, the very existence of a placebo effect would suggest that acceptance and positive expectations for the medication might enhance its efficacy, whereas resentment and reservations might diminish it. In essence, the efficacy of stimulant medication in controlling the symptomatology of ADHD has been proven. Its administration should not involve subjecting children to anxieties, uncertainties, and embarrassment. The possibility of a positive experience on medication for ADHD is vastly increased if children's perspectives are seriously considered and their concerns heard. If the findings of this study have served to illuminate this perspective, then its "pragmatic validity" (Miles and Huberman, 1994) is clear, in that in increasing understanding of their experience, it is likely to benefit the population researched, namely children with ADHD.
References


Carlson, K., & Bunner, M.R (1993). Effects of methylphenidate on the academic


APPENDIX A

Interview Schedule.

Introductory demographic questions.

How old are you

When is your birthday?

What grade are you?

What is the name of the medication you take for ADHD? (Thereafter, the medication was referred to by the name the child gave. If the child could not give the name, the medication was simply referred to as "the pill").

Where do you take the pill? At home? At school?

How long have you been taking the pill? or How old were you when you first started taking the pill? What grade? Do you think that's a long time? (If children were unable to recall this information, it was obtained from parents). The above questions were included to ascertain whether length of time on the medication might surface as a variable influencing children's perception of the medication experience.

If records or information from parents showed that the child was also taking other psychotropic medication, some questioning regarding such medication was to be included in order to ascertain possible connections between taking additional medication and children's attitudes to being medicated with stimulants. Some examples of questions are:

Do you take any other pills every day?

What do you take them for?

Do you find that they help you?

Do you mind taking them?
How do you think they are different from the pill you take for ADD?

However, none of the children in the sample took additional medication. Therefore the above questions were not included.

Questions and presentation of the pictures and stories which followed are presented category by category here for the sake of order and clarity. In the interview they were interspersed. Consideration of categories and questions, moreover, reveals that they are not clear cut. A single question could elicit information covering several categories of meaning, depending on how a child answered it.

Questions related to medication and children's sense of self-competence:

* Why do you think that some children need to take the pill?
* Why do you think you take the pill?
* I'd like to know what other people have said to you about the pill- I mean people like Mom and Dad and your teachers, and maybe your friends.
* What do you find the medication does for you?
* Do you notice any difference when you forget to take the pill? Explain.
* What do you think would happen if they stopped making pills like these altogether and you could not take it ever again? Would you be okay without it?
* How long do you think you'll be taking the pill?
* Do you know of other kids who take the same kind of pill? Tell me about them.

Has it helped them? Do they like it? How are they different or similar to you?

* What do you like about taking this pill? What do you dislike about it?
* If it were up to you whether or not to take the pill, would you take it? Why?
* Do you sometimes wish you didn't have to take it anymore? Why?

Self-competence was indicated by responses suggesting that children felt more able as a result of taking stimulants, such as, "I can concentrate better on the pill," or "I get more work done," or "I don't fight all the time." However, if children indicated that they
disliked taking stimulants and would stop taking them if they could because they did not want to be dependent on them or be controlled by them, and either thought they could, or wished they could do without them, then a feeling of decreased competence resulting from the pill-taking experience was inferred. This was the reason for the inclusion of questions ascertaining children's likes and dislikes regarding the medication, as well as their desire to either continue or stop taking it.

**Questions related to medication and children's selfobject needs:**

*Do you think your teacher notices when you forget to take your pill? How do you know?*

*Do you think your mom and dad notice? How do you know?*

*Do Mom and Dad and your teachers treat you differently in any way when you're not on medication?*

**Picture 1** (See page 133)

Children were presented with a picture of a classroom with the teacher in front, facing the children. In all pictures the faces were blank, so that children would not be influenced by facial expressions. Children were told: Tommy is the boy in the front seat of the left row. Tommy has been diagnosed with ADHD, but has not started taking medication yet. The class is working on Math sums. Tell me some of the things that might be happening in that classroom during the next hour. What might Tommy be doing and thinking and maybe feeling? What might some of the other children be doing, and thinking, and feeling? How about the teacher? Will she and Tommy be talking to each other or doing things together? How about when the class goes out for lunch and recess? Tell me something about what lunch and recess are like for Tommy. Is Tommy popular? Or not? How come?

Now let's imagine it's a few months later, and Tommy has been taking the pill for a while. How do you think things might be different during Math time in this classroom
today? Is Tommy acting or feeling any different? How about the teacher and the other kids? Are things any different for Tommy at recess today? I wonder, do you think anything has changed for Tommy at home since he started taking the pill?

**Vignette 1.**

The children were told the following story:

*Sue was diagnosed with ADHD last week, and today she started taking the pill. Sue is spending this afternoon at her very good friend, Lisa's house. Do you think Sue will tell Lisa about the pill? Why? If she does, what do you think she'd say to Lisa? What do you think Lisa might say? What would Lisa's mother say if Lisa told her?*

Any responses indicating that as a result of being medicated children experienced more praise and affirmation, were taken as suggesting that children's selfobject needs for mirroring were being met. Examples would be, "Mom says my homework is done nicely," or "the teacher thanks Tommy for raising his hand and not calling out."

References to experiencing friendliness, warmth, and kindness, as opposed to isolation and criticism when on medication, were taken as indicating that children's selfobject needs for calmness, comfort, and security were being met. Examples would be, "My teacher yells less, and smiles more," and "My dad doesn't send me to my room all the time." Children's reports of feeling accepted by peers and/or being able to keep up with peers socially and academically when on medication, were taken as evidence that their twinship selfobject needs to feel a sense of alikeness and of possessing the same competencies as peers were being met. A "before" and "after" medication vignette was included to make a contrast between children's perceptions of the behavior of others to them when taking and not taking medication clearly discernible if one existed. Children's indications that they felt different, flawed, or less competent than peers because of their need for medication, were considered evidence that their selfobject needs were being frustrated by the medication experience. Examples could be, "Kids think taking pills to behave better is weird," and "Kids tease Tommy because he goes to the nurse."

The
vignette concerning confiding in a friend about taking the medication was intended to encourage expression of children's feelings about peer acceptance or rejection of children being medicated for ADHD, and about perceived difference from peers.

**Questions regarding the congruence of the medication experience and children's value systems.**

**Vignette 2.**

The children were told: *In the DARE class Ben and his classmates have been learning how dangerous it can be to take drugs. The officer who teaches the class told them about all kinds of drugs—some are sniffed like glue, some are swallowed like pills, and others are injected. Ben's friend, Joe, who has seen Ben swallow his pill, asks Ben if his pill is also some kind of drug, seeing that it is a pill. What does Ben tell him?*

This question was intended to ascertain whether children associate stimulants taken for ADHD with the kinds of street drugs against which they are warned consistently. Answers indicating that the stimulant was beneficial rather than addictive or harmful were taken to indicate that taking stimulants does not violate children's values. Defensive answers like, "Ben tells him to mind his own business," might indicate anxiety as to the safety or legitimacy of taking stimulants.

**Some examples of questioning calling for children's ERs related to their introduction to the medication:**

As the possibility existed that children might not accurately recall their introduction to the medication, it was assumed that a picture of another child receiving such medication might more readily elicit the ERs they held for such an experience at the time.

**Picture 2 (See page 134)**

Children were presented with a picture of two arms and hands holding out a glass of water and a pill to a child. Children were told: *This is a picture of James taking his*
pill for ADHD for the very first time. Who do you think might be giving it to him? What is he/she saying to James? What is James thinking, feeling, saying? Any questions he might want to ask?

Later in the interview children were asked: *Do you recall the first time you took the pill?* Who gave it to you? *What were you told about it? What did you think, feel, say?*

**Questions calling for children's ERs related to the daily routine of taking medication at school:**

**Vignette 3.**

Children were told the following: *Emily takes a pill for ADHD at school. She has just arrived in the nurse's office to be given her pill. As you know a lot about taking the pill at school, I wonder if you could explain to me what it is like for Susan to take medicine at school. For instance, at what time of day does Susan take her pill? Does she get called to the nurse's office, or does she just remember to go herself? What is likely to happen if she forgets? Where does she leave from to go to the nurse's office? Does anyone take notice when she leaves? If anyone looks at her, how do they look at her? What's that like for her? What happens when she gets to the nurse's office? Are there other children there? Where does she go when she leaves the nurse's office?*

*Now tell me something about yourself and taking the pill at school. For instance, explain to me anything about taking it at school that you may not like, if there is anything you don't like. What happens when you forget or refuse to take it?*

By definition, the description of the events provided by children were taken as their ERs for those events. Recall might not have been accurate, but the description was likely to represent the ERs children held for such events at the time of the interview.
Questions aimed at ascertaining the semantic field and sense which words related to taking the medication had for children:

Children were told: Sometimes we feel happy when we hear certain words because they make us think of nice things. Words which make me happy are "ice cream", "hugs", and "birthday parties". Can you tell me some words that make you feel happy? Why? What do they make you think of? Then, of course, there are some words that make us feel bad. Words like that might be "detention", "homework", or "chicken pox". Can you tell me some words that make you feel bad? Why? What do they make you think of? How does the word "Ritalin" (or "ADHD pill" or other name the child has for the medication) make you feel? What does it make you think of?

Do you know any other things children take that are like Ritalin? If needed, prompts such O, like Tylenol or cough syrup maybe? were added.

By definition, the associations which children reported were taken to convey the semantic field and sense words held for them. Asking them to compare the stimulants they took to cough or cold medicine, further served to indicate whether they associated their disorder with illness. An answer such as, "Ritalin is not for sick people," was taken to indicate that they did not.

Information regarding children's self-narratives was gleaned from their responses to many of the questions. Some additional questions were:

Tell me a little bit about the kind of person you are. How would you describe yourself? How do you think you got that way?

What do you like most about yourself? Least about yourself?

If you could change one thing about yourself, what would it be? In what ways did you feel different about yourself when you started taking the pill?

The self-narrative was inferred from children's self-statements regarding the way they saw themselves and evaluated themselves. It was also noted whether the use of
stimulants were instrumental in changing a self-narrative from progressive to regressive (Gergen and Gergen, 1987).
APPENDIX B

List of Codes

Child knows name of medication - KN
Child does not know name of medication - DKN
Reason child gives for children in general being medicated - Reason G
Reason child gives for her/himself in particular being medicated - Reason P
Perceived effect of medication - Eff
Perceived dependence on medication in order to function adequately - Dep
Perceived ability to function without medication - Indep
Reluctance to taking medication - Reluct
Time on medication, or to indicate significance of time - Time
Child feels different from peers because of having to take medication
   ( alter-ego selfobject needs not met ) - AE s/o -
Child feels more likeness to peers because of taking medication
   ( alter-ego selfobject needs met ) - AE s/o +
Child receives more affirmation and praise on medication
   ( mirroring selfobject needs met ) - Mir s/o
Child receives fewer sanctions, more warmth, more friendliness on medication
   ( Idealized Parent Imago selfobject needs met) - IPI s/o
Pertaining to how teachers treat ADD children - Teacher
Pertaining to how peers treat ADD children - Peers
Pertaining to how parents treat ADD children - Parents
Mental picture of experienced event at school - ER (sch)
Mental picture of experienced event of first taking medication - ER (first)
ER is pleasant or positive - ER+
ER is unpleasant or negative - ER-
Child experienced initial fear associated with medication - Fear (init)
Child experiences ongoing fear of medication - Fear (ong)
Semantic field (associations elicited when word is used) - Sem field
   Pleasant associations - Sem field +
   Unpleasant associations - Sem field -
Medication not perceived as drug, thus congruent with societal values - Val +
Medication perceived as a drug, thus incongruent with societal values - Val -
Child perceives that his/her ability increases on medication - Incr abil
Child perceives that his/her ability decreases on medication - Decr abil
Child associates disorder/medication with sickness - Assn with sickness
APPENDIX C

Recruitment Letter

Dear Parents

I would like to invite your child to participate in a research study I am conducting for my doctoral degree. The purpose of this study is to learn how children who have been diagnosed with Attention Deficit Disorder or Attention Deficit Hyperactivity Disorder think and feel about the disorder and the medication they take to help with its symptoms. Such information would greatly assist teachers, therapists, and parents to understand the special needs of this interesting group of children better, and consequently serve them more effectively.

Twenty children will be selected for the study. Children participating in this study will be interviewed individually for about 45 minutes. Appropriate steps will be taken to ensure the strict confidentiality of all information which would identify participants. If, with your permission, your child is selected for participation in this study, I shall contact you by telephone to arrange a convenient time for the interview which will be conducted at your child's school. After completion of the study, I would be pleased to provide you with a summary of its findings.

Participation in this study is entirely voluntary and you are under no obligation to give your consent. Please complete the enclosed form and return it at your earliest convenience. I would be happy to answer any questions regarding the study. I can be contacted at Oakwood, (257-2286), or Bromberek, (739-1950).

Sincerely,

Kate Clarke MSW, LCSW
Social Worker, District 113
APPENDIX D

Consent Form

Project Title: "An exploratory study of the meaning of prescription medication to children diagnosed with Attention Deficit Hyperactivity Disorder."

I ____________ give consent for my child ____________ to participate in the
(name of parent) (name of child)

above research project being conducted by Catharina Clarke.

I understand that my child will be interviewed regarding his/her thoughts and feelings about ADHD and taking medication for the disorder; that the interview will be audiotaped, and that the tapes will be erased after completion of the study. I further understand that the appropriate steps will be taken to ensure the anonymity of the responses of participants. Results reported from this study will not contain my child's name.

I understand that I may withdraw my child from participation in the study at any time without prejudice.

I understand that the study has been approved by the Institutional Review Board for the Protection of Human Subjects at Loyola University.

Procedures and benefits of the study have been explained to me. I have had the opportunity to ask questions regarding the study, and have been informed that I will be given a copy of this consent form.

I consent to my child's participation in this research project.

________________________________     ____________
Signature of Investigator                  Date
DISSERTATION APPROVAL SHEET

The dissertation submitted by Catharina H. Clarke has been read and approved by the following committee:

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The final copies have been examined by the director of the dissertation committee and the signature which appears below verifies that the dissertation is now given final approval by the committee with reference to content and form.

The dissertation is, therefore, accepted in partial fulfillment of the requirements for the degree of Doctor of Social Work.

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Date                        Director's Signature