CHAPTER THREE

RELATED RESEARCH

3.1.0. INTRODUCTION

This chapter of the thesis deals with research of a different kind. Whereas other chapters deal with the research work conducted in the present study, this chapter of the thesis includes research work and studies conducted over the years, both abroad and in India, on the different intervention strategies and the two behaviour disorders under investigation in the present study.

An effort has been made to include those studies which, in some way, are related to the topic under investigation.

3.2.0. BEHAVIOURAL INTERVENTIONS

Behavioural interventions, for children and adolescents with behaviour problems, have a history as long as that of the child behaviour therapy movement itself. From the beginning of the movement, behaviourally oriented clinicians and researchers have attempted to use operant and social learning methods in clinical (Patterson, 1974), residential (Phillips, 1968) and community (Fo and O'Donnell, 1974; Stumphauzer, 1973) settings. Reviews of clinical settings have shown that although the available evidence is limited by major substantive and methodological issues (Dumas,

1989; Kazdin, 1987), several behaviour interventions have achieved significant success. This is particularly true of interventions that have to address the behavioural excesses, or the social and cognitive deficits of conduct-disordered children and adolescents.

3.2.1. REINFORCEMENT

Using combinations of such guidance precepts, teachers have reported success in helping some school children who showed problem behaviour. All of these precepts have. in common, the adult's behaviour of attending to and approaching a child. Therefore, it seemed to the staff of the Laboratory Preschool at the University of Washington that a first step in developing possible explicit criteria for judging when to and when not to attend was to study the precise effects that adult attention can have on some problem behaviours.

The study dealt with a 3 year old girl who had regressed to an excessive amount of crawling (Harris, Johnston, Kelley and Wolf, 1964). By "excessive" is meant that after 3 weeks of school, she was spending most of her morning crawling or in a crouched position with her face hidden. The parents reported that for some months the behaviour had been occurring whenever they

took her visiting or when friends came to their house. The teachers had used conventional techinques for building the child's security.

Observations recorded in the 3rd week at school showed, however, that more than 80% of the child's time was spent in an off-feet position. The records also showed that the crawling behaviour frequently drew the attention of teachers. On-feet behaviours such as standing and walking, which occurred infrequently, seldom drew such notice.

A programme was instituted in which teachers no longer attended to the child whenever she was crawling or crouching, but gave her continuous warm attention as long as she was engaging in behaviour in which she was standing, walking, or running. Initially, the only upright behaviours that the teachers were able to attend to occurred when the child pulled herself to her feet to hang up or take down her coat from her locker and when she pulled herself up to wash her hands at the wash basin. Within a week of the initiation of the new attention-giving procedure, the child acquired a close-to-normal pattern of on-feet behaviour.

In order to see whether the change from off- to on-feet

behaviour was related to differential attention given by the teachers, they reversed their procedure, making attention once again contingent only upon crawling and other off-feet behaviours. By the second day, the child had reverted to her old patterns of locomotion and play. The observational records showed the child was off-feet 80% of the class session.

To see whether on-feet behaviour could be reestablished, the teachers again reversed their procedure. On-feet behaviour rose markedly during the first session. By the 4th day the child again spent about 62% of the time on her feet.

As seen in the above study, contingent reinforcement was a popular strategy of early social skill trainers because of its success in other areas of child and adult functioning. Typically. teachers employed these techniques with preschool isolates. Initially, contingencies consisted of adult social or material reinforcement, as a reward for higher rates of peer interaction or decreased rates of negative interaction. Allen et al (1964) employed teacher reinforcement to increase peer interaction of preschool isolates. They used a reversal design and reported improvements in the frequencey of social interaction.

Todd et al (1976) systematically investigated the effects of

token reinforcement on increasing positive social interaction of low interacting children and the addition of cost contingency to decrease hositle interactions of socially aggressive children. The results showed : 1) reinforcement was insufficient and did not reduce occurrence of negative aggressive behaviour; 2) cost contingency was a critical requirement to effect behaviour change of the aggressive children leading to a 100% positive interaction pattern; 3) follow-up of the aggressive children indicated contingent improvement in the regular classroom; 4) for socially unresponsive children, a reinforcement procedure that provided positive consequences for starting, answering and continuing interactions with peers was not effective in increasing the amount of time of peer interaction.

3.2.2. TIME-OUT

One of the most extensively evaluated areas of behaviour modification has been classroom management. As the earlier studies point out, in schools, the focus has largely been on the use of operant procedures. Reinforcement has been the first choice of teachers. However, time-out from positive reinforcement has been the classroom punishment procedure used most often by behavioural trainers and clinicians. Because of the way time-out

has been used in classroom studies, the procedure might also be labelled "contingent social isolation" (Drabman and Spitalnik, 1973).

Several classroom studies have used a social isolation procedure usually in conjunction with behaviour programmes (Whelan and Haring, 1966; Wasik, Senn, Welch and Cooper, 1969; Drabman and Spitalnik, 1973).

Several studies have related teacher's verbal reprimands to pupil's behaviour. O'Leary , Kaufman, Kass and Drabman (1970) showed that quiet reprimands are more effective than loud reprimands. Thomas, Becker and Armstrong (1968) had demonstrated that systematically increasing a teacher's disapproving behaviour led to parallel increases in disruptive behaviour among the pupils.

One of the most interesting studies in this area was conducted by Madsen, Becker, Thomas, Koser, and Plager (1970). A team-taught first-grade classroom of 48 children was monitored for inappropriate out-of-seat behaviour. Observers also monitored how often the teacher reprimanded the children for being out of their seats or told anyone to sit down. They also recorded the number of times that a teacher praised a child. After baseline

(A) the experimentors asked the teachers to triple their frequency of "sit down" commands (B). Next, they returned to the original level of "sit down" commands (A). Then they returned to B. Finally teachers were asked to praise behaviours incompatible with standing (C). Results indicated that standing up was functionally related to the amount of "sit-down" commands in C. The more sit-down commands the teachers gave the more the children stood up. In fact, tripling the amount of commands led to a 33% increase in out-of-seat behaviour. Praising behaviour incompatible with standing led to a 33% decrease in standing-up behaviour.

In an early study of a classroom setting, Hurlock (1924) found that those 3rd-, 5th-, and 8th-grade children who had been either praised or reproved improved significantly more than a control group on a group intelligence test. However, reproof was more effective than praise for the 5th-grade, for children of superior intelligence and for those rated superior by their teachers.

Similarly, in those studies utilizing verbal punishment, combinations that included stating the word "wrong" after each incorrect response - whether correct responses were rewarded with

"right" or not - led to faster learning than those in which incorrect responses were not thus negatively reinforced Meyer and Seidman, 1961). Combinations including the word "wrong" were also superior to a condition in which a buzzer followed the correct reponses and nothing followed incorrect responses (Meyer and Seidman, 1961). In the learning series, no significant difference was found between those groups in which each response was appropriately followed by either "right" or "wrong" and those groups in which only incorrect reponses were termed "wrong" and nothing followed the correct responses.

In another study, a typical application of time-out procedures was used. Wahler (1969) made detailed ABAB analysis of two cases in which parents were trained to use time-out in the home. The subjects were 5 and 6 year old boys whose parents had sought help at a clinic because of the children's severe oppositional and destructive behaviour. One of the boys displayed this behaviour at school too. His parents attributed his oppositional behaviour to distractibility. The other boy was an only child whose parents acknowledged being oversolicitious and giving him anything he wanted because they had lost several babies through miscarriages.

Observers first went to the homes to record the number of 10 second units of oppositional behaviour during baseline sessions. The parents were then trained to isolate the child in his room for 5 minutes whenever he began being oppositional. If the child tantrumed while in his room, he was to stay there until the tantrum ceased. The parents were to reinforce the child with praise and attention whenever he showed cooperative behaviour. Both children's oppositional behaviour dropped sharply during the first B (training) period. A temporary return to pretraining conditions (second A period) brought a sudden increase in oppositional behaviour, while reinstatement of the training conditions (second B period) eliminated oppositional behaviour almost completely.

A test of the parents' effectiveness as reinforcers of the child's behaviour in a standardized experimental task was administered at the end of each period in the sequence. For both children, parents' effectiveness as reinforcers was lowest following the first A period and next lowest following the second A period. It increased following the first B period and was highest following the second B period. This indicated that besides affecting the specific target behaviour, the intervention had increased parental influence on other aspects of the

children's behaviour as well.

Besides the above mentioned behavioural techniques, a variety of over-correction procedures have also been used for disruptive acts, including the requirement that aggressive persons lie down (Foxx, 1976; Foxx and Azrin, 1972; Klinge et al 1975; Matson et al, 1978; Webster and Azrin, 1973); an aggressive or disruptive individual apologize to his/her victim (Foxx and Azrin, 1972; Matson and Stephens, 1977; Ollendick and Matson, 1976; Polvinate and Lutzker, 1980; Sumner et al, 1974); disruptive students practise appropriate forms of asking to be recognized in order to ask or answer a question (Azrin and Powers, 1975; Bornstein, Hamilton and Quevillon, 1977); a book tearer practise turning the pages of a book (Shapiro, 1979); and noncompliant children engage in enforced toy play (Doleys et al, 1976).

3.3.0. YOGA AND ITS APPLICATION IN THERAPY

There is now great interest in the world in examining indigenous modes of health. From this point of view as well as from the point of view of the fundamental concepts of biochemistry, physiology and psychology of man, yoga has aroused a keen interest among scientists.

Kochen and Pratap (1971) examined 43 subjects who underwent the free association test before and after 3 weeks of yogic training at Kaivalyadham. Significant change was observed with regard to the sequence of ideation for verbal stimuli.

Clinical observations suggest that certain adolescents and adults who were drug addicts achieved psychological benefit from the systematic practise of meditation. Its potential for therapeutic benefit in certain states of anxiety, phobia and psychosomatic disorder is suggested.

Vahia et al (1973) report their experience with therapy based on the concepts of Patanjali in the treatment of psychiatric disorders. They recognize the role of psychotherapeutic techniques in one form or another, such as behaviour modification and environmental manipulation, and also of drugs in the psychiatric treatment of neurosis and psychosomatic disorders. A new approach termed as psychophysiologic therapy, based on the concepts and techniques of Patanjali was put forth. Its aim was the maintenance of adequate integration. Patanjali's view is pointed out as follows: "As he explained, precisely this preoccupation with and feedback from environmental gratifications and frustrations is the root

cause of many mental illnesses. The aim of this therapy is to minimize this preoccupation, increase self-awareness and thereby produce better integration of the personality with resulting actualization of one's creative potentialities".

Under therapeutic concepts, various steps in psychophysiologic therapy are described. These are asana, pranayama, pratyahar, dharna and dhyana. According to the authors, Patanjali's technique begins with control over the voluntary musculature, subsequently over the autonomic nervous system, and still later, over the thought processes.

About 250 patients diagnosed as either suffering from psychoneurotic or psychosomatic conditions were treated as outpatients over a period of 9 years by this psychophysiologic therapy. Treatment sessions of one hour duration were conducted 6 days a week, for 6 months. A 3 stage trial was conducted. The results indicated that this therapy has a definite value in the treatment of anxiety, depression, and hysteria cases, as well as those with bronchial asthama. It was also pointed out that patients who had 35 or more sessions showed a greater improvement than those who had fewer sessions.

Patel (1973) has used yoga and biofeedback techniques in the

treatment of 20 hypertension cases. The results show improvement in a few cases (where the antihypertensive therapy was stopped), and in 4 other cases, indirect benefit in the form of relief from migraine and depression was seen. The results of this study show a useful new approach to the treatment of hypertension.

Udupa et al (1973) have studied the psychological and biochemical responses to the practise of Hatha Yoga by a group of young, educated, normal male volunteers for 6 months. Different psychological tests and biochemical estimates were carried out before and after the practise. The observations made at the end of the 3rd and 6th month showed a lowered acetylcholine and cholinesterase activity, decreased neuroticism, lowered mental fatiguability index, lowered incidence of subjective complaints, increased performance quotient, and improved memory quotient. It is pointed out that the practise of yoga may make an individual psychologically more stable and mentally more alert (Udupa et al, 1973).

Datey et al (1969) indicate the Shavasan therapy as a new avenue in the managemnet of hypertension. This yogic exercise was given to 47 patients, and 52% of them showed a significant response. Patients with arteriosclerotic hypertension did not

respond. The exercise had the effect of symptomatic relief and a sense of "well being" in the vast majority of the patients.

Champa Rao and Murthy (1975) examined the efficacy of Shavasan as compared with Jacobson's progressive relaxation on 10 subjects suffering from heightened states of anxiety. Physiological indices associated with anxiety showed significant change for both the techniques. However, Shavasan seemed to relieve anxiety better.

It has, therefore, been concluded that yoga may have a state-anxiety reducing potential, and a little potential for reducing the enduring predisposition to behave anxiously.

3.4.0. RESEARCH ON AGGRESSION

Aggression and violence are not new phenomena in human life. But in the present day fast moving world, these phenomena are gaining more and more weight because they are increasing the problems day by day. To find out what the phenomenon is, what its mainfestations are, how it affects society and human beings and if anything can be done about it, a screening of the literature available on this subject would be needed. No one can question the need to understand aggressiveness in human beings.

There are a number of studies done and books written to understand the concept of aggression. In India this area is relatively new; thus, while reviewing the literature, a very small number of Indian researchers could be found. They were, therefore, incorporated with the researches done abroad.

With children as subjects, it has been consistently found that boys exhibit more physical aggression than girls (Lansky et al, 1961; Lewin and Sears, 1956). Many researchers argue that aggressive behaviour is more prevalent and frequent among working class people, resulting from differences in child rearing practises (McKee and Leader, 1955; Davis, 1944; Berkowitz, 1962). Trasler (1962) argues that within the working class family the socialization process is class-effective because of weaker parent-child relationships and less consistently and reliably applied sanctions than that in the middle class family. Bandura (1973) concludes that certain parents, by behaving aggressively, provide models for their children.

Cultural norms may also increase the probability of aggression (Commstock et al, 1978). Geen (1973) shows that exposure to violence in television programmes may increase aggression in the observer and the effect may be visible for as

long as 5 months after the original observation.

Varma (1979) found socioeconomic background to be significantly influencing the interactional setting and situations of children. Hinde (1976) reported that most aggressive children in slum areas usually learn their aggressive behaviour from their peers and from extra-familial sources. In lower class families the power assertion techniques of disciplining children maybe characterized by physical punishment, threats, verbal attacks, etc.. Love orinted techniques are rarely employed in the lower class (Sears et al, 1957; Aronfreed, 1968; Elder, 1968). The number of siblings also plays a significant role in the acquisition of aggression (Varma, 1979). The highest sibling size (7+) presented a more or less indifferent and inconsistent influence.

Chasdi and Lawrence (1955) found in an actual experimental (doll play) situation that punishment (verbal reprimand) for aggressive doll play led to a reduction in such behaviour in subsequent sessions. They also found that permissiveness, with respect to aggression, will reduce the anticiption of punishment and/or increased anticipation of reward for aggression.

But researches also show that punishment increases the

probability of aggression (Allinsmith, 1960; Bandura, 1977; Bandura and Walters, 1963; Sears, Macoby, and Lewin , 1957).

It was found by Wright (1943) that children frustrated in pairs expressed aggression more freely against their instigators than when frustrated on their own; that is, anticipation of fear was less when the individual was a member of a group than when he was facing the instigator alone.

Brown and Elliot (1965) found that aggressiveness of male nursery children was modified by rewarding their cooperative social behaviour and disregarding all the aggressive behaviour.

3.5.0. LITERATURE ON HYPERACTIVITY

Hyperactivity, like aggression, is not a new phenmoenon. However, inspite of there being research done on its various aspects, we are no nearer to knowing what causes it, or how it can be treated. The only aspect of hyperactivity about which there is consensus is the symptomatology, about which several authors are in aggreement.

However, again, as with aggression, there is a dearth of research work on hyperactivity in India. Hence the majority of

the following literature deals with studies done abroad.

Impulsivity has been operationally defined on the Rorschach Inkblot Test as a tendency to react more swiftly and intensely to colour than to form (Rorschach, 1942; Shapiro, 1960) while on the Porteus Maze Test it has been defined in terms of carelessness and hastiness (Porteus, 1945). It has also been operationalized as a tendency to respond swiftly and inaccurately on the Matching Familiar Figures Test (Kagan et al, 1964), to view events with a short term perspective on a structured test or in the course of an unstructured interview and to draw a line and draw relatively swiftly when asked to perform these acts as slowly as possible IQ and specific patterns of intelligence functioning are less clearly related to impulsivity.

Various studies indicate that impulsivity as a character trait is stable over time and that it generalizes over different testing and non-testing situations. Using Fels Institute's longitudinal data, Kagan et al (1964) reported that vigour of motor activity and degree of sustained attention to visual stimuli were inversely proportional to one another and were moderately stable from ages 8 to 56 weeks. The data also indicated that hyperactivity, defined in terms of lack of

inhibition or motor discharge, was highly stable for both sexes from ages 3 to 14 weeks (Kagan and Moss, 1962). The same study reported that boys who were hyperkinetic through ages 6 to 14 years were found to be "competitive, sexually active, and not highly involved in intellectual pursuits" as adults; his correlation, however, was not true of girls.

However, there is also evidence that the extent of impulsivity maybe as much a function of reward contingencies, experimenter effects, and other situational variables as it is a function of stable and generalizable characteristics of individual subjects (Mischel and Metzner, 1962).

It is being increasingly recognized that progress in understanding the hyperactive disorder requires differentially co-occurring problems (Prior and Samsom, 1986). It is well established that there is substantial overlap between hyperactivity and conduct disorder; estimates of the proportion of hyperactive children who have coexisting conduct problems range from 40% (Szatmari, Boyle and Offord, 1989) to 60% (McGee, Silva and Williams, 1984). Since a core symptom of conduct problems is noncompliance, it is possible that experimenter presence improves the performance of hyperactive subjects

(unscreened for conduct problems) by lessening their noncompliance during performance.

Several studies have compared the attentional performance of "pure" hyperactive children (H) and hyperactive children with conduct problems (H/CP) with the experimenter present. Halperin et al (1990) found lower attentional scores for H compared to both H/CP and normals. In two other studies, the H group obtained poorer attentional scores than a clinical group of mainly H/CP children and normal controls. However, others have not found differences between these hyperactive groups (Klorman et al, 1988), nor between these groups and normal controls (Schachar, Logan, Wachsmuth and Chajczyk, 1988; Werry, Elkind and Reeves, 1987).

There is ample data that both H and H/CP children are more active than normal and clinic controls, both when experminters are present (Werry et al, 1987) and absent (Roberts, 1990). Roberts also reported more off-task behaviour in both hyperactive groups than a "pure" aggressive group. These findings suggest that overactivty is a feature of both H and H/CP children which is not affected by situational factors. Although overactivity is a primary symptom of hyperactivity, there has been remarkably

little attention given to the consequences of this for task performance. To date, there are no data correlating activity level and attentional performance in H and H/CP groups.

While evidence generally supports the behavioural differentiation of Attention Deficit Disorder with Hyperactivity (ADD/H) and Attention Deficit Disorder without Hyperactivity (ADD/WO), a growing body of literature suggests that children with learning diability (LD) share behaviour symptomatology with those diagnosed as ADD/WO. One study examined this issue by comparing parent and teacher rating among children diagnosed as having ADD/H, ADD/WO and LD. The results indicated that parents and teachers view children with ADD/H as more disruptive than children with either ADD/WO or LD. Children with ADD/WO or LD were described as more underactive, more shy and as daydreaming more often than children with ADD/H. Teachers rated children with ADD/WO and LD as being more similar to each other on symptoms of withdrawal and impulsivity, but both parents and teachers distinguished children with ADD/WO and LD on inattention items and consistently reported similarities between children with ADD/H and ADD/WO.

Based on research indicating that children and adolescents

diagnosed as having ADHD have greater difficulty with social problem-solving, perspective taking and consequential thinking than their non-ADHD clinical peers, one study hypothesized that ADHD subjects would perform lower on Kohlberg's standardized measures of moral judgement than non-ADHD subjects. The subjects were divided into one of two groups: a group of 30 male children who had previously received a diagnosis of ADHD and exhibited behaviours characteristic of ADHD children as demonstrated by scores on a behaviour checklist, and a second group of 30 male children who did not exhibit behaviours characteristic of ADHD children as demonstrated by scores on a behaviour checklist. Subjects from both groups were shown at two levels: pre-adolescent (10 years) and adolescent (14 years). All subjects were drawn from the same group of private residential treatment facilities, allowing the researcher to control for comorbid diagnosis. In addition to these efforts to control comorbid diagnosis and institutional experience, a study found no significant differences between the two groups on measures of IQ or socioeconomic status. Results of the study revealed significant differences between the groups with regard to the level of moral reasoning, with main effects for age and condition. As anticipated, 14 year old subjects in both groups

scored at higher levels of moral reasoning than 10 year old subjects, and non-ADHD subjects in both groups scored at higher levels of moral reasoning than ADHD subjects. No interaction effect was found. ADHD subjects were also found to shift their moral stance within dilemmas significantly more frequently than non-ADHD subjects suggesting that they have difficulties in maintaining a consistent line of reasoning.

As the aetiology of the hyperactive syndrome is due to a complexity of factors, any remedial measure, as such, must be of parallel comeplexity. At present, no therapy exists which can claim any large measure of success. One such integral therapy which suggests itself is the 8 fold path of yoga outlined in Patanjali's *Yoga Sutra*. Optimal therapeutic procedure would be to introduce family units to the yogic way of life. Without parental cooperation, any attempt to modify the child's behaviour radically is likely to fall short of success. The yogic path, followed under the guidance of an expert teacher, would serve to produce parents and children of perfect physical health, high moral behaviour and well adjusted contentment. Also to be mentioned are the scholastic and occupational benefits which follow the development of the ability of intense concentration.

While the introduction of yoga to adults and those in their teens presents no major problems, little information is available for initiating younger children. There seems to be disaggreement among various yoga centres regarding the proper age of initiation to yogic asanas. According to one well-known institute, asanas should not be taught before the age of 12 years. As Sita Devi of the Yoga Institute, Bombay, has pointed out, there is no reason why children of 4 years and older cannot atleast be taught simple meditative postures for quieting them. For the hyperactive, distractable child, especially, a few minutes daily in a meditative posture might go a long way in quieting him and building up his concentration. Furthermore, simple variants of some other asanas coordinated with rhythmic breathing, may also be beneficial to the hyperactive child, and could be introduced at about the same age. The last 3 steps of the 8 fold path, known collectively as *samyama*, maybe incorporated to some degree during the simple asana practise. For example, the child maybe asked to fix his eyes on some object, or to listen to sounds, or simiply to pay attention to his breathing while in a particular posture.

With a view to studying the feasibility of such a training programme for children, a short experiment was conducted by Goyeche (1972). A second standard class of 30 boys and girls was

selected from a nearby school. The class was randomly divided into 2 groups. One group was introduced to yogic practises, while the other group was introduced to orthodox physical training exercises. Both teachers were strangers to the children. The training of both groups was carried out simultaneously over 3 school weeks, for half an hour in the morning. The class teacher was asked to rate each child before and after training by means of a Likert 7-point scale on the following behaviour dimensions: attentiveness, quietness, obedience, intelligence, sociability, happiness, affectiveness and tolerance.

The results are difficult to interpret. It does appear, however, that those who underwent the physical training programme were rated more poorly than those who underwent the yoga training programme in comparison to their previous ratings. The result is merely suggestive, however, and a more reliable and valid assessment measure is obviously needed in future research. While not conclusive, the results of this experiment suggest that long term teaching of simple yogic practises maybe very beneficial to elementary school children. This would be especially true for the hyperactive, distractable child (Goyeche, 1972).

Douglas (1984, 1985, 1989) has reviewed a number of studies in which she and her colleagues investigated the effects of reinforcement schedules on the cognitive performance of children demonstrating the core symptoms of Attention Deficit Disorder with Hyperactivity (ADD/H). Based on findings from these studies, Douglas hypothesized that ADD/Hs (1) have an abnormally strong inclination to seek immediate reward, (2) are unusually vulnerable to possible arousing and distracting effects of reward and (3) become abnormally frustrated when immediate rewards fail to appear. Douglas has suggested that these abnormal responses to reward are one manifestation (along with attentional, inhibitory and arousal abnormalities) of an underlying self-regulatory defect.

Douglas (1985) also reveiwed several studies from her own and other laboratories in which rewards were introduced following a baseline period and then removed during extinction. Compliant behaviours and cognitive performace improved during reward, but they quickly returned to baseline or even fell below the baseline during extinction. Douglas argued that the drop may have reflected a frustrative reaction to the loss of rewards which the children had come to anticipate. Alternatively, it may have reflected a "rebound" effect from release from the control

exerted by the reward contingencies.

Barkley (1989) has attempted to explain the performance deficits of ADD/Hs by focussing on their impaired performance under conditions providing low or reduced reward. Barkley specifically hypothesized that ADD/Hs show "reduced susceptibility to control by partial and delayed schedules, as well as rapid satiation to consequences". He also dismissed Douglas's suggestion that ADD/Hs may be unusually sensitive to the presence and absence of rewards. Since he defined sensitivity in terms of incentive, Barkley argued that high sensitivity to rewards should result in better performance in ADD/Hs than normals on high reward schedule, which clearly is not true.

This debate, about the nature of the response of ADD/Hs to rewards, has important theoretical and clinical implications. While not denying the role of incentive effects, Douglas has emphasized the need to consider possible negative consequences of some reward mainpulations on children.