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INCREASING THE IN-SEAT BEHAVIOR OF A
THIRD GRADE BOY WITH ADHD USING
POSITIVE REINFORCEMENT AND
SELF-REINFORCEMENT

by
Michael J. Miltenberger

A Thesis

Submitted in partial fulfillment of the requirements of the
Master of the Arts Degree
of
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at
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Approved by

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ABSTRACT

Michael J. Miltenberger

Increasing the in-seat behavior of a third grade boy with ADHD
using positive reinforcement and self-reinforcement

1999

Dr. Jay Kuder

M.A. in Special Education

An ongoing challenge for all teachers, especially special education teachers, is developing intervention programs to control the behavior of their students. The author of this research project attempted to improve the in-seat behavior of a third grade boy with ADHD by implementing a behavior modification program using positive reinforcement and self-reinforcement. The author used positive reinforcement for five weeks before moving on to the self-reinforcement portion for an additional twelve weeks. The purpose was to increase the subject's in-seat behavior while also having him become actively involved in his behavioral program. The results show that the subject's in-seat behavior did increase during both portions of the study which indicates that a program of positive reinforcement and self-reinforcement can be an effective intervention.

MINI ABSTRACT

Michael J. Miltenberger

Increasing the in-seat behavior of a third grade boy with ADHD
using positive reinforcement and self-reinforcement

1999

Dr. Jay Kuder

M.A. in Special Education

The author of this research project implemented a behavior modification program using positive reinforcement and self-reinforcement for a third grade boy with ADHD. The purpose of the study was to increase the subject's in-seat behavior and the program was proven successful because over the period of the study the subject's in-seat behavior did increase.

CHAPTER ONE

INTRODUCTION

One of the biggest challenges for teachers of children with Attention Deficit Hyperactivity Disorder (ADHD) is keeping them focused. These children tend to be preoccupied with everything going on around them except for the teacher's lesson. Not only are these children preoccupied with other things, the hyperactivity component of ADHD makes it very difficult for them to sit still. Children with ADHD have a tendency to get out of their seat often, and this becomes extremely troublesome to teachers and classmates. When this out of seat behavior becomes frequent, teachers could spend more time trying to sit the child down than they do on instruction. Obviously, with this loss of instruction time, other students are suffering because this ADHD child can not stay in his seat. Often times, behavior modification programs with negative reinforcement do not yield the results with long term effects needed to improve in seat behavior.

The need to find effective ways to positively influence in seat behavior of ADHD students is of great importance today. There are more children being diagnosed with ADHD, and many of these children already have another impairment. Without the proper management system, these children could become very bothersome and distracting to classmates.

Some children with ADHD use some form of drug such as Ritalin to help

control behaviors such as getting out of seat frequently. Some parents however decide against the use of drugs to help control their child's behavior. It is especially crucial for these children to find the appropriate management system.

A possible solution to this problem is to use some type of positive reinforcement program adding a self-reinforcement program to increase in seat behavior. Using this type of system has a few advantages. First, if it works, the in seat behavior would make it easier for the teacher to concentrate on instruction. Second, by adding a self- management program, it makes the student more aware and conscious of his behavior and perhaps makes him understand the importance of staying in his seat. Also, with these two programs being successful, the student and classmates may develop more positive relationships because the child is no longer so distracting. Another advantage of adding a self-reinforcement program is the fact that the student would be doing the monitoring and reinforcement providing the teacher more time for instruction or other duties.

PROBLEM STATEMENT

The purpose of this research is to determine if the implementation of a behavior modification program using positive reinforcement and self -reinforcement can be successful in increasing in-seat behavior. The study will involve a third grade boy classified as emotionally disturbed and diagnosed with Attention Deficit Hyperactivity Disorder.

HYPOTHESIS

It is hypothesized that the implementation of a behavior modification program using positive reinforcement and self- reinforcement will be successful in increasing in seat behavior for a third grade boy with ADHD. The author expects to find that the boy will increase in seat behavior with positive reinforcement and the boy will become actively involved with his own self-reinforcement program. Also, by seeing his own progress, the boy will be motivated to continue to improve.

PURPOSE

The results of this study may prove to be important in many areas. Special education teachers as well as regular education teachers who have students with ADHD would be interested in this type of behavior modification program. This program, once implemented, does not take a lot of time or effort to maintain and does not take away from instruction time because of the self- reinforcement piece. Teachers are always looking for techniques that do not require a lot of training to extinguish negative behavior such as out of seat behavior. Also, teachers do not want to change or alter their academic program to change a student's behavior and this type of program would not do that.

If this program were successful, the student would be able to monitor his own behavior with the second part of the program. This would give the child a positive feeling, which would help him continue to improve. Also, his peer relations would improve because his out of seat behavior would decrease, therefore distractions for

peers would decrease. The study will take place in the child's classroom, which is a self-contained class with five other students and will last most of the school year. Baseline data will be collected daily for a one-week period followed by three to five weeks of the positive reinforcement program. Another baseline will be taken to determine if there were any improvements. Somewhere along the study, yet to be determined, the self-reinforcement piece of the program will be added with another baseline to check for improvement. The teacher will set up the self-reinforcement and monitor it as it continues. The reinforcement used will be coloring time for every five minutes the child stays in his seat. The five-minute increment will increase as the study progresses.

OVERVIEW

In chapter two, the author will review various articles of research. The literature will include such topics as ADHD, behavior modification, and more specifically, self-reinforcement. The author hopes to provide a broad range of information to supplement his personal findings.

CHAPTER TWO

LITERATURE REVIEW

Attention deficit hyperactivity disorder (ADHD) is one of the most prevalent childhood disorders reported by schools and mental health clinics. Also known as attention deficit disorder (ADD), it is one of the most researched conditions in the United States. Even though ADHD can occur along with conduct disorders, learning disabilities, and emotional disorders, research has established it as a distinct syndrome. Problems of ADHD many times follow a child into adolescence and adulthood. These individuals are at risk for future adjustment, education, and employment problems. They require appropriate prevention, intervention, and related services to lessen such problems later in life (D'Alonzo, 1996).

Even though people with ADHD vary in the type and severity of their symptoms, the core features of the disorder are inattention, impulsivity, and hyperactivity. Other features can include oppositional behaviors, conduct disorders, emotional difficulties and cognitive and learning disabilities. Students with ADHD can be disruptive to the point of detracting from their own and others' educational experience. Those who are not hyperactive, but have severe difficulties with attention span and organization, are many times underachieving or are accused of being lazy or

not motivated by frustrated teachers and parents unaware of ADHD symptoms and the child's lack of control over them. Those experiences can seriously affect the child's self-esteem and feeling of worth (D'Alonzo, 1996).

Evidence shows that the number of children with ADHD has increased in recent years (Bender and Mathis, 1995). One parent advocacy organization, Children and Adults with Attention Deficit Disorders suggests that 3.5 million children and two million to five million adults have some type of attention-deficit disorder. With increasing numbers of students receiving services in inclusive general education classes, general and special education teachers are usually called upon to deal with students' attention problems. An inclusive general education class of twenty to twenty-five students could have several students with ADHD, which could be extremely problematic because these students may set inappropriate models for classroom behavior. Many of these students may require behavioral intervention as well as closer supervision (Bender and Mathis, 1995).

Reid and Maag, (1994) examined demographic data, disability categories, placement, academic achievement, and educational treatment of children clinically diagnosed as having ADHD among a group of 14, 229 students in a public school district. Of the one hundred and thirty-six students with ADHD, over half were receiving special education services: forty were identified as behaviorally disordered, twenty two as learning disabled, seven as mildly mentally retarded, one as other health impaired and one as orthopedically handicapped. The most common special education placement for students with ADHD was the general education classroom

with resource support. Mathematics and reading achievement scores varied greatly. Over 90% of the students with ADHD were taking medication. Behavior modification, consultation, one to one instruction, and modified assignment format were used significantly more with students with ADHD who were receiving special education services other than students with ADHD who were not receiving special education services.

Zentall (1993) looked at the academic achievement of children with attention deficit hyperactivity disorder and found that they are more likely than children without disabilities to receive lower grades in academic subjects and lower scores on standard measures of reading and math. For example, more than 80% of eleven-year-olds with ADHD were reported behind at least two years in reading, spelling, and math or written language.

Reardon and Naglieri(1992) looked at the cognitive processing characteristics of normal and ADHD males. They compared the performance of twenty-eight males diagnosed with Attention Deficit Hyperactivity Disorder and twenty-eight males from regular education classrooms on measures of planning, attention, simultaneous, and successive cognitive processing. All fifty-six males were within the same mean age range. The results indicate that the cognitive processing deficiencies of the attention deficit subjects were quite pervasive, occurring in three of the four processing areas with the greatest deficiency in attention.

SYMPTOMS AND BEHAVIORAL CHARACTERISTICS

The main symptoms of ADHD are most likely going to impair learning in some way. They are associated in most ADHD children not only with learning disabilities but also with poor organizational skills, poor sequential memory deficits in fine and gross motor skills, and unproductive cognitive styles. Also, studies examining the academic achievement of ADHD children indicate that they are more likely than children without learning disabilities to receive lower grades in academic subjects and lower standard measures of reading and math are. These learning difficulties lead to school failure, disruptive behavior, and dropouts are high school. Because of this, new teaching strategies and specific behavior plans may need to be developed to minimize this disadvantage for the ADHD children's learning (Saunders and Chambers, 1996).

Frederick and Olmi, (1994) examined the social skills deficits of children with ADHD. The authors found that poor social skills with peers, teachers, and people at home may correspond with the inappropriate behaviors that are usually displayed. The primary symptoms of ADHD (i.e., socially disruptive behavior, and inappropriate levels of inattention, impulsiveness, and hyperactivity) may not accurately reflect the interpersonal difficulties faced by children with this disorder. Yet, it is clear that children with ADHD may display deficient social skills that may lead to disturbed interactions and social rejection. Research on behaviors of children with ADHD has identified several behaviors correlated with rejection. Behaviors such as disruptive classroom behavior, poor communications skills, and aggression are often observed in the child with ADHD. Unfortunately, research on the appropriate social skills of

children with ADHD seems lacking.

Inappropriate behaviors of children with ADHD may often lead to negative responses from others. Teachers have been found to offer more negative attention to the student with ADHD, in addition to the class as a whole. Although not well understood, such interactions may further one's academic and social demise. In terms of peer interactions, the problems associated with peer relationships include inattention, off-task, verbal exchange difficulties, and aggression that often leads to controlling and directive responses from peers.

The authors feel that even though medication therapies are used in treatment of ADHD, it remains that pharmacotherapy may not effectively address all behavior concerns. Other treatment strategies may be used in concert with any medication therapy for best results. Given this basic treatment tenet, children displaying social skills deficits may benefit from various social skills curricula and parent-training programs currently available.

While attention span is not as visible as hyperactivity or impulsivity, it is usually the symptom of ADHD that causes the most problems in school. A child with ADHD predominately inattentive type exhibits at least six of the characteristics of inattention described below:

- *Often fails to give close attention to details or makes careless mistakes in schoolwork, work or other activities;
- *Often has difficulty sustaining attention in tasks or during play activities;
- *Often does not follow through on instructions and fails to finish schoolwork,

chores, or duties in the work place;

- *Often has difficulty in organizing tasks and activities;

- *Often avoids, dislikes or is reluctant to engage in tasks that require sustained mental effort;

- *Often loses things necessary for tasks or activities;

- *Is often easily distracted by extraneous stimuli;

- *Is often forgetful in daily activities.

Unfortunately, if a child has ADHD, they are likely to have other problems with behavior. They can exhibit such unusually high degrees of noncompliance that they are regarded as having an additional disturbance. Some children exhibit many of the following characteristics:

- *Often lose their temper

- *Often argue with adults

- *Often actively defy or refuse adult requests or rules

- *Often deliberately do things that annoy others

- *Often blame others for their mistakes

- *Often are touchy or easily annoyed by others

- *Often become angry or resentful

- *Often are spiteful or vindictive

- *Often swear or use obscene language (Parker, 1994)

INTERVENTION

There are many interventions that are available today to help parents and

teachers to work with children with ADHD. Depending on whom you talk to, you will always hear positives and negatives about all programs for ADHD children. Some people believe that medication is how you treat it while others are against medication but may be in favor of some form of behavior modification or something like the attention training system.

Gordon and Thomason (1991) looked at the Attention Training System (ATS) which is a non-medical treatment for ADHD. The authors believe that there is some uncertainty and controversy surrounding pharmacological approaches to the treatment of ADHD so they wanted to explore as well as validate non-medical approaches. The study involved six youngsters, three males and three females, between the ages of six and nine years who participated in an after school psycho-educational treatment program for ADHD children. All subjects had been referred to a private practice clinic located in a small city in northern Louisiana. A licensed clinical psychologist diagnosed them all with ADHD. The ATS is a contingency management/response cost program that involves placing on the children's desk a small electronic module with a counter and red light that the child knows as "Mr. Attention." The child is told that Mr. Attention will automatically award a point for every minute he or she remains on tasks. However, if the child fails to attend to task, the teacher can, from anywhere in the room, press a button on a small module that causes a red light to shine on the student's module and a point to be deducted from the accumulated total. The teacher can deliver systematic and immediate feedback without having to set timers, dispense tokens, or speak to the child. Research on this technique indicates

that it can be as effective as stimulation medication in increasing attention to academic activities. The study covered a period of thirteen consecutive weeks. The ATS was used only during weeks three through eleven, whereas two weeks at the outset and two weeks at the end of the study represented no treatment phases. In five of the six cases, children's level of attention to task improved markedly from baseline to the training phases and then deteriorated once the ATS was removed. Thus a response cost program appeared to provide structure sufficient to allow children to improve the extent to which they maintained attention to school work. Indeed, implementation of the ATS appeared to have an immediate and powerful effect on the level of sustained attention. In five of the six cases, few if any deductions were necessary past the first two or three sessions. The one exception to the general pattern of improved on-task behavior was subject #5, who demonstrated initial improvement but then became inconsistent over the remaining weeks of the study. It is noteworthy that this child was later referred for residential treatment because of severe behavior problems and concerns about the possibility of a manic-depressive illness. These findings definitely lend support to proponents of response cost strategies for reducing inappropriate classroom behavior. Although response cost approaches are often regarded as negative or punitive, the ATS program demonstrate that they can be mixed into the context of reward and made palatable or not enjoyable for students.

Evans and Ferre (1995) did a follow up study using the ATS with an eleven-year-old subject diagnosed with ADHD. This study differed from the first because

the authors examined the ATS with medication. The authors believe that any medication should not be used as an isolated treatment for ADHD. They feel that psycho-stimulant medication is too frequently administered without any type of behavioral intervention.

The study consisted of an assessment of the subject's off-task behavior during three fifteen-minute time samples per day across three subject areas: science, reading and social studies. Off-task behavior was defined in the study as 1) breaking eye contact with task materials; 2) any repetitive, purposeless motion of the legs, arms, hands, buttocks, or truck; 3) any vocal noise or verbalization made by the child; 4) playing with or touching objects in the room outside of the table, chair, reading worksheet, pencil, or the child's own clothing; 5) out of seat behavior during which the subject's buttocks broke contact with the flat surface of the chair without permission from the teacher. The number of off-task behaviors was recorded on a frequency count basis for each of the three time samples each day. Daily data collection occurred for fifteen minutes during science class, reading group, and social studies. Data were collected by the paraprofessional in the subject's classroom, with reliability checks conducted by the teacher during the fifth week of data collection. Overall, reliability for the observations conducted between the paraprofessional and teacher was 95%.

The subject was introduced to the ATS program during the second week of the school year. The baseline information was collected for five days before the program began. Following the implementation of the ATS program, data were

collected for eight consecutive weeks. During the ninth and tenth weeks, a return to baseline condition was implemented during which the ATS was removed and another program of token earnings and exchanges for rewards that had already been implemented was discontinued. Two weeks later, the ATS program and backup reinforcers were re-implemented for the subject and data were collected for an additional two weeks. This experimental design is an ABAB (baseline-treatment-baseline-treatment), or reversal design.

As an adjunct to the use of psycho-stimulant medication, the ATS was successful in further reducing off-task behavior in an eleven-year old boy with ADHD. The subject averaged 4.7 episodes of off-task behavior per fifteen-minute observation during the initial baseline data collection phase of the study. During the initial eight week ATS treatment phase, the frequency of off-task behavior was reduced by more than two-thirds. When the ATS was removed, the subject's off-task behaviors increased to nearly 2.5 per fifteen-minute observation across classes. Finally, when the ATS treatment device was reintroduced, the subject's rate of off-task behaviors decreased correspondingly to less than one per observational session. Control over off-task behavior was established in that significant decreases in the target behavior corresponded with applications of the Attention Training System program.

BEHAVIOR MODIFICATION AND MEDICATION

Positive reinforcement is when a stimulus is used to increase the probability of

the recurrence of a response. When a new response is being shaped, immediate reinforcement usually produces a conditioned response more reliably than delayed reinforcement. Positive reinforcement must be consistent and be something a student really and is willing to work for. A certain behavior is chosen to improve and rather than focusing of the negative side, everything is focused on positive (i.e. in-seat behavior, quiet behavior, or on-task behavior). If it is your goal, then hopefully positive reinforcement can lead to self-reinforcement or self-monitoring in which the student will keep their own records of the behavior (Paul and Epanchin, 1991).

For some children, medication is an important part of the treatment for ADHD. Although most people would prefer alternatives to treatment with medication, the cautious use of certain medications for the child with ADHD has been well established as an effective component of the overall treatment plan. Not all children with ADHD require medication to manage their behavior, either because their deficits are mild and can be managed by behavior modification strategies, or because their environments at school and at home are able to be arranged in such a way as to compensate for the child's attentional deficits. For those children who require the use of medication in treating ADHD, the most commonly prescribed classes of medicines are psychostimulants and tricyclic antidepressants (Parker, 1994). Psychostimulants have been used to treat hyperactivity since 1937 following the first report of the usefulness of Benzedrine for this disorder. Of the psychostimulants, methylphenidate (Ritalin), dextroamphetamine (Dexedrine), and pemoline (Cylert) are commonly prescribed. It is suspected that psychostimulants

have an effect on the body's neurotransmitter chemicals thus enabling the child to better focus attention, control impulsiveness, regulate motor activity, improve visual-motor coordination, and in general exhibit more purposeful, goal oriented behavior. Tricyclic antidepressants such as imipramine (tofranil) and desipramine (Norpramin) have also been prescribed for the treatment of ADHD. The bulk of the literature suggests that overall, psychostimulants tend to be superior to the tricyclics in managing ADHD symptoms, however, there may be a subgroup of children with ADHD, particularly those who show signs of anxiety and depression, who may be better responders to these medications (Parker, 1994).

Arnett (1996) designed a study that was designed to evaluate whether taking a stimulant medication such as Ritalin dampens reward responding and increases sensitivity to punishment cues in ADHD children. The author used 31 subjects, ages 6 through 9, with 12 subjects not taking Ritalin, and 10 subjects taking high doses of Ritalin, and 9 subjects taking low doses of Ritalin. He concluded that ADHD children taking Ritalin showed a significantly smaller response speed increase to reward cues than ADHD children not taking Ritalin. Also, there did seem to be a trend for the medicated ADHD children to respond faster to punishment cues. Arnett summarized that Ritalin reduces responsiveness to punishment, which may make it more difficult for medicated children to learn adaptive functioning in normal classrooms that are based on positive rewards for adaptive functioning.

Sams(1993) evaluated the separate and combined effects of behavior

modification and 2 doses of Ritalin compared with baseline on the classroom behavior and academic performance of 31 ADHD boys attending a summer treatment program. The results revealed significant effects of both interventions, with the mean effect size of medication being more than twice as great as that of behavior modification. Relatively small incremental value was gained by the higher dose of medication or the addition of behavior modification, compared with the effects of the low dose of Ritalin. In contrast, the addition of either dose of Ritalin resulted in improvement beyond the effects of behavior modification alone. These group effects reflect those obtained in analysis of individual differences and the comparisons of individual responsiveness showed that boys who responded to the other.

Saunders and Chambers looked at children with ADHD taking medication and children with ADHD not taking medication. One of their findings were that when compared to children with ADHD who are not treated with medication, those receiving medication generally are less likely to talk excessively in class, blurt out answers to questions, bother other classmates while working, or exhibit aggressive behavior. The authors have estimated that of those children with ADHD who take psychostimulant medication, approximately 70% show improvement. In general, for the child who is taking Ritalin, the medication's effectiveness can be seen within thirty minutes after ingestion. However, its duration of action is usually only three to five hours, often requiring the child to take a second and sometimes a third dose during the day. The starting dose is typically low, usually 5 mgs., and is increased periodically by 5 mgs. until symptoms targeted for change have improved. Total

daily dose typically ranges from 5 mgs to 60mgs. per day.

SELF MANAGEMENT

The concept of self-monitoring was developed in the 1970's and was first used to collect data for psychologists to gather information regarding feelings, behaviors, and to assess the effectiveness of certain interventions. Sometime later, its use was to help behaviorally diagnosed students to manage social and academic behaviors in schools. It is also referred to as self-reinforcement, self-assessment, self-recording, and self-evaluation. (Webber and McCall, 1993)

Self-monitoring requires an individual to record or rate their behavior. In the first type, students assess a behavior and count the number of time it occurs. In the second, the individuals must make an evaluation of their behavior and rate it in accordance to some pre-set standards. (Suider, 1987)

DiGangi, and Maag, (1991) conducted a study that used self-graphing in coordination with a self-reinforcement procedure. This investigation was done to improve academic performance as well as addressing the issue of on-task behavior. The authors observed two female subjects, ages ten and eleven, who attended a regular education mathematics class and received remedial math instruction in a resource room setting. Both students were described by the resource teacher as having significant academic and attention difficulties. All aspects of the study took place in a regular classroom. On-task behavior was any time the students were focused in their material or self-monitoring card, writing answers, checking problems,

or getting help from the teacher. Academic performance was determined by finding how many problems were done correctly and how many problems were done.

The baseline segment of the study lasted for five days during which the students' on-task behavior and academic performance were recorded. For the first five days of the intervention period of the study, a tape recorder, which emitted a tone at randomly spaced intervals, was used to cue the students to ask themselves, "Was I paying attention?" The subjects were taught to record a mark in a space on a self-monitoring card labeled "on-task" if they were working, or "off-task" if they were not. During the next five-day period, the students continued to use the same procedure to self-monitor and instructed to record their results on a continuous graph. The results of this study showed that both subjects improved in the areas of on-task behavior as well as academic performance. The authors stated the most significant gains were made when the self-graphing portion was added to the self-monitoring intervention. They noted that students learned to graph data rather quickly and little effort was needed to self-graph their behavior.

Reid and Harris (1993) also studied the implementation of self-monitoring techniques to improve time on task in an academic setting. They reported that the majority of the previous work in this subject area studied a limited number of subjects. They selected twenty-eight students identified as learning disabled to use in their study. The students were nine to twelve years of age, of average IQ, and were described by their teachers as having difficulty staying on task. The study took place in nine separate classrooms where the subjects were all working on weekly spelling

assignments. The students were taught to use a spelling study procedure which required them to look at a word, say the word, cover the word, write the word three times and check to see if they spelled it correctly. The same self-monitoring procedure used in DiGangi and Maag (1991) was used in this study. The only difference was in this case, on-task behavior was defined as pronouncing, writing, or checking words, eyes focused on the work, or working on any of the steps of the study procedure.

The author reported the results of this study supported the findings of researchers using fewer subjects in that on-task behavior of learning disabled students increased a great deal. A few of the students who participated in the program said that they disliked the interruption caused by self-monitoring, but most felt it helped them to learn the spelling words and that they would like to continue using the procedure.

Shapiro, Albright, and Ager (1986) examined the use of a self-monitoring technique to reduce the frequency of inappropriate verbalizations in an educational setting. The subject of this study was a fourteen-year old girl who was not even aware that she was responsible for a high rate of distracting and inappropriate behavior. The negative actions included the frequent use of sarcasm, calling out obscenities, and using a very rude tone of voice. The procedure was made to have the subject monitor positive verbalizations that were responses to directions, consequences, or conversation which positive words, tone of voice, and appropriate facial expressions were used. Following the collection of baseline data, the

descriptions of positive and negative behaviors were gone over with the subject. She was given a recording sheet and told to mark each time she had a contact with a teacher or peer that required a response and record it if her response was appropriate. The teacher also recorded the number of appropriate verbalizations. The student was rewarded at the end of the day by being allowed to leave school five minutes early if her number of appropriate responses equaled at least 95% of the teachers' tally. The data collected during the study showed that by developing the ability to accurately record her behavior, the student dramatically improved her rate of appropriate verbalizations. The authors feel that the simple procedure of asking a student to record and try to match the teacher's ratings again proved to be a powerful tool in achieving sustained behavior change.

Self-reinforcement strategies have proven to be successful interventions with different populations. They have been used in many various settings to influence a lot of different behaviors. Positive results have been realized with regular education students as well as those who exhibit a broad range of disabilities including mental retardation, emotional disturbances, and learning disabilities. Research in this area has taken place in regular classrooms, resource rooms, self-contained classrooms, and in the home. The behaviors most often addressed by these programs are attention to task, academic performance, and social behaviors. The majority of the studies have yielded positive results but some researchers have reported gains that were less positive. In a lot of these cases, the researchers stated that the problems took place while trying to transfer the self-monitoring procedures to other settings, such as from

a resource room to a regular classroom. The authors felt the negative outcomes were usually due to the inconsistent performance or lack of cooperation by teachers involved in the programs rather than the ineffectiveness of the self-management strategies. (Reid, 1996)

While the majority of research indicates the merits of behavior modification programs for ADHD children, it should be assumed that all of these various procedures will not work for all children. There is no clear answer for affecting positive change for all behavior problems with all students. A more practical view would be to consider these programs as valuable tools to be used in conjunction with various other interventions to provide the most comprehensive program allowing special education students the opportunity to participate in a full array of educational and social experiences.

CHAPTER THREE

SUBJECT

The one subject of this study is a third grade ADHD boy. He is classified as emotionally disturbed and is in a self-contained special education classroom. The subject has experienced significant behavioral difficulties during his years in school as reflected by his disciplinary records. He was referred for evaluation early in the first grade and through a psychiatric evaluation, was classified as emotionally disturbed and diagnosed with ADHD at the same time. The psychiatrist highly recommends medication, however, his parents have refused to implement this intervention.

Although he displays many various behaviors, the most prevalent would be getting out of his seat. He gets out of his seat constantly and this causes him a lot of disruption because usually when he leaves his seat, he instigates trouble with someone or something. If he could stay in his seat, he would save himself a lot of frustration because it usually leads to more disruptive behaviors.

DEFINITION OF LABELS

Emotionally disturbed means the exhibiting of seriously disordered behavior over an extended period of time which adversely affects educational performance and shall be characterized by one of the following:

An ability to build or maintain satisfactory interpersonal relationships.

Behaviors inappropriate to the circumstances, a general or pervasive mood of depression or the development of physical symptoms or irrational fears.

An evaluation by a psychiatrist experienced in working with children was previously required for an emotional disturbance classification. However, other evaluations performed by school psychologists and social worker can be used to determine the classification in addition to or without the psychiatric evaluation if behaviors are well documented and prevalent enough.

The American Psychiatric Association uses the term Attention Deficit Hyperactivity Disorder with three different subtypes described as: 1) Combined Type 2) Predominately Inattentive Type, and 3) Predominately Hyperactive- Impulsive Type. The behaviors are grouped under each heading are listed below.

Inattention- This classification results from behaviors such as inattention to detail, careless mistakes in life activities such as schoolwork, a difficulty in sustaining attention and listening, incompleteness of assigned tasks, organizational skills deficits, losing and misplacing materials, being easily distracted, avoiding tasks, requiring sustained effort, and forgetfulness.

Hyperactivity- This classification results from behaviors such as being

fidgety, leaving assigned areas, running about excessively, difficulty engaging or playing in activities quietly, appearing to be in constant motion, and talking excessively.

Impulsivity- Calling out answers, difficulty awaiting turns, and interrupting and intruding on others characterizes this category.

(D'Alonzo, 1996)

ADHD is a neuro-biological disability that manifests in developmentally inappropriate levels of inattention, impulsivity, and hyperactivity. Although many students occasionally demonstrate inattentive behaviors, evidence indicates that a substantial minority of students demonstrates these problem behaviors frequently enough to be identified as ADHD. In a school setting, students with ADHD are frequently placed in general education classrooms and provided with educational modifications as required by section 504 of the Rehabilitation Act. (Bender and Mathis, 1995)

PROCEDURE

A baseline period was conducted for a five- day period in which the teacher kept count of how many times the subject got out of his seat. The teacher used fifteen-minute increments four times a day to see how often the subject got up. At this point, the subject was not involved in any individualized behavior management program.

Upon completion of collecting baseline data, a new behavior management program was introduced and discussed in detail with the subject. The subject was

expected to stay in his seat and would be rewarded for every five minutes he could stay seated. The five- minute increment will increase as the time goes on. The student will choose the reward and may include computer time, coloring, drawing or anything reasonable he chooses. The reward will be given three times a day at first and eventually reduced to twice daily. Each increment of in-seat behavior will count for two minutes worth of reward time given. After one month, with increments increasing in time, the subject will start to keep track of the time and reward himself at the appropriate times. This portion may be delayed depending on success rate of first part of the program. Baselines will be conducted at various times throughout the program to keep track of success rate. The teacher and eventually the subject will keep track of the program using a chart with the current time increments of in-seat behavior showing and checked off once the child receives the reward.

ANALYSIS

The data for this study will be presented by using graphs showing daily increments and rewards earned by the subject. These charts will be saved and the times of in-seat behavior will be graphed on another chart once a week. Also, there will be various baselines collected during the program and compared to the original baseline taken prior to implementation of programs.

CHAPTER FOUR

PRESENTATION OF DATA

The purpose of this study was to determine whether the use of a behavior modification program using positive reinforcement and self reinforcement could be successful in increasing in-seat behavior of a third grade boy with ADHD. The study required the teacher to conduct a baseline period to determine the number of times the student gets out of his seat. It also required the teacher to introduce the subject to a behavior management program whereby he would be rewarded for each five minute increment that he stayed in-seat with increments eventually increasing in time. Finally, the study required the subject, after approximately one month, to start to record the in-seat behavior and reward himself at the appropriate times. The teacher needed to closely monitor the subject for accuracy.

The teacher observed the subject for fifteen minutes four times a day for one week for a total of twenty fifteen-minute observations per week. The teacher did this three times throughout the study; once prior to implementation, once after one month, and again at the end of the study(see graph at the end of this chapter). During the original baseline period, the subject was out of his seat for an average of six times per

fifteen-minute increment on Monday, nine times on Tuesday, nine times on Wednesday, eleven times on Thursday, and ten times on Friday. The grand mean for the entire week was nine times out of seat per fifteen-minute increment.

After one month of implementation, the subject exhibited improvement. The subject was out of his seat for an average of six times per fifteen-minute increment on Monday, six times on Tuesday, five times on Wednesday, four times on Thursday, and four times on Friday. The grand mean for the entire week was five times out of seat per fifteen-minute increment. This indicates that after one month of positive reinforcement, the subject was responding positively to the program.

At the conclusion of the study, the subject exhibited more improvements as the observations indicate. The subject was out of his seat for an average of three times per fifteen-minute increment on Monday, one time on Tuesday, one time on Wednesday, two times on Thursday, and two times on Friday. The grand mean for the entire week was two times out of seat per fifteen-minute increment.

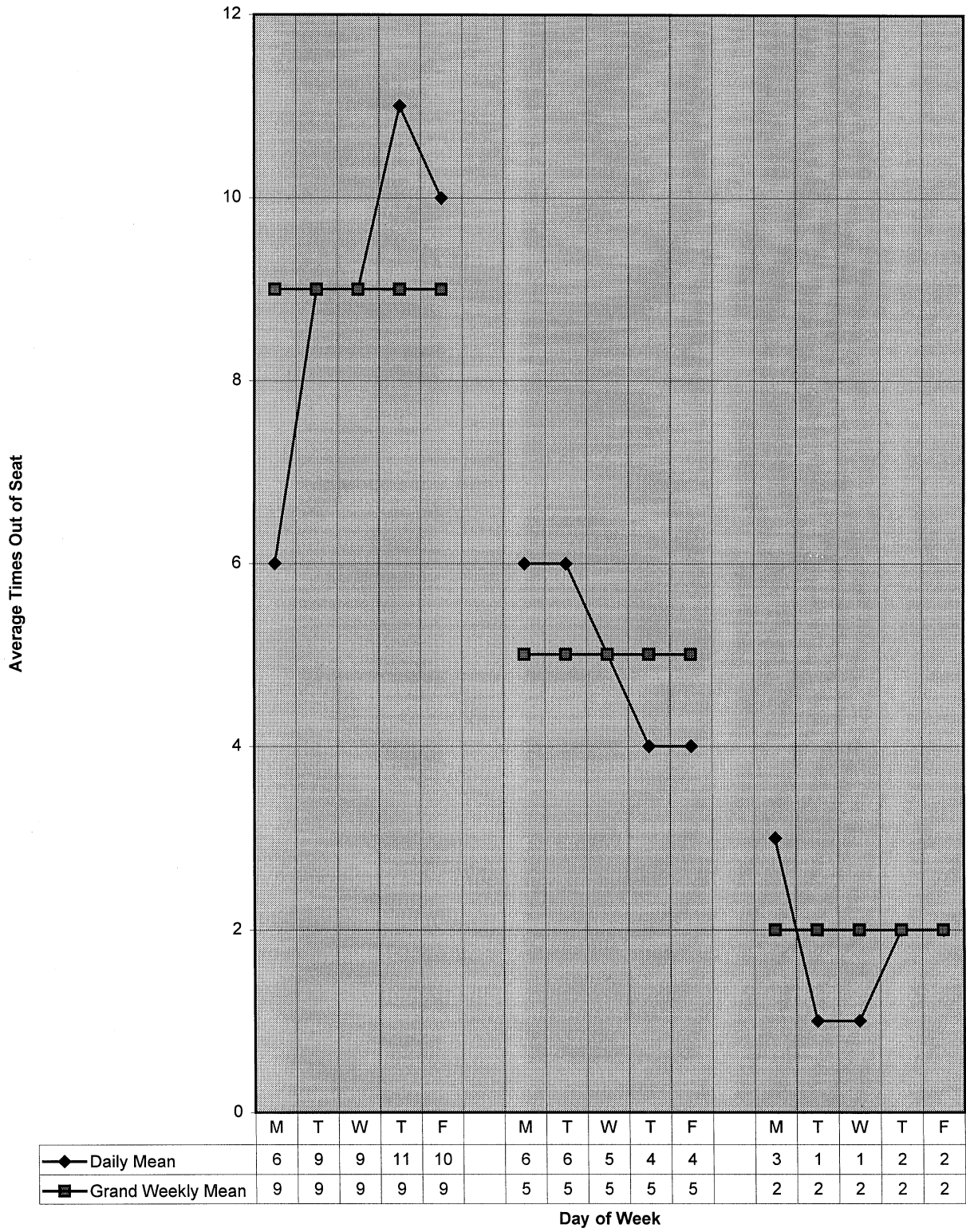
In the early stages, the subject was required to stay in his seat for five minutes to receive his reward but that increment of five minutes gradually rose to thirty minutes by the end of the study. This means that as the subject was improving, he had to remain in his seat longer in order to receive the rewards. Towards the middle and end of the study, the subject's reward time was not very high because the increments of time he had to stay in his seat rose without reward time increasing. For example, the subject began by receiving two minutes of reward time for every five minutes that he remained in his seat. Later, the subject had to remain in his seat for

ten minutes to receive the two minutes reward time. This continued and by the end of the study the subject had to remain in his seat for thirty minutes to get two minutes reward time.

The self-reinforcement portion of the study began after five weeks of positive reinforcement by the teacher only. It started out with the subject really trying to get more reward time than he earned. This caused the teacher to monitor the subject much closer and emphasize accuracy with the subject. For example, in week seven, the subject had an average of sixteen minutes of reward time earned on his chart but the teacher had only eight minutes of reward time earned on his chart. This slowly improved and by week twelve, the subject recorded ten minutes earned with the teacher recording eight minutes earned. By the end of the study, the subject and teacher were averaging the same amount of reward time earned.

The data gathered during this research project indicated that the management program was beneficial in improving the subject's in-seat behavior. The subject was able to stay in seat for longer periods of time towards the end of the intervention portion of the study as compared to baseline period. The in-seat behavior times were extremely low during the baseline period but generally increased steadily with one exception. After a vacation, the in-seat behavior was lower than the previous week but increased again the next week. The subject did have some difficulty when self-monitoring portion of the study started. The teacher had to closely monitor for a while but the subject eventually improved towards the end of the study.

Out of Seat Occurances



CHAPTER FIVE

DISCUSSION

An ongoing and continuous challenge faced by all teachers, especially Special Education teachers, is developing strategies to control and shape the behavior of their students. Traditional behavior modification programs are often difficult to implement, time consuming, and sometimes give results that do not generalize to other areas. One alternative to these techniques is a program of self-reinforcement or self-management in which students are given the responsibility of monitoring and evaluating their own behavior. The self-management approach allows students to feel as though they are in control of situations and the success of the intervention depends on the individual, rather than an external source.

This study was designed to examine whether a behavior modification program using positive reinforcement and self-reinforcement would be successful in increasing in-seat behavior of a third grade boy with ADHD. The researcher conducted several baselines throughout the study and continuously rewarded the subject for in-seat behavior. The researcher then moved from positive reinforcement to a self-reinforcement program closely monitoring the subject's rewards. The results of the

study indicated that the management program was beneficial in increasing the subject's in-seat behavior. The subject's in-seat behavior continuously increased throughout the study even after the self-reinforcement portion of the study began. These findings support the author's original hypothesis that the implementation of a behavior modification program using positive reinforcement and self-reinforcement will be successful in increasing in-seat behavior for a third grade boy with ADHD.

Several previous studies have examined positive reinforcement and found similar success as the current study. One study that targeted positive reinforcement was Arnett (1996). This author used positive reinforcement on twelve of his thirty-one subjects, all diagnosed with ADHD, and found it to be relatively successful. Reid and Harris (1993) studied the implementation of self-monitoring to improve time on task in an academic setting and found that on-task behavior increased a great deal. Shapiro, Albright, and Ager (1986) also examined the use of self-monitoring to reduce the frequency of inappropriate verbalizations in an educational setting and found that their fourteen year old female subject dramatically improved her rate of appropriate verbalizations. Even though the goals, objectives and subjects of these studies were different from those of the present study, they all yielded positive and favorable results.

Even though the present study resulted in positive outcomes, some aspects of the study could be considered limitations and may need to be altered for future research. First, there was only one subject and, experimentation with a larger group could make the results more accurate. Next, the author feels that increasing the reward time to

correspond better with the increasing increment times of in-seat behavior may have resulted in even more favorable results. For example, when the increment time rose from five minutes to ten minutes, the reward time should have also risen. The subject felt that reward time should have been increased because he was staying in his seat longer with less reward. One problem the author encountered was that after an extended vacation, the subject seemed to move backward and the teacher needed to re-introduce the program. Also, it was anticipated that the subject would more accurately chart his behavior and rewards but it had to be very closely monitored throughout the entire study. Towards the end, the teacher and student reward time was close because of the monitoring.

The author suggests that for future research, a larger group be included in any study similar to this one to attain more accurate results. Also, it could be suggested that a self-monitoring program be implemented more in middle or high school rather than in the elementary grades, especially if there is a greater number of subjects included in the study. The third grade subject seemed to have difficulty accurately recording his in-seat behavior but eventually, through close monitoring, became more accurate.

The results of this study suggest that a program of positive reinforcement and self-reinforcement can be an effective intervention to improve classroom behavior. These two programs could also be used separately depending on students in the classroom. These techniques could prove useful as classroom management tools for Special Education teachers as well as for teachers in regular education classes.

Teachers should find both procedures easy to develop, inexpensive to use, and most importantly, time efficient to manage. The positive reinforcement followed by self-reinforcement as in this study is good for students because it helps them become aware of their behavior and places the responsibility of managing behavior on the student rather than the teacher.

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