The effect of a non-verbal redirection on out-of-seat behavior in a subject diagnosed as ADHD and MR

Amy Sharon Ellison-Marino

University of Texas-Pan American

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THE EFFECT OF A NON-VERBAL REDIRECTION ON OUT-OF-SEAT BEHAVIOR IN A SUBJECT DIAGNOSED AS ADHD and MR

A Thesis
by
AMY SHARON ELLISON-MARINO

Submitted to the Graduate School of the University of Texas-Pan American
In partial fulfillment of the requirements for the degree of

MASTER OF EDUCATION

IN

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December 2003

Major Subject: Special Education
THE EFFECT OF NON-VERBAL REDIRECTION ON OUT-OF-SEAT BEHAVIOR IN A SUBJECT DIAGNOSED AS ADHD and MR

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AMY SHARON ELLISON-MARINO

Approved as to style and content by:

Dr. Marie Simonsson
Co-Chair of Committee

Dr. Jo Ann Mitchell
Co-Chair of Committee

Dr. Laura Saenz
Committee Member

Dr. Marjorie Anne Estevis
Committee Member

December 2003
ABSTRACT

Marino, Amy S.E., Masters of Education (ME), Special Education for Culturally and Linguistically Diverse Learner, December 2003, The effects of non-verbal redirection on out-of-seat behavior in a subject diagnosed as ADHD and MR. pp.52, 1 figure,1 table, references, 31 titles.

This was a single subject study with the A-B-A-B across settings withdrawal design. This design was selected because the subject has comorbidity issues, Attention Deficit Hyperactive Disorder (ADHD) and Mental Retardation (MR). This researcher implemented the A-B-A-B design and collected data during all four phases. The subject was a eight year old Hispanic female diagnosed as ADHD and mild MR. ADHD is characterized by impulsivity, lack of ability to focus attention, and hyperactivity. MR is characterized by below average intellectual functioning which significantly limits functioning in at least two skill areas.
ACKNOWLEDGMENTS

It is with great appreciation that I acknowledge the patience, understanding and wisdom shown to me by my graduate committee at The University of Texas-Pan American which include Dr. Jo Ann Mitchell, co-chair, Dr. Marie Simonsson, co-chair, Dr. Laura Saenz and Dr. Marjorie Anne Estevis. Dr. Simonsson for all your support and wisdom in guiding me through this study. Dr. Mitchell for never ceasing to believe in my ability. Dr. Marjorie Anne Estevis for always guiding me through the rough waters and for being my chair at the beginning before retiring.

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For you mom with Love.
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CHAPTER II. REVIEW OF LITERATURE

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CHAPTER I

Introduction

Many people believe that Attention Deficit Hyperactive Disorder (ADHD) is something new; it isn't. It was the educational and psychological buzzword of the late 1980's and 1990's. However, as early as the 1800's doctors were describing the characteristics of children who seem to exhibit what we would consider today ADHD like characteristics. These children were reported to be impulsive, could not stand still, and were fidgety. Historically, these children were labeled learning disabled, minimally brain injured or dysfunctional, or emotionally or behaviorally disturbed. Even today it can be difficult to establish a diagnosis of ADHD in children younger than age 4 or 5 years. This is due to the fact that behaviors in this age range are more variable than in older children. Additionally, some behaviors in younger children may resemble the symptoms of Attention-Deficit / Hyperactivity Disorder. “Furthermore, symptoms of inattention in toddlers and preschool children are often not readily observed because young children typically experience few demands for sustained attention” (DSM-IV, 1994, p. 81).

The present study focused on an individual who was identified as having ADHD as well as mental retardation (MR). Combinations or comorbidities of disabilities can often present unique challenges to the learner and to teachers. These challenges call for
unique and individualized strategies. The present study sought to develop an effective technique to reduce out-of-seat behavior in an individual with ADHD and MR.

Need for the Study

This investigator found few studies addressing children with the comorbidity of ADHD and MR. The earliest was a 1968 study by Tizard. Pearson, Yaffee, Loveland, and Lewis, writing in 1996, stated that "very few studies have investigated attention in children with ADHD who also have mental retardation" (p. 592). The field of special education is in need of effective strategies in reducing behaviors that are inconsistent with learning. Educators, parents, and caregivers are in need of effective treatments of ADHD in children with MR.

Statement of the Problem

Students with a comorbidity of ADHD and MR have numerous behavioral and social skills problems. Some of the problems observed in the classroom include answering the teacher without permission or without raising hand, yelling (or speaking too loudly), and the inability to wait to take turns. This study addressed the behavior of a student who manifested an inability to stay in her seat. This off-task behavior interfered with learning and was disruptive. Teachers, parents and even students themselves need effective strategies which address disruptive and off-task behaviors in children with sub-average general intellectual functioning and a significant deficit in adaptive behaviors.
Purpose of the Study

The purpose of this study was to determine the effect of non-verbal redirection on out-of-seat behavior in a student with ADHD and MR.

Research Question

The research question that guided this study was: What is the effect of a non-verbal redirection on out-of-seat behavior in a subject with ADHD and MR?

Significance of the Study

The significance of this study is that it has provided an additional strategy for dealing with a disruptive and nonproductive behavior in a student with ADHD and MR. By controlling out-of-seat behavior, the student should have more opportunity for time on task, which in turn promotes learning. Another benefit of this study is that parents can be taught to use this method at home to help their child stay on task. The use of strategies across settings provides a consistency that benefits the student. A nonverbal strategy is desirable as it can help eliminate the frustration of having to repeat verbal directions. It also eliminates the irritation and/or frustration to the other students since it is non-verbal. The results of this study are also significant to the field of special education. Because there is a paucity of research addressing methods for classroom use with students who have a comorbidity of ADHD and MR, the field of special education benefits by receiving specific treatment information which was found to be effective for one student.
Definition of Terms

The following terms have a special meaning in this study and are defined as follows:

Attention Deficit Hyperactive Disorder (ADHD). ADHD, as defined by the American Psychiatric Association (2000) in the DSM-IV-TR, is a condition in an individual having serious problems with inattention, hyperactivity, and poor impulse control. There are some children who have a comorbidity of ADHD and MR.

Comorbidity. Mash & Barkley (1996) define this as “... the manifestation of two or more disorders whose co-concurrence is greater than what would be expected by chance alone” (p. 32).

DSM IV. “This is a diagnostic system that provides comprehensive coverage of the general types of symptom clusters displayed by children as having mental disorders” (Mash & Barkley, 1996, p. 24-26).

Daily functional living areas. This researcher defines this as an area of the classroom that provides a similar setting to an area of the home, for example, a living room or a kitchen.

Daily functional living skills. Defined by this researcher, as the skills an individual needs to function in their environment and to independently meet their daily needs. Some examples are dressing oneself, counting money, brushing hair and teeth, bathing, etc. Also included are basic social skills needed to function daily in society such as saying,
“please and thank you” when appropriate, and the correct way to give and ask for
information, etc.

*Hyperkinesis.* This term means “a condition of abnormally increased muscular

*Imbecile.* This is an obsolete word referring to a moderately retarded person
having an IQ level of 20 to 49 and unable to develop past a mental age of 7 or 8 years of
age.

*Inhibition.* This is “the blocking or holding back of one’s psychological process”

*Inhibitory defect.* This type of defect is a condition that causes a person to lack the
ability to manifest normal inhibitions.

*Locomotion.* Locomotion is “the act or power of moving from place to place”

*Mental retardation (MR).* Mental retardation is defined as the “significant
sub-average general intellectual functioning that is accompanied by
significant limitations in adaptive functioning in at least two of the following
skill areas: communication, self-care, home-living, social/interpersonal
skills, use of community resources, self-direction, functional academic skills,
work, leisure, health and safety. It must also have onset or begin before age
18” (DSM-IV-TR, 2000, p. 41-42).
Off-task. According to Walker, Colvin, & Ramsey (1995) being off-task is “[n]ot academically engaged in assigned tasks or activities.” (p. 85)

On-task. According to Walker, et al. (1995) being on task is “[a]cademically engaged in assigned tasks or appropriate classroom activities” (p. 84).

Out-of-seat-behavior. As used by this researcher, out-of-seat behavior is anytime that the student’s buttocks are not in contact with his/her seat.

Overactive. This is a term sometimes used to describe children who are seen to be more active than their same-age peers.

Self-contained unit. According to Kirk, Gallagher, and Anastasiow (1997) this is “a separate classroom in which a special education teacher assumes primary responsibility for the education program of the students with disabilities” (p. 567).

Wechsler Intelligence Scale for Children IV (WISC-IV). WISC-IV is an instrument used for measuring the intelligence of children ages 5 to 15.

Summary

Students who have ADHD frequently manifest disruptive and off-task behaviors. Out-of-seat-behaviors contribute to lack of learning in the classroom. When a learner with ADHD has a concomitant disability, such as mental retardation, the teacher may be in need of a unique, but effective, strategy to reduce the undesirable behavior. This study investigated the efficacy of a nonverbal redirection intervention to reduce out-of-seat-behavior in a student with ADHD and mental retardation.
CHAPTER II

Review of Literature

ADHD is an intriguing and difficult to understand condition that is often encountered in the classroom. This chapter will address the prevalence and history of ADHD in the United States. Characteristics of ADHD and of mild MR will be listed. A number of research studies involving children with the comorbidity of ADHD and MR are presented.

Prevalence

The number of students in the United States that are identified with ADHD has escalated in recent years. "Some studies estimate the numbers to be as high as 20% of the school age population, while other studies put the number much lower at around 3 to 5%" (Barkley, 1990, p. 90). ADHD is five to seven times more common in boys than girls and girls are twice as likely to go undiagnosed as boys.

Characteristics of ADHD

According to the DSM-IV-TR (2000), "individuals with ADHD have a serious problem with inattention, hyperactivity, and poor impulse control" (p. 85).

This publication lists the criteria of ADHD as follows:
"(Criterion A) The main feature of ADHD is a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically observed in individuals at a comparable level of development.

(Criterion B) Some hyperactive-impulsive or inattention symptoms that cause impairment must have been present before age 7 years although many individuals are diagnosed after symptoms have been present for a number of years, especially in the case of individuals with the Predominantly Inattentive Type.

(Criterion C) Some impairment from the symptoms must be present in at least 2 settings (e.g. at home and at school or work).

(Criterion D) There must be clear evidence of interference with developmentally appropriate social, academic or occupational functioning.

(Criterion E) The disturbance does not occur exclusively during the course of a Pervasive Developmental Disorder (PDD), Schizophrenia, or other Psychotic Disorder and is not better accounted for by another mental disorder" (p. 85).

In addition the DSM-IV-TR (2000) documents subtypes of ADHD which are identified as follows:

"1. Attention-Deficit/Hyperactivity Disorder Combined Type.

This subtype should be used if six (or more) symptoms of inattention and six (or more) symptoms of hyperactivity-impulsivity have persisted for at least six months. Most children and adolescents with the disorder have the Combined Type. It is not known whether the same is true of adults with the disorder."
2. Attention-Deficit/Hyperactivity Disorder, Predominantly Inattentive Type.
This subtype should be used if six (or more) symptoms of inattention (but fewer than six symptoms of hyperactivity-impulsivity) have persisted for at least six months. Hyperactivity may still be a significant clinical feature in many cases, whereas other cases are purely inattentive.

3. Attention-Deficit/Hyperactivity Disorder, Predominantly Hyperactive-Impulsive Type.
This subtype should be used if six (or more) symptoms of hyperactivity impulsivity (but fewer than six symptoms of inattention) have persisted for at least 6 months. Inattention may often still be a significant clinical feature in such cases” (p. 87).

Furthermore, “Hyperactivity may be manifested by the following:

1. Fidgetiness or squirming in one’s seat.
2. Excessive running or climbing in situations where it is inappropriate.
3. Difficulty playing or engaging quietly in leisure activities.
4. Appearing to be often “on the go” or as if “driven by a motor”.
5. Talking excessively.

Impulsivity manifests itself as:

1. Impatience, difficulty in delaying responses, blurring out answers before questions have been completed.
2. Difficulty awaiting one’s turn.
3. Frequently interrupting or intruding on others to the point of causing difficulties in social, academic or occupational setting” (DSM-IV-TR, 2000, p. 92).

**Characteristics of Mild MR**

MR is defined in the AAMR (American Association on Mental Retardation) as “a particular state of functioning that begins in childhood and in which limitations in intelligence coexist with related limitations in adaptive skills” (1992, p. 9). "Mental retardation is defined by the DSM-IV-TR as the significant sub-average general intellectual functioning that is accompanied by significant limitations in adaptive functioning in at least two of the following skill areas: communication, self-care, home-living, social/interpersonal skills, use of community resources, self-direction, functional academic skills, work, leisure, health and safety. It must also have onset or begin before age 18. Mild mental retardation is the largest of the four subtypes. As a group, people with this level of mental retardation typically develop social and communication skills during the preschool years (age 0-5 years), have minimal impairment in sensorimotor area, and are often not distinguishable from children without mental retardation until a later age” (DSM-IV-TR, 2000, p. 43).

**History of ADHD**

ADHD has been the educational psychology buzzword for the 1990's. Yet, it is far from being a new condition as only the terms used to label it have changed but not the words used to describe it. As far back as the 1800's doctors were describing children who
were impulsive, could not stand still and fidgeted. In this historical context, these children were labeled learning disabled or even emotionally or behaviorally disturbed.

Studies of Students with ADHD and Mental Retardation

In the following subsections early, turning point and recent studies of ADHD and MR will be presented.

Early studies of children with comorbidity of ADHD and MR. The earliest article was a study researched by Barbara Tizard on “imbecile” and “overactive” students. She divided her study into two parts. Part (a) “was a classroom setting with imbecile children who were also overactive and with a control group of children of similar age, both chronologically and mentally” (1968a, p. 541). Her research questions explored the following: (1) “Do the children reported as overactive, in fact, move about more than the control children or is their activity noticed more because of its aggressive and antisocial behavior? (2) Is over activity in young imbeciles associated with other components of the hyperkinetic syndrome? Is over activity in young imbeciles associated with specific types of brain damage?” (1968a). Her inter-rater reliability was low; yet, she still found some areas of interest to report. She questions whether these children’s over activity was simply the result of their handicap. Tizard speculates in her results on the cause of the over activity possibly being an “inhibitory defect” (1968a, p. 547). Tizard’s second study, part (b), was an experimental study in which she posed the following: (a) “the effect of stimulus variation on the amount of locomotion, and (b) the effect of increasing familiarity with the environment on the amount of locomotion” (1968a, p. 547).

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Research by Ando and Yoshimura in 1978 of “Prevalence of Maladaptive Behavior in Retarded Children as a Function of IQ and Age” (p. 345). Their study group ranged in ages for six to fourteen and the group consisted of 128 individuals. They chose nine maladaptive behaviors upon which to focus: withdrawal, tantrum, destruction of property, self-injury, hyperactivity, attack against other individuals, stereotyped behavior (which today we call self-simulating behavior), fear, and lack of eye to eye contact. Their results reported the presence of four of the target behaviors seem related to the subjects I.Q.: self-injury, hyperactivity, withdrawal, and stereo-typed behaviors. Of interest to this investigator is that one of the four is hyperactivity. They found it was more common in their younger subjects than the older and that it appeared to disappear as a symptom as the subjects entered adolescence.

A study cited in the Handbook of Behavior Modification with the Mentally Retarded was titled “Teaching self-help skills to the Mentally Retarded” by Waston and Uzzell of individuals diagnosed only as MR (n.d., p. 151). They used three methods in their research: forward sequencing, backward chaining, and graduated guidance. Their study found that all three methods were reasonable to very successful at teaching self-help skills such as daily grooming, operating household appliances, and functional living skills (e.g. putting away clothes, picking up after themselves, etc.) (1981, pp. 151-175).

Another study cited in the Handbook of Behavior Modification with the Mentally Retarded is “Reducing Aggressive Behavior of Mentally Retarded Persons” by Repp and Brulle of individuals diagnosed only as MR (n.d., p. 177). Yet, the aggressive behaviors
targeted are similar to behaviors sometimes associated with ADHD in the present day. These researchers were actually investigating previous studies that had been done on the topic to determine if any successful methods had been developed. They determined the data collected showed limited success in developing an effective method to deal with these behaviors (1981, pp.177-210).

*Turning point studies.* In an article from 1982 by Metcalf and Feldman, a contingency management plan was developed jointly with teacher and student to control five types of disruptive behaviors, including out-of-seat behavior, off academic task behavior, throwing objects, name calling and fighting. Their results were an overall drop of 60 percent in the disruptive behaviors. When they returned to baseline conditions the behaviors escalated as was expected. In 1984, a study on the effects of physical restraint on hyperactive, mentally retarded children was conducted by Singh, Winton, and Ball. They observed four boys aged 8 to 9.5 years. Their I.Q. on the *Stanford-Binet Intelligence Scale* ranged from 49 to 28. The researchers “combined a multiple baseline across subjects and reversal design” and cited Kazdin’s handbook from 1978. They created four conditions for the boys in which out-of-seat behavior was met by a return to seat and being physically restrained (being held by the shoulders) for fifteen seconds in the seat. They found this was not very effective and in fact the out-of-seat behavior increased. The researchers believe one reason for this might be that the physical restraint may have had a reinforcing quality to the boys instead of the negative effect the researcher was expecting it to have.
In a study comparing classroom behavior of children with MR with and without ADHD Handen, McAuliffe, Janosky, Feldman, and Breaux (1994) were looking for six variables during two different settings. The authors determined students with ADHD were better able to stay on task when structured instruction was involved, on the other hand they were more likely to be off task during independent seat work.

Cipani in his study investigated, “four-category diagnostic system for assessing and diagnosing severe behavior disorders” (1994, p. 293). Mr. Cipani, worked with a four year old with PDD whom showed aggression toward all persons in his environment. The objective of this research was for the subject to replace the negative behavior with a positive or non-aggressive behavior. This research showed little success and the author even suggest that further study is needed over a longer period of time (1994).

Recent studies of ADHD and MR. Pearson, et. al., did their study on sustained and selective attention in children who have mental retardation with and without ADHD diagnosis (1996). In the aforementioned study, they state how little research has been done on these individuals with these dual diagnoses especially when compared to the huge amounts of research on ADHD students in the last two decades. They compare two groups of students in which one group were students with ADHD and MR; the second group (control group) were students with MR. They were endeavoring to determine if the students who were also ADHD had more difficulty in attending to the task given them than did their non-ADHD counterparts. There was only a slight difference in the groups’
performance and the researchers stated that they could not say for certain the difference was due to the ADHD and not to some extraneous variables.

In a recent book by Pliszka, Carlson, and Swanson (1999). Medications (stimulants) given to MR students has not helped with their learning according to research done in the last 20 years. Yet, they go on to state that teachers ratings of MR students behavior who are on medication showed a substantial improvement from those not on medication.

Pearson, Lachar, Loveland, Santos, Faria, Azzam, Hentges, and Cleveland preformed an analysis of behavioral modification in mentally retarded children both with and without ADHD (2000). They determined the children with ADHD had more problems with family conflict, anxiety, inadequate social skills, depression, noncompliance, hyperactivity and academic problems.

Summary

Chapter II has described the characteristics of ADHD and MR. A discussion about historical studies, turning point studies, and recent studies were presented in this review of literature. It is of interest to note that most studies are done on subjects with only ADHD or only MR as they exist as separate conditions. There is little research being done until recently on the comorbidity of these diagnoses as it pertains to behavior modification. Dr. Deborah A. Pearson who is cited elsewhere in this paper is now doing a substantial amount of research on this comorbidity issue at the University of Texas.
Health Science Center at Houston. She was screening for participants through the summer of 2000 with studies to begin that fall (Pearson, n.d.).
CHAPTER III

Methodology

The purpose of the study was to determine the effect of non-verbal re-direction on out-of-seat behavior in a student with ADHD and MR. Chapter III describes the following procedures used in this study; the research design, the subject that was studied, the settings in which the subject was studied, the dependent and independent variables, as well as the experimental procedures for the baseline and the treatment.

Research Design

A single subject with the A-B-A-B across settings withdrawal design was used. This is a recognized design to be used when the target behavior is reversible (Richards, Taylor, Ramasamy and Richards, 1999). There were no ethical concerns about the behavior being reversed since out-of-seat behavior is such a benign behavior. This design was selected because the subject has comorbidity issues, ADHD and MR. The A-B-A-B design will be implemented as follows. “A” will be the baseline where the target behavior is observed and documented. “B” will be the intervention or treatment which is non-verbal redirection, proximity, and eye-contact. “A2” will be the return to baseline
conditions with the removing of the intervention. "B2" will be return to the intervention to determine if it is successful.

Subject

Subject was an eight year old Hispanic female with no major health complications. She has been diagnosed as mildly mentally retarded and ADHD, and was on medication for several months in the 1999-2000 school year. The mother became concerned about the side-effects of the medication and discontinued the medication. The subject functions at a kindergarten level academically in language arts, and her IQ in her last assessment (utilizing multiple tests) was a 65. Her out-of-seat behavior is disruptive to the class because when she's out of her seat it interrupts instruction and distracts the other students. The subject is large for her age and is also overweight. There is an eight year gap in age between the subject and the second youngest child who is sixteen she is the youngest of four children. Since the subject is the youngest child she tends to receive a great deal of attention at home and therefore she expects the same treatment at school. This subject was chosen because she exhibits the target behavior and because she has the comorbidity issues that this researcher had chosen for this study.

Setting

This study was conducted in a school district located in the Rio Grande Valley of South Texas on the Texas-Mexico border. The subject was observed in three different settings: (1) in a self-contained (mild-moderate) MR unit in the classroom area, (2) in the cafeteria during lunch, and (3) in the self-contained (mild-moderate) unit in the functional
living area. The classroom area consists of seven desks, a chalk-board and an overhead projector. The subject was observed during spelling lessons with the teacher saying the words in rote with the students then students copy spelling words from the board. In the cafeteria setting the subject must stand in line with her peers. The cafeteria is a large room with 12 long tables. Each table holds approximately 32 students. Every teacher is assigned a table at the beginning of the school year where her/his students are assigned to sit. The cafeteria observation would begin once the subject was seated with her tray. The third setting was the self-contained unit functional living area. This is an area of the room that contains a kitchen, a bedroom, and bathroom area. In the kitchen area students assist teacher or teacher-aide in preparing meals and washing dishes as previously taught. In the bathroom area the subject is taught self-grooming which includes washing her face and drying it, combing or brushing their hair and styling it.

Dependent Variable

The dependent variable in this study is out-of-seat behavior. This is defined as anytime that the subject’s buttocks are not in contact with her seat. Target behavior was measured as the number of times the subject was out of her seat during the three settings, classroom instructional time, lunch, and functional living instruction. The observers used the Crane/Reynolds Event Sample/Data Sheet (Crane/Reynolds, 1997) (see Appendix D) to record the frequency with which the subject was out of her seat. The Crane/Reynolds Event Sample/Data Sheet (Crane/Reynolds, 1997) requires the following data: subject’s name, date of observation, name of person doing observation, and specific behavior.
Additional headings include date, time, and specific behavior count. The remainder of the page is divided into five observation sections and labeled 1-5 with the following heading going down the left side of the page: Observation 1, Observation 2 and so on. In the middle of the page there is a blank space to write in time the observation begins and ends. On the right side of the page under the heading ‘Specific Behavior Count’ tick marks or tally marks were used to record the frequency that the subject exhibited the target behavior.

The subject was observed for three separate 15 minute intervals during the school day. One observation was done from 10:45 to 11:00 during the morning classroom instructional time covering the spelling lesson. The second observation was done during lunch time in the cafeteria while subject should be seated eating her lunch. The third observation was done in the afternoon during functional living instruction. Functional living instruction is teaching common tasks such as washing dishes, sweeping the floor, grooming issues (e.g., brushing teeth, brushing and styling hair, washing face and hands, etc.).

The subject was observed by the principal researcher and a trained second observer. The second observer was trained by the researcher to observe what out-of-seat behavior is (target behavior), defined in chapter one as any time the subject's buttocks is not in contact with her seat, and how to score the tick marks or tally marks on the Crane/Reynolds Event Sample/Data Sheet (Crane/Reynolds, 1997). One mark for every
observed. The formula for calculating inter-observer agreement is the following formula (Richards, et. al., 1999):

\[
\frac{\text{Total Observer 1} \times 100}{\text{Total Observer 2}} = \text{Percentage of Agreement}
\]

Inter-observer agreement was checked and scored a 98 percent agreement rate before the study was started.

*Independent Variable*

The intervention plan was to use three forms of non-verbal re-direction consisting of hand gestures, body proximity, and eye contact. Hand gestures used were the movement of the researchers arm at arm length from the body and making a slow downward movement with hand for the subject to be seated. Body proximity was the distance between the researcher and from the subject. Eye contact was when the researcher made eye to eye contact with the subject and then looked at her chair. This non-verbal redirection alerted the student to return to her seat or to remain seated and is intended to stop the subject from getting out of her seat.

Prior to the onset of baseline “A” the subject was taught the non-verbal redirection cues by the investigator. Subject was shown the hand gesture the movement of the researchers arm at arms length from the body and making a slow downward movement with the hand. She was told if I do this I want you to sit down. Do you understand she nodded her head yes she understood. The researcher again modeled the intervention in the form of body proximity and explained to the subject if I get close to you like this I
want you to sit. Subject said simply, “okay”. She was told if I am looking at you and then your seat, What do I want you to do? Subject answered, “sit down”. These non-verbal redirection cues were used throughout the school day on the intervention days only therefore, data were only recorded on three 15 minute segments per day yielding a total of nine days.

*Experimental Procedures*

The research design that was implemented is as follows; “A” was the baseline where the target behavior was observed and documented. “B” was the intervention or treatment which consisted of non-verbal redirection such as hand gestures, body proximity, and eye contact. Then, “A2” was the withdrawing of the intervention (i.e., the non-verbal redirection) and checking to see if behavior reoccurred at the frequency it had before. Finally, “B2” was the return to the intervention to determine if it was successful. Each phase (i.e., “A-B-A2-B2) lasted for one week or five school days and each observation was 15 minutes in length across three different settings: (1) in the self-contained (mild-moderate) unit in the classroom area, (2) in the cafeteria during lunch, and (3) in the self-contained (mild-moderate) unit in the functional living area. These three areas are described in more detail in the sub-section titled settings.

*Baseline A.* The subject was observed for 15 minutes during spelling, 15 minutes during lunch and 15 minutes in the functional living area each day for five school days. In this first setting three other students performed the same work as the subject under study. Therefore, the teacher introduced the spelling words by writing them on the chalkboard.
and then reviewing them in rote with the students. Following this task the students wrote
the words ten times each in their spiral notebooks. After the five days, baseline A phase
was discontinued. Based on the knowledge of the subject’s behavior the researcher
determined that five baseline observations of 15 minutes each in the three settings were
sufficient for research purposes. In retrospect the cafeteria setting should have been
eliminated.

*Intervention B.* During the intervention phase non-verbal redirection was used
parallel with data collection. Again, the subject was observed and redirected as needed
for 15 minutes during spelling, 15 minutes during lunch and 15 minutes in the functional
living area each day but for only four school days. The subject was absent one of the
school days during this intervention phase. Although the predetermined duration for this
intervention phase was five days the researcher thought that it was an ample amount of
time.

*Baseline A2.* The data were collected in an identical fashion as previously
described in the baseline A subsection: the subject was observed for 15 minutes during
spelling, 15 minutes during lunch and 15 minutes in the functional living area each day
for five school days. After the five days, baseline A phase was discontinued. Based on
the knowledge of the subject’s behavior the researcher determined that five baseline
observations of 15 minutes each in the three settings were sufficient for research
purposes.
**Intervention B2.** Non-verbal redirection was used parallel with data collection. After the five days, intervention B2 phase was discontinued. For research purposes this intervention phase lasted for five days with the same above data collection criteria and non-verbal redirection. This was determined to be ample duration for the intervention phase. Following intervention B2 the subject was interviewed to establish social validity. In the interview the subject was asked about the non-verbal redirection cues she had been taught by the investigator. The investigator again demonstrated the hand gesture movement (e.g. the movement of the researchers arm at arms length from the body and making a slow downward movement with the hand) and she was asked what does this mean? To which she answered, “I suppose to sit”. The researcher again modeled the intervention in the form of body proximity and asked the subject if I get close to you like this what are you suppose to do? “I sit” she said. She was then asked if I am look at you and then your seat, What do I want you to do? Subject answered, “sit down”.

**Summary**

The goal of this study was to determine if non-verbal redirection is an effective intervention to extinguish out-of-seat behavior. A single subject A-B-A-B research design was applied. Out-of-seat behavior was the dependent variable in this study. The investigator trained the second observer prior to implementing the baseline phase.
CHAPTER IV

Results

This study examined the effect of non-verbal redirection on out-of-seat behavior of a female subject diagnosed with ADHD and MR. In the subsequent sections the inter-observer agreement, results and validity of the study are presented. Under the section, inter-observer agreement, the reported agreement between the two observers will be found. The next section provides the results of the study, a frequency table of the three observation settings and the observation dates for the baseline intervention research design is displayed. A narrative description of the results as well as a chart will be presented. The last section presents the validity results of the study.

Inter-observer Agreement

The inter-observer agreement also called inter-judge reliability (Gay, and Airasin, 2000) is usually obtained by using correlation methods. “It may also be expressed simply as an average number of times two or more individuals agreed on a behavior occurring” (2000, p. 175). The inter-observer agreement between the two observers was 98 percent during training. The inter-observer agreement during the implementation and data collection process was 99.1 percent.
Results of the Study

The observation settings in this study were an area inside a regular classroom where the subject participated in spelling lessons, a cafeteria setting where the subject ate lunch with her peers, and a daily functional living setting where the subject engaged in common daily living skills. Table 1 shows the frequency of out of seat behavior during observation dates in the three observation settings for Baseline A, Intervention B, Baseline A2, and Intervention B2 (Table 1).

Baseline (A). During the spelling lesson the subject was out of her seat a total 16 times. Then, during lunch time observations she remained in her seat all five days. Finally, on the daily functional living observation subject was out of her seat 11 times in total. Table 1 displays the daily out of seat frequencies.

Intervention (B). The subject was observed for the same three time frames but now with the intervention (non-verbal redirection). During the spelling lesson subject was out of her seat 14 times in total. The lunch period she again remained in her seat on all five days. Finally, on the daily functional living subject was out of her seat a total of 9 times.

Return to Baseline (A2). This is when the intervention (non-verbal redirection) was removed. The subject was observed for the same three time frames. During the spelling lesson subject was out of her seat two times in total, lunch observation time subject was not out of her seat, and finally, during the daily functional living subject was out of her seat one time in the five days of observation.
Table 1.

*Frequency of out-of-seat behavior in various observation settings.*

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**Intervention (B2).** This is the second intervention phase using non-verbal redirection. During the spelling lesson subject was out of her seat four times in total, once again the lunch observation period the subject remained seated and finally, during the daily functional living observation period subject was out of her seat one time in total during the five days of observation.

**Validity**

There are three types of validity that are closely examined in single subject research: internal, social, external. Internal validity in a single subject design relates to manipulating the independent variable. Social validity is the how valuable is this study to society as a whole. While external validity is the applicability of the study.

**Internal validity.** Internal validity is established as a function of reliable and consistent measurement (Palincsar and Parecki, 1995). In this study the inter-observer agreement was high. The manipulation of an independent variable in single subject research designs allows for measurement on the dependent variable. It is of essence to be able to determine that the independent variable is indeed the cause of the outcome or change. The results show a decrease for out of seat behavior in the subject.

**Social validity.** Social validity is referred to as “the worth aspect of an intervention study” (Bisesi and Raphael, 1995, p. 114). The subject was interviewed after the data collection were completed. She was asked how each respective non-verbal cue helped her, if at all, to redirect her behavior? Subject stated, “When you look at me I suppose to be in my seat” (e.g. eye to eye contact). The investigator then asked what
about when I do this (the movement of the researchers arm at arms length from the body and making a slow downward movement with the hand) what does this mean? “For me to sit”. The researcher again modeled body proximity and asked the subject if I get close to you like this what are you suppose to do? “I suppose to sit” she said.

External validity. “External validity is the ability to apply the results of a study to other subjects, settings, and times” (Bisesi and Raphael, 1995, p. 116). Due to the subject’s comorbidity issues it may prove difficult to generalize the findings of this study to other subject, settings and times.

Summary

The objective of this research was to determine if non-verbal redirection is an effective technique to change a subject’s out-of-seat behavior when the subject has been diagnosed with ADHD and MR. A single subject ABAB paradigm was used to implement the study. The dependent variable in this study was out-of-seat behavior. The researcher and an inter-observer collected data during the baseline and intervention phases of this study. The results indicate that this intervention was moderately effective in the classroom and daily functional living settings.
CHAPTER V

Discussion

Research Question

This study describes the effect of non-verbal redirection on out-of-seat behavior in a subject diagnosed with ADHD and MR. The female subject in the study was taught three cues that were used to redirect her disruptive behavior. The subject was taught that a hand signal, being approached by the researcher/teacher or making eye contact meant she needed to remain in her seat. A comparison of baseline data shows a decrease in out-of-seat behavior in B2. There was no change in behavior in the cafeteria setting. The greatest impact was apparent in the daily functional living area were out-of-seat behavior went to non-existent.

Implications of the Findings

The findings indicate that non-verbal redirection may be an effective tool in dealing with out of seat behavior. Just as noted by Watson and Uzzell (n.d.) there are effective techniques yet the studies need to be replicated to prove their effectiveness. This study of out-of-seat behavior is similar to Metcalf and Feldman (1982) but they were dealing with a total of five behaviors yet they found their method to be somewhat
successful. Mr. Cipani's (1984) research study was performed on four case studies yet only one of them relates to the present study. The work he did with the four year old with PDD that showed signs of aggression and he had little success using his method of substituting a positive behavior for a negative one. Pearson, et al. (2000) could not determine from their results if they had been successful since there was so little variation between the intervention group and the control group. The presented study since on a much smaller scale could determine itself moderately successful. Of interest in this study was the fact that the subject did not get up during the time she was observed in the cafeteria. This investigator has determined that the subject was eating during the 15 minute observation time and this is the reason she remained seated.

Implications for Practice

This study has provided an additional strategy for dealing with disruptive and non-productive behavior in a subject with ADHD and MR. By controlling out-of-seat behavior the subject will have more opportunity for time on task, which will promote learning. A benefit of this research is that this intervention can be easily taught to parents to use at home as well as other educators to use in their classrooms to help keep students on task. This non-verbal strategy is desirable as it eliminates the need for repetition of verbal redirection. The benefits of the study to the special education field are great. Because of the lack of research being done in the special education classroom the benefits of a specific treatment is great. In addition as mentioned in the social validity section in
chapter IV there are the benefits to the subject in that she can learn through the non-verbal redirection to control the behavior herself.

Limitations of the Study

One limitation of the study is the research design (single subject) while it is a strong experimental design it lends itself to the question, can this study be generalized? Another limitation of this study was during the first intervention phase (B) the subject was absent one day so it is a four day observation period. The cafeteria setting should have been changed. The internal validity of the study was strong inter-observer agreement. This would mean the change that occurred in the target behavior was due to the intervention. The external validity of this study is a limitation in that due to the subject’s comorbidity issues it may prove difficult to generalize the findings. Another limitation is the observation periods should have been slightly longer perhaps 20 to 30 minutes. An additional limitation to this study is the treatment stability issue which means there was not a third party to observe the observers and the treatment.

Recommendations for Future Studies

This researcher has some recommendations for future studies one would be that the phases (e.g. Baseline (A), Intervention (B), etc.) be longer at least two weeks for total of ten days in each phase. Another, recommendation would be that the subject’s observation periods be slightly longer perhaps 20 to 30 minute periods. Also the treatment stability issue would have to be addressed in a future study. Finally, it would be interesting to determine if this method would be as effective with a male subject or
additional subjects of both genders. Also it would be of interest to ascertain if the results could be transferred across settings; in other words would this method be effective at home or in a restaurant. In conclusion would it work with persons of varying ages for example a subject whom is chronologically 12 but has the IQ of a person half that age.

Summary

This research examined the effect of non-verbal redirection on a subject’s out-of-seat behavior this was the research question which guided this study. The results of this study indicate that it was moderately successful the subject’s out-of-seat behavior did decrease. The implication of this is that non-verbal redirection may be an effective tool in dealing with out-of-seat behavior in subjects with these comorbidity issues. The implications for practice lend themselves to the resolution that additional studies of this technique needed to see if it can be replicated.
REFERENCES


American Association on Mental Retardation.


APPENDICES
APPENDIX A

UTPA IRB FORM
University of Texas-Pan American
Form I
Summary Cover Sheet
Protocol for Human Subjects in Research

Please check off or provide details on the following (enter N/A of not applicable)  

Exemption Requested (see page 4)

Principal Investigator Name: Amy Marino  
Faculty__ Graduate Student__

College/Dept. College of Education/Special Education  
Mail________ Phone 956-486-2457

Project Title: The effect of non-verbal redirection on out-of-seat behavior in a student with ADHD and MR

Subjective Estimate of Risk to Subject: ___Low ___Moderate ___High ___None

Gender of Subjects: ___Male ___Female ___Both Age(s): 6-8  
Total Participants (EST): 1 to 2

Source of subjects:  
Psychology Subject Pool ___ Other UTPA Students ___ Community ___ Posted Notices** ___ Prisons ___ X Other (Please Specify) Elementary School

Subject Recruitment:  
___ Direct Person to Person Contact ___ Telephone Solicitation ___ Newspaper Ad** ___ Letter** ___ Other (Please describe)

Compensation*** Yes ___ No ___
Deception+ Yes ___ No ___

Location of Experiment: Rio Grande City CISD, North Grammar Elem

Invasive or sensitive Procedures: ___ Blood Samples ___ Urine Samples ___ Alcohol, Drug, Sex ___ Physical Measurements ___ Stress Exercise ___ Depression/Suicide ___ (electrodes, etc.) ___ Review of Medical Records ___ Learning Disability ___ Psychological Inventory ___ Other (Specify) ___ X Other (Specify) ADHD and MR ___ rDNA

Use of Video__ Audio Tapes (please indicate)  
Provisions for Confidentiality/Anonymity

Retained Yes ___ No ___  
Retained/Length of Time__________________
Destroy/Erase Yes ___ No ___  
Other (explain)__________________

Use specified in consent form? Yes ___ No ___
Use access to tapes:__________________

Excerpted Location Where Signed Consent Form Will Be Filed: North Grammar Elementary Rio Grande City C.I.S.D. in locked Special Education file cabinet.
(Must be kept on file for 3 years after the completion of the project).

* Must include signature of committee chair on protocol
** Please attach
*** Please attach conditions, schedule of payment.
+ If yes, attach a debriefing form
APPENDIX B

LETTER TO SUPERINTENDENT
To: Mr. Roel Smith, Superintendent Rio Grande City CISD

From: Amy Marino, Master’s in Special Education Candidate

Date: July 2, 2001

Subject: Research Project

Sir,

I am working on my Master’s Thesis at the University of Texas-Pan American. This includes a research project entitled, “The effect of non-verbal redirection on out-of-
in this research a student from my classroom. I have already discussed this with
my principal, Mr. Ricardo Saenz, and he has no objections. Please mark the appropriate blank below
and return this letter to me in the self-addressed postage paid envelope enclosed.

Thank you,

Sincerely,

Mrs. Amy Marino

P.S. I have enclosed a second copy of this letter for your records.

__________ Yes, Mrs. Marino has my permission to perform her study.

__________ No, Mrs. Marino does not have my permission to perform her study.

__________ Mrs. Marino I would like more information before making a decision

please contact me at to set up an appointment.
APPENDIX C

LETTER TO PRINCIPAL
To: Mr. Ricardo Saenz, Principal North Grammar Elementary

From: Amy Marino, Master's in Special Education Candidate

Date: July 2, 2001

Subject: Research Project

Sir,

I am working on my Master's Thesis at the University of Texas-Pan American. This includes a research project entitled, "The effect of non-verbal redirection on out-of-seat behavior in a student with ADHD and MR." I would like to include in this research a student from my classroom. I know we have discussed this at the end of last school year but you have any questions please feel free to contact me. Please mark the appropriate blank below and return this letter to me in the self-addressed postage paid envelope enclosed.

Thank you,

Sincerely,

Mrs. Amy Marino

P.S. I have enclosed a second copy of this letter for your records.

__________ Yes, Mrs. Marino has my permission to perform her study.

__________ No, Mrs. Marino does not have my permission to perform her study.

__________ Mrs. Marino I would like more information before making a decision please contact me at ___________________ to set up an appointment.
APPENDIX D

INFORMED CONSENT FORM
INFORMED CONSENT

I__________________________________parent(s) of________________________________ have been asked for my child to participate in a master's thesis research study. The purpose of this study is to provide data for a Masters thesis examining the effect of non-verbal redirection on out of seat behavior with individuals with mild mental retardation and Attention Deficit Hyperactive Disorder (ADHD). The teacher will use non-verbal cues such as hand gestures, eye contact, or body proximity to redirect student to his/her seat. This study is scheduled to start September 10, 2001 and last for four weeks.

All information obtained during this study will be kept confidential. Student initials will be used in any written materials and students will be assigned a number or other identifier in all published materials.

Participation in the study is voluntary. Parent(s) or student may elect no to participate and is free to withdraw from the study without any penalty or loss others are entitled to.

This research has been reviewed and approved by the Institutional Review Board Human Subjects In Research. For research related problems or questions regarding Subject's rights, the Human Subjects Committee maybe contacted through Dr. Juan Gonzalez, Chair, at 381-2880.

Should you have any questions about the study or procedures please call Amy Marino, North Grammar Elementary, Rio Grande City CISD, at 716-6917.

____________Yes, I give permission for my child to participate.
____________No, I do not give permission for my child to participate.

Parent(s)/Guardian Signature ____________________________ Date ____________________________

Witness ____________________________ Date ____________________________

Sincerely,

Amy Sharon Ellison-Marino
Masters of Special Education Candidate
North Grammar Elementary/University of Texas-Pan American

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EVENT SAMPLE — DATA SHEET

Student Name: ________________________________

Date: ________________________________ Subject/Activity: ________________________________ 50

Observer: ________________________________ Specific Behavior: ________________________________

________________________________________

Date Time Specific Behavior Count

Observation 1

____ to ____

Observation 2

____ to ____

Observation 3

____ to ____

Observation 4

____ to ____

Observation 5

____ to ____

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Table 1.

*Frequency of out-of-seat behavior in various observation settings.*

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Amy Sharon Ellison-Marino is a graduate student at the University of Texas-Pan American specializing in the Cultural and Linguistically Diverse Exceptional Learner a Masters in Special Education. Her projected date of graduation is December of 2003.

Mrs. Ellison-Marino graduated from North Texas State University in 1986 with a Bachelor of Business Administration with a minor in Personnel Management. She entered the Education field in 1996, she started and continues to teach in a Special Education Self-Contained Classroom. Mrs. Ellison-Marino attended the University of Texas-Pan American to obtain her Texas Teacher’s Certification in 2000. In the interim Mrs. Ellison-Marino’s own son was diagnosed as ADHD the combined third type. This diagnoses in addition to her work with the MR population have all contributed to this research.

Mrs. Ellison-Marino lives in Rio Grande City, Texas and teaches for the Rio Grande City CISD. The group of students she teaches range in grade level from Kindergarten to Fifth grade.

Her address is: P.O. Box 1029, Rio Grande City, TX 78582.