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The effects of a redirecting strategy on self injurious behavior manifested by a subject with multiple disabilities

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THE EFFECT OF A REDIRECTING STRATEGY ON SELF-INJURIOUS BEHAVIOR MANIFESTED BY A SUBJECT WITH MULTIPLE DISABILITIES

A Thesis

By

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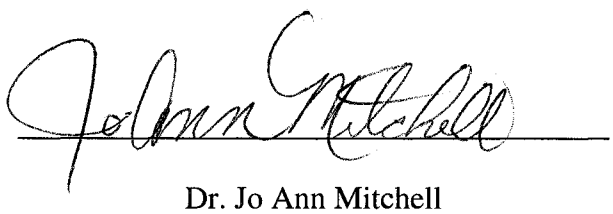

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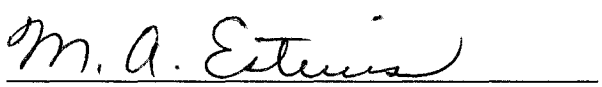

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ABSTRACT

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The purpose of this investigation was to determine if a strategy involving redirection would reduce or extinguish self-injurious behavior (SIB). The subject, a ten-year-old girl, diagnosed with a seizure disorder, functioned at an eight month old level is confined to a wheel chair and is completely dependent on others for transportation and self-care needs.

A single subject, ABAB design was used. The study was aimed at measuring SIB episodes during the baseline and treatment phases. A communication board was used during the treatment phases. The results indicate that the use of the communication board successfully reduced the episodes of self-injurious behavior.

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CHAPTER I

Introduction

Self-injurious behaviors (SIB) are self-inflicted behaviors that are potentially harmful. Head banging, hand biting, face slapping and hair pulling are examples of such behaviors. These highly stigmatizing behaviors can result in bruising, physical damage, bleeding, tissue damage, hearing and vision losses or death (Hunt & Johnson, 1990; Dunlap, Ferro, & Deperczel, 1994; Gerra & Dorfman, 1995; Scheuermann & Webber, 2002). The presence of such behavior can prove to be an obstacle to the normalization and to the education of an individual who has multiple disabilities. Multiple disabilities involve concomitant impairments (such as mental retardation-blindness, mental retardation-orthopedic impairment, etc. (Turnbull, Turnbull, Shank, & Leal, 1999; Turnbull, Turnbull, Shank & Smith, 2004). In general, self-inflicted behaviors are considered inappropriate in any setting and can be especially unwelcome in public. These problems not only post a significant risk to the individual's life, health, and education but also disable normal family functioning. These behaviors interfere with participation and having habilitative activities for self and family.

There is evidence that indicates that for many individuals who manifest SIB, the untreated behavior problems worsen over time (Hunt & Johnson, 1990). As SIB problems become difficult to manage, the likelihood increases that these individuals will be exposed to additional risks associated with restrictive interventions. It is reported that SIB are attention-seeking behaviors that are generated by sheer boredom and the lack of activity or stimuli (Kirkman, 1987). Another view is that SIB serve as communicative purposes (Reichle & Wacker, 1993; Sternberg, 1994). SIB are also viewed as being organically induced or genetic aberrations such as Lesch-Nyhan and DeLange Syndromes and non-genetic problems such as otitis media which may result from head banging. (Carr, 1982; Dunlap et al., 1994; Scheuermann & Webber., 2002). While organic explanations may account for some self-injurious behaviors, empirical data support that SIB are learned behaviors that are meant to be communicative in nature (Iwata, Dorsey, Slifer, Bauman & Richman, 1982; Scheuermann & Webber, 2002). Some successful interventions have included pharmacological treatments that replace physical interventions such as physical and chemical restraints.

Need for the Study

After conducting a thorough investigation of published research, the investigator found that there were ample amounts of literature that dealt with restrictive and pharmacological interventions for individuals that engage in SIB. The studies were conducted in hospitals and institutional settings. Results of these studies are varied in their effectiveness and at times did not show that the SIB had ceased.

Useful and valid interventions are needed to be developed and tested through research. By investigating a variety of techniques and strategies, teachers and parents can be provided with effective tools to improve behaviors, especially those that are harmful in nature.

Statement of the Problem

Implementing redirection, as a strategy to reduce SIB, is essential for normalization and education of individuals with self-abusive behaviors. Individuals with these behaviors often manifest inappropriate types of behaviors that are not consistent with their learning environment. In the educational environment, an individual engaged in SIB expends time that may be spent on learning tasks. In the classroom environment teachers are not equipped with techniques and strategies to reduce SIB. Redirecting can be an effective strategy that teachers can implement in reducing and eliminating SIB in individuals with multiple disabilities.

Purpose of the Study

The purpose of this investigation was to determine if a strategy involving redirection by providing choices on a communication board would affect the manifestation of self-injurious behavior of a Subject with multiple disabilities.

Research Question

The research question for this study sought to answer if a redirection strategy using choices via a communication board would reduce SIB in a child with multiple disabilities.

Benefits of the Study

One of the benefits of the study was in establishing a redirecting strategy in reducing SIB in an individual in a classroom environment rather than in a clinical setting or institution. This strategy can be implemented in almost any setting due to its practicality. The use of this strategy also benefits the field of special education by providing information regarding a specific effective strategy, rather than the use of restrictive interventions.

Definition of Terms

The terms used in this study have special meanings and are defined in the following subsections.

Calendar Box

A calendar box contains real life concrete objects that are presented to an individual when a specific task is about to begin and are removed when a task is completed. It is a means of communicating and it can be used as a schedule (Blaha, 2001). It is sometimes referred to as a concrete calendar box.

Calendar System

A calendar system involves the use of a device or time piece such as a dayrunner, a wall calendar, or a calendar box as a part of any calendar. This supports the development of communication, provides emotional support and power and teaches abstract time concepts and vocabulary (Blaha & Moss, 1997).

Developmental Delay

Developmental delay occurs when the stage of performance has been arrested or retarded which results in hindering a child's ability to be successful at a task (Auxter, Pyfer, & Huettig, 1997).

Intervention Strategy

An intervention strategy is a technique used for weakening or eliminating unacceptable behavior or for reinforcing desirable behaviors (Auxter et al., 1997).

Multiple Disabilities

"Multiple disabilities means concomitant impairments (such as mental retardation-blindness, mental retardation-orthopedic impairment, etc.), the combination of which causes severe educational needs that they cannot be accommodated in special education programs solely for one of the impairments. The term does not include deaf-blindness" (Individuals with Disabilities Education Act Amendments of 1997, A34C.F.R. sec 315.4[d]).

Neuroleptics

Neuroleptics are powerful tranquilizers used especially to treat psychosis and believed to act by blocking dopamine nerve receptors. In the National Institute of Health (NIH) Consensus Development Conference Statement (1989), these medications are referred to as antipsychotics.

Punishment

Punishment is any event that immediately follows a behavior and is intended to result in the reduction or elimination of that behavior (Haring, McCormick, & Haring, 1994).

Reinforcement

Reinforcement is a stimulus that follows and is contingent upon a behavior and increases the probability of a behavior being repeated (McConnell, & Elliot, 2000).

Self-Injurious Behavior

Self-injurious behavior (SIB) is self-inflicted behaviors that are potentially harmful. Head banging, hand biting, face slapping, eye gouging, and hair pulling are examples of such behaviors (Gerra, & Dorfman, 1995; Westling & Fox, 2004).

Tactile Symbols

Blaha (2001) referred to tactile symbols as objects, parts of objects, or abstract symbols, such as Braille.

Summary

Self-injurious behaviors (SIB) are self-inflicted behaviors that are potentially harmful. Head banging, hand biting, face slapping, and hair pulling are examples of such behaviors. Studies have shown a wide array of results of effectiveness in the use of restrictive interventions for individuals with SIB. This study investigated the effectiveness of reducing SIB of an individual with multiple disabilities by using redirection through presenting choices on a communication board.

CHAPTER II

Review of Related Literature

Self-injurious behaviors are viewed by society as unacceptable and abnormal. These behaviors may present great obstacles to the normalization and education of individuals with disabilities. SIB not only can pose a significant risk to life and health, they can disrupt normal functioning and interfere with participation and social activities.

This chapter addresses the etiologies of self-injurious behaviors. A variety of interventions designed to extinguish SIB are reviewed and several negative aspects of some interventions are spoken to. The chapter culminates with a review of a case study concerning an eight-year-old blind girl with severe disabilities who manifested SIB.

Prevalence of Self-Injurious Behavior

Data from prevalence studies have indicated that SIB begin in early childhood and progress into the teenage years (Hall & Oliver, 2001). Estimates of the prevalence of aggression/self-injurious behavior in people with mental retardation have ranged from 8 to 23 percent. The highest prevalence is among individuals with severe or profound mental retardation. Higher rates of SIB have been found in boys and men rather than in girls and women. Higher rates of SIB have also been found in individuals with lower IQ's

(Stefl, n.d.). SIB have also been linked to certain genetic disorders such as Lesch-Nyhan syndrome and rates are higher in individuals with poor communication skills (Russel & Shah, n.d.). These behaviors described as SIB result in tissue damage in the forms of bruises, cuts, scratches and redness. Although there has been substantial research in the area of SIB, there is no single theory that explains and defines the etiology of self-injurious behaviors in all people who exhibit such behaviors.

Etiologies of Self-Injurious Behaviors

The reasons for SIB are unknown; however there are a number of theories proposed that can explain the phenomena. Past studies have indicated that SIB may be brought on by several factors such as sensory stimulation, escapism, medical and developmental causes, and environmental conditions (Evans, 2001; Kirkman, 1987).

Sensory Stimulation and Escape

It is believed that some individuals engage in SIB to obtain attention from others, or to escape from situations, and or to avoid certain tasks. Other individuals may use SIB as a form of self-stimulation. Evans (2001) reported that SIB could at times provide an individual with a form of sensory stimulation or an arousal. In some cases, it was suggested that SIB are a form of self-stimulation for releasing endorphins in the brain. Evans reported that endorphins give the individual a form of internal enjoyment. Kirkman (1987) presented the notion that SIB seem to be attention seeking and are sometimes generated by sheer boredom and the lack of other activity or a stimulant.

Medical and Developmental Causes

Reese (1997) reported that biological theories have emerged since 1989. One of these theories suggests that SIB occur in the context of cerebral damage. The rationale supporting this was the existence of evidence that suggested that cerebral damage sometimes causes compulsive behaviors. These behaviors occur in response to stressful situations involving task demands.

Some studies suggest that there are medical and developmental characteristics that contribute to or cause SIB. Hyman, Fisher, Mercugliano, and Cataldo (2001) reported that some SIB are biologically caused and related to syndromes "such as Lesch-Nyhan syndrome, Cornelia de Lange syndrome, Gilles de la Tourette syndrome..." (p. 438) Researchers have argued that the high prevalence of SIB in individuals with Cornelia de Lange syndrome may have biological bases (Hyman, Oliver, & Hall, 2002).

Communication

Pelios, Morren, Tesch, and Axelrod (1999) reported that environmental variables have been considered as a contributing factor to the strengthening of SIB. Their study also indicated that aggression rarely occurred during a no-demand situation involving two retarded children who manifested aggressive behavior. This suggested that aggression functioned as an escape response.

Some theorists contend that almost all behaviors are some form of communication. When behaviors are not recognized as communicative in nature, they may be ignored or misinterpreted. Because individuals with severe disabilities are many times unable to communicate in a manner that may be easily understood, they may resort to unacceptable

behaviors in an attempt to communicate (Estevis, 1996). Past research, by Donnellan, Mirenda, Mesaros, and Fassbender (1984) found that when non-communicative students who manifested inappropriate behaviors were provided with alternate/augmentative communication modes, inappropriate behaviors were decreased.

Interventions

A variety of strategies have been used to intervene in SIB in the classroom and at home. A few intervention techniques are discussed below.

Behavioral Methods

Several behavioral approaches have been designed to help reduce SIB. The (NIH) (1989) subdivided behavioral methods into two general categories: behavioral reduction approaches and behavioral enhancement approaches. According to the NIH "Behavioral reduction approaches are designed to reduce the incidence of a particular destructive behavior by providing an environmental change contingent on the occurrence of the behavior" (NIH Consensus Development Conference Statement, 1989, p. 5).

> The NIH (1989) described behavior enhancement approaches as follows: Behavior enhancement approaches are designed to reduce the incidence of destructive behaviors by making socially desirable responses more probable, that is, by reinforcing more appropriate competing or alternative behaviors rather than by suppressing the destructive behaviors directly (p.5).

Examples of behavior enhancement are: Differential Reinforcement of Other Behavior (DRO) and Differential Reinforcement of Incompatible Behavior (DRI). DRO rewards the student for not engaging in the undesirable behavior. DRI replaces the

undesirable behavior with a better one (NIH Consensus Development Conference Statement, 1989)

Restraints appear to be by far the most common method for reducing and controlling SIB (Olson & Houlihan, 2000). Three problems were identified with the use of restraints. One was that restraints did not eliminate the self-injurious behavior, only precluded it. Second, the restraints limited the activities in which the individual could participate. The final problem involved ethical and legal issues.

Punishment as a means of behavior modification constitutes the most intrusive method of decreasing SIB. According to Olson and Houlihan (2000), there are two types of punishments. Type I procedures refer to those procedures using an aversive stimulus following the occurrence of a behavior. Type II punishment procedures refer to those procedures in which reinforcement is withdrawn following the occurrence of a behavior. Examples of this include time-out, response cost, and withdrawal of social attention.

Educational Skills Acquisition Approaches

In the educational or skills acquisition approaches to treatment, the responses that are reinforced are those believed to enhance the individual's ability to perform daily. The emphasis is on teaching new behaviors that are likely to increase an individual's social competence. Some of the educational skills acquisitions identified in the NIH Consensus Development Conference Statement(1989) are as follows:

[•] Compliance training (to respond to a variety of verbal or nonverbal commands).

[•] Self-management training (self-monitoring, self-evaluation, and self-reinforcement).

[•] Communication skills training. Some destructive behaviors can be viewed as nonverbal forms of communication; hence, if new forms of requesting (e.g. signing) are taught, these will replace the destructive behavior and enhance the social interactions of the individual.

[•] Functional independence training. Training in a variety of socially useful behaviors, including leisure skills, vocational skills, and self-help skills, corrects deficits presumed to trigger destructive behavior. (p. 6)

An important step in the use of educational skills acquisition approaches involves a functional analysis of existing behavioral trends. The acquisition of compliance includes self-management, communication, and independence such as leisure or self-help skills. This represents an authentic educational gain for the individual and establishes a long-term implication rather than eliminating destructive behaviors only.

Pharmacological Interventions

Pharmacological interventions have been used to control SIB. Neuroleptics are the most frequently used medications to prevent SIB (Olson & Houlihan, 2000). Other medications such as sedative-hypnotics, stimulants, antianxiety drugs, antidepressants and mood stabilizers have been known to be used to directly or indirectly, reduce destructive behavior (NIH Consensus Development Conference Statement, 1989).

Evidence has shown that neuroleptics are beneficial in treating some persons with developmental disabilities who display aggressive behavior. However, no solid conclusions can be drawn as to the usefulness of neuroleptics. Growing evidence has shown that serotonergic drugs are effective in the reduction of SIB and aggressive

behavior in people with intellectual disabilities and have fewer side effects than traditional neuroleptics (Challenging behavior, 2002) However, this study does recommend further trials. Another pharmacological intervention that has been used to treat self-injurious behavior is the use of Flupentixol, an antipsychotic drug, which is given by injection to help reduce SIB. It may work by reducing arousal, anxiety or by another as yet unknown mechanism (Flupentioxol)

Effects of Extinction of SIB

Lerman, Iwata, and Wallace (1999) suggested that extinction of SIB has its drawbacks. Extinction may be associated with the cause of a number of undesirable effects. Two common effects described by Lerman et al. were extinction bursts, which is a temporary increase in the duration, frequency or magnitude of the targeted response. The second effect of extinction of SIB was induced aggression.

Lerman et al. (1999) reported the following when treating adults with SIB: Treatment with extinction may indeed be contraindicated for use outside laboratory settings if response burst and extinction induced aggression occur frequently and increase the risk of physical harm to the individual or caregiver.

The extent to which these factors might influence the likelihood of extinction bursts is unclear because the prevalence of such outbursts has yet to be investigated.

Two SIB Treatment Studies

A number of intervention studies are reported in the literature, with the majority having taken place in institutions other then public schools. These studies included subjects with medical diagnoses that are associated with SIB. The two studies reported

below were chosen because the subjects involved had similar characteristics of those in the present study.

Use of Punishment and Reinforcement

The results of a study involving four individuals with mental retardation suggested that SIB were decreased with the use of punishment or reinforcement, or a combination of both. Punishment alone resulted in a noticeable decrease in SIB, but the most effective intervention was when the punishment was combined with reinforcement (Thompson, Iwata, Conners, & Roscoe, 1999).

There are several reasons why punishment may be more effective when combined with reinforcers for alternative responses. According to Thompson et al., (1999) the availability of an alternative source of reinforcement may alter the establishing operation for problem behavior. For example, Azrin and Holz (1966) and Thompson et al. reported that, when punishment is used to reduce responding that is maintained by food, levels of food deprivation could greatly effect the results. The results from the functional analysis of this study suggested that the participant's SIB was not maintained by social reinforcement. Rather, three of the four participant's highest levels of SIB were caused by environmental stimulation deprivation.

Thompson et al. (1999) also suggested that reinforcement might have enhanced the effects of punishment. In the example given, the access to reinforcement was discontinued while punishment was being delivered (leisure materials were removed). "Thus when programmed reinforcements were available in the sessions, SIB resulted in both the delivery of the punishment procedure and a brief time-out from reinforcement" (p. 326). It is the brief time-out that may have contributed to the increased effectiveness of the treatment. The results of the case indicated that effects of punishment could be enhanced when reinforcement is provided for alternative responses.

Systematic Functional Training

Gerra and Dorfman (1995) reported a study of Sara an eight-year-old girl with severe disabilities that were caused by a premature birth. Sara had an expressive vocabulary of 30 words but the words were over generalized and were often rote or echolalic. The study examined the use of a systematic functional training program on the self-injurious behavior of Sara. It was a two level program that offered Sara choices among preferred activities.

Level one focused on her using the communication board as in intervention after her behavior had already begun (Gerra & Dorfman, 1995). Level two consisted of involving integrated functional communication and choice making in every aspect of Sara's activities in school. She learned to use a communication board that resulted in a decrease in episodes of her self-injurious behaviors. The functional training program taught Sara to choose among preferred activities, which resulted in a decrease in her self-injurious and aggressive behaviors and an increase in her communication repertoire.

Summary

Chapter two provided suggestions as to the etiologies of SIB and discussed how past studies have generated differing rationales for the existence of SIB. Some researchers reported that self-stimulation or, even biological and/or communication deficits conditions bring on SIB. Evans (2001) suggested that SIB's are a form of self-stimulation. Some studies suggested that there are medical and developmental characteristics that contribute to or cause SIB. Interventions such as behavioral methods, educational skills acquisition, and pharmacological interventions were provided in this chapter.

CHAPTER III

Methodology

This chapter addresses the design used in this investigation, along with the description of the setting and intervention. The Subject is described and the dependent variable is identified. Data collection and analysis procedures are also addressed.

Research Design

The research design chosen for this study was a single subject multiple baseline design using an ABAB paradigm where A_1 is the baseline phase, B_1 is the treatment/intervention phase, A_2 is the return to baseline phase, and B_2 is the return to treatment/intervention phase. This design was selected to determine the functional relationship between the dependent variable or targeted behavior, i.e., self-injurious behavior, and the independent variable or intervention, i.e., a redirecting strategy being implemented on only one subject with unique combinations of multiple disabilities.

To investigate the relationship between self-injurious behavior (SIB) and the use of a communication board, baseline data were collected for five days in phase A_1 where no intervention was introduced. Next, intervention data were collected for five days in phase B_1 where communication via a picture board was introduced. Phase A_2 was a return to

collecting baseline data for five days without the use of the communication board. During phase B_2 intervention data were again collected for five days with the communication board reintroduced to the subject.

Subject

The Subject was a ten-year-old non-verbal Hispanic girl who had been diagnosed with mental retardation and severe and profound disabilities. Additionally, the Subject has a seizure disorder, and test results indicated that she functioned as an eight-month-old individual. She used a wheel chair and was completely dependent upon others for transportation and all of her self-care needs.

Teacher and parent interviews revealed that the Subject became self-abusive when she seemed frustrated, tired, or bored. Her current teacher stated that the Subject hit her own face with her knuckles, pulled her own hair, and banged on objects with her fist on her table. The Subject at that time had calluses on her knuckles apparently caused from repeatedly striking objects or herself.

This investigator had previously noted that prior to the onset of an SIB occurrence, the subject manifested an immediate precursor period. Observations revealed that she began to make angry faces, grunt, breathe heavily, fuss, and fret before she began to bang her knuckles. Following the precursor period, the Subject would go into self-abusive behaviors by banging her hands, either opened or closed, hitting her face, forehead or pulling her own hair. The Subject's manifestations of SIB occurred more in the morning shortly after she arrived at school. In response to these manifestations, her parents resorted to having her medicated with Clozapine.

Setting

The study was conducted in the South most border lands of Texas and Mexico where the population is predominantly of Hispanic origin. The state of Texas supports the Individuals with Disabilities Education Act (IDEA) (Telzrow & Tankersley, 2000) which is a federal law that requires public schools to provide a free and appropriate education to eligible children with disabilities.

The study took place on a public school campus in a combination fifth and sixth grade self-contained classroom that serves approximately seven students. In the classroom there were three teacher aides and one teacher. The classroom was made up of four groups of students, three of which had a ratio of two students to one adult. During the data collection for baseline and treatment phases, the Subject was removed from her group and placed alone with the investigator. The balance of the class was made up of four students with mental retardation, one of which was also legally blind, and three were reported to have Down's syndrome.

Material

Calendar Box

A calendar box had been used to facilitate the student's activities in her daily schedule A shoe box containing a spoon and a toothbrush served as the calendar box. Prior to breakfast, a spoon was presented to the Subject and rubbed in her hand. This procedure was employed to let the Subject know that she was getting ready to eat. Her toothbrush was shown and rubbed on the Subject's cheek to make her aware that her teeth would be brushed.

Communication Board

A communication board was created from a piece of Styrofoam (from an ice chest) which was glued on a piece of cardboard that was half an inch in thickness, 15 inches in width and nine inches in length. Pieces of Velcro were attached on the board to aid in attaching objects. The materials used were primarily selected to prevent any harm to the subject should an SIB episode occur. Three objects were placed approximately five inches apart on the board so that the Subject's choices would be understood. On the communication board a square piece of foam was placed to represent the floor mat, should the Subject want to be taken out of her wheelchair. A lid from a sipping cup was placed on the board to represent drinking, and a piece of sandpaper was placed on the board to indicate the Subject's favorite activity, the sandbox.

Dependent Variable

For the purpose of this study, the term dependent variable was equated with the term target behavior. The target behavior was identified as Self-Injurious behaviors. A SIB episode was defined as any time the Subject manifested any identified self-aggressive behaviors which included banging her hands with or without objects, opened or closed, hitting any part of her body, or pulling her own hair.

Independent Variable

To get an accurate measurement, the investigator and a trained observer collected data during the first five hours of the student's daily routine throughout the 5-day phases of the design.

Preference Assessment

To prepare an appropriate communication board for the Subject, a preference assessment was necessary. This was to ensure that objects and activities that interested the Subject were identified. The parents were asked to give a list of potential objects and activities of interest to the subject (Piazza, Fischer, Hagopian, Bowman, & Toole, 1996). The teacher and three teacher assistants independently completed their preference assessments. The procedures used in the preference assessment were as follows: The objects and activities from the parent list were presented to the Subject to determine the order of preference. The preference was determined by measuring the time lapse between the presentation of the object and the subject's response. The list was narrowed down to three objects or activities: sand paper, a small piece of square foam, and a lid for a sipping cup. A communication board was created for the Subject based on the assessment and the Subject's previous experiences with using a concrete calendar communication system.

Training the Subject to Use the Communication Board

Two weeks prior to initiating the training of the Subject to use the communication board, the Subject was exposed daily to the representational objects via the concrete calendar system as per her Individual Education Plan. The following subsections describe the communication board training.

Day one. The training began with the Subject being offered the communication board with the cup lid only on the board. The Subject's hand was placed on the lid and told, "This is for juice." Next she was told, "Do you want juice? Touch the lid!" The Subject's hand was then guided to the lid and juice was given to her. This procedure was

repeated throughout the day with the explanation of the lid and its reward. If the Subject threw the board, or refused to attend to the board in any manner, the board was offered to her again and the Subject's hand was placed on the lid. She was then immediately offered a cup of juice.

Day two. The second day of the training consisted of offering the Subject the board, assisting her in touching the lid with her hand, and then immediately giving her the cup of juice. By the second day she demonstrated that she seemed to understand that the lid meant that she would be getting something to drink.

Day three. On the third day a piece of sandpaper was introduced to the Subject to represent a sandbox. The piece of sandpaper was reinforced by gluing sturdy cloth material, a smaller piece of Velcro on the bottom of the cloth, and attaching it to the board. Thus, the sandpaper would stick firmly to the board. This deterred the Subject from easily ripping the piece of sandpaper from the board. The lid was removed from the board and the investigator introduced the sandpaper alone on the communication board.

Again, the investigator placed the Subject's hand on the sandpaper and informed the Subject "This is sand." "Do you want the sand?" When the Subject would touch the sand, purposely or by mistake, the sand was immediately given to her. This procedure was done throughout the day of the third day. At the end of the day the Subject seemed to be able to relate sandpaper to the tray of sand. The sandbox was important to the Subject because working with the tray of sand was the Subject's favorite activity.

Day four. The Subject was presented with the communication board that held two objects, the lid and the sandpaper. To not confuse the Subject, no new objects were placed

on the board. The training continued as established during the previous days. By the end of day four, the Subject was independently making selections from the board.

Day five. The choice of a piece of foam, representing the floor mat, was introduced to the Subject while she was on her down time on the mat. Every time the Subject was placed on the mat for exercise or down time she was given the piece of foam to play with, touch or hold by itself. When the Subject was presented the communication board with just the foam piece, she immediately showed an apparent understanding of the relationship by looking toward her floor mat.

Day six through ten. The subject was offered the communication board containing the lid, the sandpaper, and the piece of foam. If the Subject hit one of the objects on the board, the object that was touched by her was given to her as if she had made a selection from the board. This training continued until it became apparent that the Subject was able to make choices among the three objects presented on the communication board.

Treatment

The intervention implemented by Gerra and Dorfman (1995) was modified to suit the needs of the individual in the following fashion: Gerra and Dorfman used a two level treatment program during the implementation of their intervention. Level one consisted of the communication board after the behavior had begun. Level two consisted of integrating functional communication with choice making in her daily program.

The specific treatment for the Subject under investigation for the present study differed in that she was offered the communication board during a precursor period and she was limited to three items that could both be used at school and at home. The

Subject's communication board was limited due to her cognitive ability. However, the treatment was carried out as expected and the results were noted. Treatment fidelity was maintained through the comparison of the responses from the investigator and the second observer. Interobserver agreement was computed using an accepted formula (Richards, Taylor, Ramasamy & Richards, 1999).

Experimental Procedures

This investigator and a second observer recorded frequency counts of SIB episodes on observation sheets (Appendix A). The observations were conducted during the first five hours of the student's daily routine throughout the four five-day phases of the design. When the student arrived at 7:45 a.m. her schedule was as follows: 7:45 – 8:40 a.m. Self Care, 8:45 – 9:40 a.m. Fine Motor Skills, 9:45 – 10:10 a.m. Gross Motor Skills, 10:15-11:55 a.m. Cognition. All data were gathered in the student's homeroom and in her elective classes she attended daily such as music, physical education, counseling, art, and computers. This was done to also collect data outside of her normal setting.

Observer Training

This investigator trained the second observer prior to the data collection. Both the investigator and the second observer were utilized for 100 percent of the observations. The second observer was trained to recognize a precursor period to SIB, as well as an SIB episode by observing the Subject on a daily basis with the investigator.

Interobserver Agreement

The investigator introduced a tally sheet to the second observer as the method of documenting the target behavior. Training of the second observer, including practice

sessions, occurred two hours a day until the observer and the investigator reached an agreement of 90 percent. The practice sessions were spread over five days. Interobserver agreement was computed by this formula: (smaller number of responses/larger number of responses) x 100=Interobserver Agreement.

Over View of Design

The paradigm used was the ABAB paradigm where A_1 is the first baseline phase, $B_1$is the first treatment/intervention phase, A_2 is the return to baseline phase, and B_2 is the return to treatment/intervention phase.

Baseline A_1

The baseline phase A_1 was conducted for five days. The target behavior of the investigation was SIB episodes that were defined as any self-injurious behaviors such as hand or body hitting, face slapping, or hair pulling. Frequency counts of SIB episodes represented the baseline information. Observations of the Subject were made during the first five hours of each school day for five days for each phase of the investigation, and frequency counts of SIB behavior were recorded.

During the entire study, SIB episodes were not allowed to escalate to the point of allowing serious injury to the Subject. The investigator or an assistant had to stop collecting data and intervene a number of times to prevent possible injury of the Subject.

Treatment Phase B_1

The treatment phase B_1 consisted of offering the communication board to the Subject upon the initiation of a precursor period of an SIB episode. This period consisted of heavy breathing, grunting, facial grimaces, fussing, and fretting. The Subject was

presented the communication board and was immediately given the item or activity that was selected.

The expected outcome of this intervention was a decrease in the frequency of SIB behaviors. It was thought that SIB behavior should be reduced or extinguished by redirecting the Subject's attention when she was in her precursor stages of SIB manifestation. Additionally, by providing the Subject a means to communicate, the episodes of SIB would be reduced. This treatment phase was conducted for five days.

Baseline A_2

The baseline phase A_2 was conducted for five days with the exact same procedures as those used in baseline A_1. This baseline phase was also conducted for five days.

Treatment Phase B_2

The treatment phases B_2 consisted of offering the communication board to the Subject upon the initiation of a precursor period of an SIB episode much like described in treatment phase B_1. This treatment phase was also conducted for five days.

Summary

To reduce the SIB episodes of the Subject, a single subject multiple baseline design was implemented. The goal of the study was to reduce the SIB episodes of a ten-year-old girl by offering her choices of activities that she engages in during her daily routine and in her home environment. The targeted behavior of the investigation was any SIB episode involving face or body slapping, hair pulling, or hand hitting. The study was conducted in a combination fifth and sixth grade self-contained classroom that served approximately seven students. Parents were asked to give a list of potential objects and activities of

interest to the subject (Piazza, et al., 1996), thus a favorite activity could be offered to the subject on her communication board.

Throughout this study this investigator and a second observer collected data. Baseline data were collected for two five-day phases. Intervention data were conducted for two five-day phases. Interobserver reliability was computed and found to be 98.6%. Prior to the implementation of the intervention, the Subject was trained to use the communication board.

CHAPTER IV

Results

This study examined the use of a redirection technique as a means of extinguishing self-injurious behavior in a Subject with multiple disabilities. The participant in this study was a ten-year-old female who was in a self-contained classroom that serves students with severe and profound disabilities. A single subject multiple baseline research design of ABAB was employed to assess the effectiveness of the intervention.

This chapter speaks to the statistical and visual analyses of the results of the observations. The agreement that was determined between the investigator and the second observer is reported. Internal, social, and external validities are also addressed.

Interobserver Agreement

Data were collected and recorded on tally sheets (see Appendix A). The investigator was the principal data collector. One additional data collector was employed 100 percent of the time for determining interobserver agreement. The interscorer agreement for the collection of data was 98.6 percent indicating a high level of consistency between the two data collectors.

During all phases, the frequency of the SIB episodes were observed and recorded each day during the first five hours of the Subject's daily routine. Results of the observations are presented in Figure 1. Interobserver reliability was of 98.6 % for 100%

of the observations.Treatment fidelity was maintained by the consistency of the investigator and interobservers. The investigator and interobservers monitored to ensure that the treatment was carried out as planned.

Statistical Analysis

A simple analysis was done to determine measures of central tendency of the daily totals of target behavior. Trend lines were also computed.

Ranges, Means, and Modes

For the first baseline (A^1), the range was 10 (the minimum score was 15 and the maximum score was 25), the mean was 21, and the mode was 25. For the first intervention phase (B^1), the range was 4 (the minimum score was 5 and the maximum score was 9), with a mean of 7 and a mode of 8. The second baseline (A^2) revealed a range of 7 (the minimum score was 15 and the maximum score was 22), a mean of 14, and a mode of 15. For the final intervention phase (B^2), the range was 4 (the minimum score was 6 and the maximum score was 10), the mean was 8, and the mode was 10.

Trends

Trend lines were established for the four phases to indicate the directions of the data paths. The values of axis y trend lines are as follows:

$A^1 = 2.7x + 13.1$

$B^1 = -0.2x + 8$

$A^2 = 1.5x + 13.7$

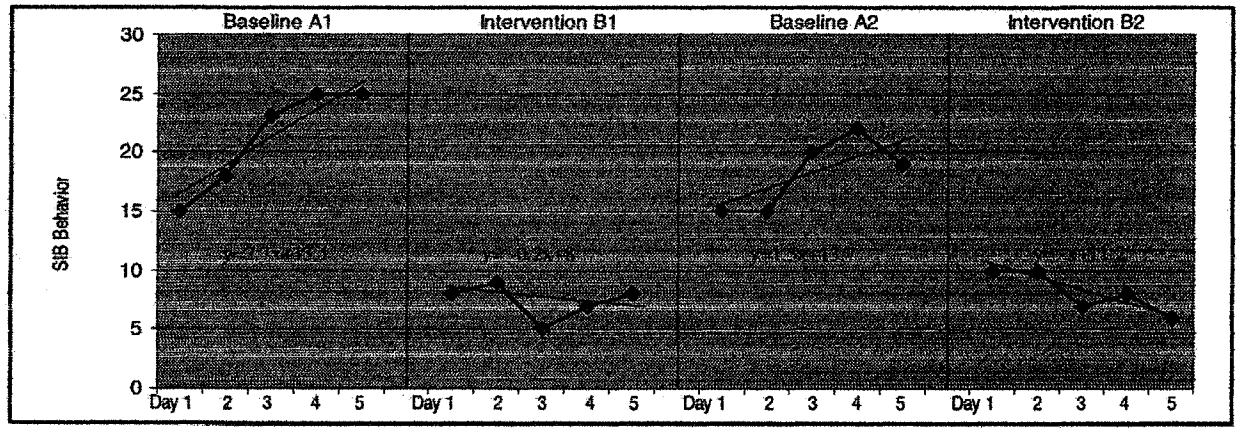
$B^2 = -x + 11.2$

Visual Analysis

The visual analysis presented in Figure 1 display that there are no instances of data overlap between any adjacent phases (Figure 1).

Figure 1

Visual analysis of data of phases A_1, B_1, A_2, and B_2.



Validity

The internal, social and external validity of the study are presented in the subsections that follow.

Internal Validity

The establishment of internal validity is reached when the intervention alone is responsible for the change in the Subject's behavior. Internal validity was supported through high interobserver reliability and consistency of the investigator throughout the study (Tawny & Ghast, 1984).

Social Validity

Social validity of this study was examined by interviewing the Subject's parents and other teachers. The Subject's parents took home the communication board consisting of

two choices: sipping cup lid (for drinking) and small sponge for getting out of the wheel chair. The mother reported that the communication board helped ease tension at home by helping the mother to understand a few of her daughter's requests. The Subject's teachers (music, art, computers, and P.E.) reported that the Subject's precursor period behaviors were quickly and quietly resolved once the communication board was presented.

External Validity

External validity may be demonstrated if the intervention can be applied with other subjects, by other experimenters, in other environments, with minor variations in the basic procedures (Tawney & Gast, 1984). Due to the unique nature of the disability, special education setting, and the special needs of the Subject, the intervention tested in this study is limited to settings, needs and subjects not unlike those of this study.

Summary

This study examined the effects of a redirection intervention as a means of extinguishing self-injurious behavior in a Subject with multiple disabilities. The participant was a ten-year-old female who was in a self-contained classroom that serves students with severe and profound disabilities.

The investigator was the principal data collector and one additional collector assisted in the study. Interobserver agreement was 98.6% for 100% of the observations. During all phases of the study, the frequencies of the SIB episodes were recorded daily in the first five hours of the Subject's daily routine.

Statistical analysis showed a reversal of trend directions when intervention was applied. Visual analysis indicated there were no instances of data overlap between any adjacent phases.

Internal validity was suggested by the intervention seeming to be responsible for the changes in the behavior of the Subject. Social validity of this study was examined by interviewing the Subject's parents and teachers.

CHAPTER V

Discussion

There are many treatments being offered to children with SIB, with medication being the primary intervention. The drugs most frequently prescribed for destructive behavior, as reported by the NIH (NIH Consensus Development Conference Statement, 1989), are neuroleptics, with thioridazine being the most popular. As for the Subject of this investigation, the use of Clozapine was used as prescribed by her doctor. This medication helped calm the Subject but SIB episodes were still apparent.

This chapter discusses the results of this investigation. Additional factors and clinical observations are addressed. The limitation of the study and implications are spoken to. Recommendations are offered. The main goal for the study, extinguishing SIB episodes, was socially important in the Subject's environment. The intervention implemented was age appropriate.

Data analysis for this study suggested that the frequency of the dependent variable (SIB) was reduced when the intervention was implemented. Upon removal of the intervention an increase in the dependent variable was seen. This suggests that the intervention was responsible for the reduction of SIB manifestations. This is supported by

the fact that there were no overlapping values between the adjacent phases and there were immediate changes in levels between adjacent phases. The data showed an increasing trend in the target behavior during the initial baseline phase (A^1). During the initial intervention phase (B^1) the trend direction reversed and showed a decrease in the target behavior. There was again an increase in the target behavior with the return to baseline (A^2). When the treatment was reintroduced in Phase B^2, the trend direction once again reversed. Cooper, Heron, and Heward (1987) reported that this pattern indicates that a change in behavior has occurred.

Immediate changes in level are seen between all phases. This is a "visual indicator that the intervention (or perhaps the withdrawal of the intervention) is having some effect...." (Richards et al., 1999, p. 273). This research showed that the redirection intervention using a communication board was successful in reducing the SIB in a ten-year-old girl with multiple disabilities. The use of the communication board provided the Subject with a means to communicate her wants and needs thus, redirecting and reducing her SIB.

Clinical Observations

On one occasion, when the Subject was presented with the communication board, she threw the board onto the floor. When the board was introduced again the same behavior occurred. Again, the board was offered and the investigator noticed that the Subject was grabbing the sandpaper and still engaging in a precursor period. It was noted that there was a student working in another group, with the sand when the Subject had become angered. The sand was removed from the other student, because he was

changing groups, and the communication board was offered to the Subject. The sand was the object selected by the Subject. This scenario suggested that the Subject was using the communication board to gain possession of the sand.

The Subject took her communication board to elective classes and it was observed that SIB episodes were minimized. One incident occurred in the school library. The subject began showing signs of an SIB episode. The assistants immediately gave the board to the Subject and she grabbed the foam that indicated the mat. Although not in the classroom, the librarian allowed the student to be removed from her chair and onto the carpet in the library. The Librarian later reported to the Investigator that she was impressed with the way the Subject expressed her wants.

During the intervention phase the Investigator and the second observer noticed that every time the student needed a diaper change, the subject would try to lift herself up from her wheelchair. This body language removed the need to put a diaper on the communication board.

Limitation of the Study

Due to the unique nature of the disability, special education setting, and the special needs of the subject, the intervention used in this investigation is limited to settings, needs and subjects not unlike those of this study.

Recommendations

Educators or parents of individuals manifested SIB may implement the use of a communication board to enhance communication and thus, reduce SIB. Educators and parents of these individuals need to be trained to use communication boards. The parents

of the Subject in this investigation have reported that the child manifests SIB in the home. Therefore, the parents will be offered training and facilitation in the strategy. It is recommended that other teachers be familiarized with the use of the communication board to give the Subject consistency in the intervention.

Summary

The results of this investigation strongly suggested that the dependent variable was controlled by the intervention. Observations from others in the Subject's environment indicated that the use of the communication board reduced the episodes of SIB. Generalization of the intervention is limited due to the unique characteristics and needs of the Student. It is recommended that the intervention be continued with the Subject and expanded into the other classes and into the home. Due to the nature of the disability, special education setting, and the special needs of the subject, the intervention is limited to settings, needs and subjects similar to those of this study. Replications, where possible, are strongly encouraged.

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APPENDICES

APPENDIX A

TALLY SHEET

Maria Strickland
Masters of Special Education Candidate
Sam Houston Intermediate/University of Texas Pan American

TALLY SHEET

Monday	Tuesday	Wednesday	Thursday	Friday
7:45- 8:40	7:45- 8:40	7:45- 8:40	7:45- 8:40	7:45- 8:40
8:45 – 9:40	8:45 – 9:40	8:45 – 9:40	8:45 – 9:40	8:45 – 9:40
9:45 – 10:10	9:45 – 10:10	9:45 – 10:10	9:45 – 10:10	9:45 – 10:10
10:15 – 11:55	10:15 – 11:55	10:15 – 11:55	10:15 – 11:55	10:15 – 11:55

APPEDIX B

INFORMED CONSENT AND IRB APPROVAL

INFORMED CONSENT FORM

I, _____, the parents 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 master's thesis that examines and looks for interventions beneficial to teachers and parents for students with self injurious behavior. The teacher and two other observers will observe and record the behavior of the student. All information gathered and data collected will be kept strictly confidential and locked in the principal investigator's home in a locked filing cabinet.

Participation in this study is voluntary. Parents or students may elect to participate and are free to withdraw from the study at any time without penalty.

This research has been reviewed and approved by the Institution Review Board-Human Subject in Research. For research related problems or questions Committee may be contacted through Dr. Juan Gonzalez, Chair, at 381-2880.

I have read and understand the explanations provided to me and voluntarily agree to participate in this study. Should you have any questions about the study or procedures please call Maria Strickland, Sam Houston Intermediate, Weslaco I.S.D., at 956-969-6740 ext. 215.

_____ Yes, I give permission for my child to participate

_____ No, I do not give my child permission to participate

Sincerely,

_____

Parent Signature Date

INSTITUTIONAL REVIEW BOARD FOR HUMAN SUBJECTS IN RESEARCH
THE UNIVERSITY OF TEXAS - PAN AMERICAN
1201 West University Drive • Edinburg, Texas 78539-2999 • (956) 381-3889 Office • Fax (956) 381-3002
2487 318-5265

MEMORANDUM

To: Ms. Marin Strickland, Dept. of Educational Psychology, UTPA, Graduate Advisor Dr Jo Ann Mitchell

From: Dr. Bahram (Bob) Fazgli, Chair, Institutional Review Board for Human Subjects in Research BF

Subject: Protocol for "Redirecting as a Means of Decreasing Self-Injurious Behavior"

Date: March 26, 2002

The above referenced protocol has been:

___ Approved (committee review)
_X_ Approved (expedited review, IRB# 175)
___ Conditionally approved (see remarks belo
___ Tabled for future consideration-Re-submi
___ Disapproved (see remarks below)

by the Institutional Review Board Federal Wide Assurance Number (FWA 00000805).

As stipulated in the guidelines of the IRB, this protocol will be subject to annual review by the IRB and any deviations from the protocol or change in the title must be resubmitted to the Board.

For additional information you can contact the IRB University website at http://www.panam.edu/dept/sponsp/Policies/Policies.html

AT THE CONCLUSION OF THE STUDY, YOU MUST FILL OUT THE ENCLOSED REPORT FORM

cc: George Avellano, AVPAA/GP&R

Federal Assurance Number # FWA0000080
5
UTPA IRB # 175
Reviewed by: Dr. Bahram Fazeli, Chair

CONTINUING REVIEW FOR INSTITUTIONAL REVIEW BOARD HUMAN SUBJECTS IN RESEARCH

At the end of one year, federal regulations require final reports/continuing review reports for all research projects that deal with human subjects. A copy of this report MUST be filed with the Institutional Review Board-Human Subjects in Research, at The University of Texas Pan American, where they become part the permanent files of the Board. Approval for protocols are usually for one year unless specified by the Board. Our records indicate that your proposal for research dealing with human subjects was reviewed by the Board on ___/___/___.

Principal Investigator Ms Marie Strickland, Dept. of Educational Psychology, UTPA, Graduate Advisor Dr. Jo Ann Mitchell

1. Title: "Redirecting as a Means of Decreasing Self-Injurious Behavior"
2. Dates of Study 03/26/ 02 through 03 /26 / 03
3. If the study was not initiated, please indicate here and return the form_____.
4. Please check the following items as they may apply to your project during the period following IRB review.

   a. ____ Renewal of protocol/proposal with no changes.
   b. ____ In regard to human subjects, the research protocol was unchanged from the approved protocol and was completed in a satisfactory manner.
   c. ____ The research protocol was modified during the project including, for example, changes in the informed consent form or any other modifications to the study. (Any changes to the protocol must be reviewed and approved by the IRB).
   d. ____ The research protocol was changed significantly in regard to human subjects. Please explain on an attached page, or if the research has been completed, please submit copies of the final report sections which describe these changes.
   e. ____ The research is in progress and no changes in protocol have been made regarding human subjects.

5. Indicate the number of subjects proposed _____ actually utilized as of this date ___/___/___.

_____ _____
Signature of Individual Completing This Form Date

Please return this form and any attachments to Dr. Bahram (Bob) Fazeli, Chair, Institutional Review Board – Human Subjects in Research, Dietetics Program, COHS&HS West, Room W2.226 - The University of Texas Pan American.

INSTITUTIONAL REVIEW BOARD FOR HUMAN SUBJECTS IN RESEARCH
THE UNIVERSITY OF TEXAS - PAN AMERICAN
1201 West University Drive • Edinburg, Texas 78539-2999 • (956) 381-2287 Office • Fax (956) 318-5265

MEMORANDUM

To: Ms. Marin Strickland, Graduate Student, Educational Psychology Department, College of Education, UTPA, Dr. Jo Ann Mitchell, Graduate Advisor

From: The Institutional Review Board Office, MAGC 2.316A

Subject: CONTINUING REVIEW FOR INSTITUTIONAL REVIEW BOARD HUMAN SUBJECTS IN RESEARCH

Date: March 28, 2003

As stipulated in the guidelines of the IRB, the protocol identified below is subject to annual review by the IRB and any deviations from the protocol or change in the title must be resubmitted to the Board. At the conclusion of the study, you should have filled out the enclosed report form to close out your file.

The referenced protocol below has been identified as not having been officially closed. Please review and submit the second attachment to the Office of Sponsored Research/Institutional Review Board Office.

Approval on date		(committee review, IRB #)	Renewal date
Approval on date	03/15/02	(expedited review, IRB # 175)	Renewal date 03/15/03

Failure to return this form may result in an audit of the referenced protocol above and all its records. You have 10 business working days to return this form.

If the primary investigator is no longer within the department or if the graduate student has left the university, then the department chair may fill out the attached form and submit to the Office of Sponsored Research/Institutional Review Board Office at MAGC Rm. 2.316- The University of Texas Pan American, Edinburg, Texas 78539.

cc: Dr. Wendy A. Lawrence-Fowler, AVPR
Tony Canas, MBA, Sponsored Research

Federal Assurance Number # FWA0000085
UTPA IRB # 175
Reviewed by: Dr. Bahram Faraji, Chair

CONTINUING REVIEW FOR INSTITUTIONAL REVIEW BOARD HUMAN SUBJECTS IN RESEARCH

At the end of one year, federal regulations require final reports/continuing review reports for all research projects that deal with human subjects. A copy of this report MUST be filed with the Institutional Review Board-Human Subjects in Research, at The University of Texas Pan American, where they become part the permanent files of the Board. Approval for protocols are usually for one year unless specified by the Board. Our records indicate that your proposal for research dealing with human subjects was reviewed by the Board on __/__/__.

Principal Investigator: Ms. Maria Strickland, Dept. of Educational Psychology, UTPA, Graduate Advisor: Dr. Jo Ann Mitchell

Title: "Redirecting as a Means of Decreasing Self-Injurious Behavior"

1. Dates of Study 03/15/02 through 03/15/03
2. If the study was not initiated, please indicate here and return the form _____.
3. Please check the following items as they may apply to your project during the period following IRB review.
   a. ✓ Renewal of protocol/proposal with no changes.
   b. ____ In regard to human subjects, the research protocol was unchanged from the approved protocol and was completed in a satisfactory manner.
   c. ____ The research protocol was modified during the project including, for example, changes in the informed consent form or any other modifications to the study. (Any changes to the protocol must be reviewed and approved by the IRB).
   d. ____ The research protocol was changed significantly in regard to human subjects. Please explain on an attached page, or if the research has been completed, please submit copies of the final report sections which describe these changes.
   e. ____ The research is in progress and no changes in protocol have been made regarding human subjects.
4. Indicate the number of subjects proposed _____ actually utilized as of this date __/__/__.

Signature of Individual Completing This Form — Date: 7/31/03

Please return this form and any attachments to Dr. Bahram (Bob) Faraji, Chair, Institutional Review Board—Human Subjects in Research, Dietetics Program, COHS&HS West, Room W2.226 - The University of Texas Pan American.

INSTITUTIONAL REVIEW BOARD FOR HUMAN SUBJECTS IN RESEARCH
THE UNIVERSITY OF TEXAS - PAN AMERICAN
1201 West University Drive • Edinburg, Texas 78541-2999 • (956) 384-5004 Office • Fax (956) 381-2940

COPY

MEMORANDUM

TO: Dr. Jo Ann Mitchell and Maria Strickland, Graduate Student
Educational Psychology

FROM: Dr. Mark Cranberry
Chair, Institutional Review Board for Human Subjects in Research

DATE: November 19, 2004

SUBJECT: Protocol for "Redirecting as a Means of Decreasing Self-Injurious Behavior" IRB #175

The above referenced protocol has been:

_____ Approved (committee review)
_____ Approved (expedited review)
_____ Approved (continuing review)
_____ Conditionally approved (see remarks below)
__X__ Closed (completed in a satisfactory manner)
_____ Exempt from IRB review
_____ Tabled for future consideration – re-submit with corrections (submit 2 copies of your protocol)
_____ Disapproved (see remarks below)

by the Institutional Review Board Federal Wide Assurance Number (FWA 00000805).

As stipulated in the guidelines of the IRB, this protocol will be subject to annual review by the IRB and any deviations from the protocol or change in the title must be resubmitted to the board.

For additional information you can contact the IRB University website at http://www.panam.edu/dept/sponpro/Policies/Policies.html

cc: Dr. Wendy A. Lawrence-Fowler, AVPR.

Federal Assurance Number # _FWA [illegible]
UTPA IRB# ___175_
Reviewed by: Dr. Mark Granberry, Chair

CONTINUING REVIEW FOR INSTITUTIONAL REVIEW BOARD HUMAN SUBJECTS IN RESEARCH

At the end of one year, federal regulations require final reports/continuing review reports for all research projects that deal with human subjects. A copy of this report MUST be filed with the Institutional Review Board-Human Subjects in Research, at The University of Texas-Pan American, where unless specified by the Board. Our records indicate that your proposal for research dealing with human subjects was reviewed by a member of the Board on _03_/_28_/_03___.

Principal Investigator: Dr. Jo Ann Mitchell and Maria Strickland, Graduate Student

Title: "Redirecting as a Means of Decreasing Self-Injurious Behavior" IRB #175

1. **Dates of Study _11_/_15_/04 through _11_/_15_/05.**
2. **If the study was not initiated, please indicate here and return the form.**
3. **Please check the following items as they may apply to your project during the period following IRB review.**
   a. ____ **Renewal of protocol/proposal with no changes.**
   b. _✓_ **In regard to human subjects, the research protocol was unchanged from the approved protocol and was completed in a satisfactory manner.**
   c. ____ **The research protocol was modified during the projects including, for example, changes in the informed consent form or any other modifications to the study. (Any changes to the protocol must be reviewed and approved by the IRB).**
   d. ____ **The research protocol was changed significantly in regard to human subjects. Please explain on an attached page, or if the research has been completed, please submit copies of the final report sections which describe these changes.**
   e. ____ **The research is in progress and no changes in protocol have been made regarding human subjects.**
4. **Indicate the number of subjects proposed ________ actually utilized as of this date __/__/__.**

Jo Ann Mitchell
Signature of Individual Completing This Form

Nov. 17, 2004
Date

Please return this form an any attachments to Dr. Mark Granberry, Chair, Institutional Review Board for Human Subjects in Research, Office of Research and Sponsored Projects, MAGC 2.316 – The University of Texas-Pan American.