

EFFECTS OF AN APPLIED BEHAVIOR ANALYSIS TRAINING PROGRAM  
ON SELF-EFFICACY, PERCEIVED STRESS, AND BEHAVIORAL SKILLS  
OF PARENTS AND CAREGIVERS OF CHILDREN WITH DEVELOPMENTAL  
DISABILITIES

by

Tricia A. Wood

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Approved by the Master's Thesis Committee:

Mary Gruber, Ph.D., BCBA, Major Professor	<u>6-10-04</u>	Date
Siri Ming, M.A., BCBA, Committee Member	<u>6/10/04</u>	Date
Brent Duncan, Ph.D., NCSP, Committee Member	<u>6/10/04</u>	Date
Chris Aberson, Ph.D., Graduate Coordinator	<u>7/28/04</u>	Date
Donna E. Shafer, Ph.D., Dean for Research and Graduate Studies	<u>6/9/04</u>	Date

## ABSTRACT

Caregivers of children with developmental disabilities may feel increased stress and a lack of confidence relating to teaching appropriate behaviors and coping with maladaptive behaviors. This increased stress and lack of confidence may result in an inability to effectively teach appropriate behaviors and cope with maladaptive behaviors. Providing caregivers with an opportunity to learn teaching strategies that use applied behavior analysis may reduce caregiver stress and increase confidence for teaching appropriate behaviors and coping with maladaptive behaviors. Therefore it is essential to investigate the effectiveness of applied behavior analysis training programs on caregivers' self-efficacy, perceived stress, and behavioral skills. This study investigated the effectiveness of caregiver training in increasing self-efficacy and decreasing stress levels in seven caregivers of children with developmental disabilities. The study also looked at caregiver and child behavior changes by conducting single subject research with two participants. The seven caregivers participated in a five-week training focusing on applied behavior analysis teaching strategies. Caregivers were given a general self-efficacy measure and stress and confidence measures for teaching appropriate behaviors and coping with maladaptive behaviors.

Participants in this study showed a significant increase in general self-efficacy, confidence for coping with maladaptive behaviors, and confidence for teaching appropriate behaviors from pretest to posttest. The participants also showed a nonsignificant decrease in stress for coping with maladaptive behaviors and a significant decrease in stress for teaching appropriate behaviors from pretest to posttest. The

participants also showed significant mean changes on four specific items from pretest to posttest. The participants showed a significant increase in their confidence for teaching personal safety, confidence for teaching self-help skills, and confidence for teaching personal boundaries. The participants also showed a significant decrease in stress for teaching communication skills. The adult participants in the single subject research showed an increase in behavioral skills, while the child maladaptive behaviors decreased or stayed at an extremely low frequency. The results indicate that offering caregivers support in the form of training in applied behavior analysis teaching strategies may result in decreases stress levels and increased confidence in the area of teaching appropriate behaviors and coping with maladaptive behaviors.

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## INTRODUCTION

Caring for a child with a developmental disability can be an overwhelming task for parents and other caregivers, and can involve high caregiver stress levels, altered family dynamics, and a need for local support systems in the form of caregiver training and respite services. Wiese (1992), in a review of parent training research, stated that current research is somewhat limited in data reporting specific caregiver behavior changes that lead to child behavior changes. This study investigated the effectiveness of caregiver training in increasing self-efficacy and decreasing stress levels in caregivers of children with autism and other developmental disabilities. The study, through observed videotaped sessions of interactions between the caregiver and child, also allowed the researcher to collect data on caregiver and child behavior changes. In this study “caregivers” refers to parents of children with a developmental disability, as well as to behavioral respite workers who provide care for children with developmental disabilities.

Autism is a pervasive developmental disability, which is characterized by a lack of responsiveness to people, severe language impairment, and strong resistance to change in routine or the environment (DSM IV, TR, 2000). The common characteristics of autism can cause an increase in stress and decrease in self-efficacy for parents and caregivers of children with autism. This high stress and low self-efficacy is seen in the area of teaching appropriate behaviors and coping with maladaptive behaviors of the child. Decreasing stress and increasing self-efficacy can be addressed through training programs in the use of applied behavior analysis, which in turn can act as a local support system.

Parents and caregivers of children with autism and other developmental disabilities can be faced with a lack of support in both the family and community setting. Efforts have been made in many communities to increase support for parents and other caregivers of children with developmental disabilities. One support system was offered through a group collaboration of the Redwood Coast Regional Center, Humboldt Child Care Council, and Humboldt County Access and Referral Center in the spring of this past year (Ewen, 2003). This support system took shape in the form of intervention training using Behavior Analysts, Inc. "Quick Tips" Teaching Strategies (2001). This training focused on strategies used in applied behavior analysis, including, but not limited to, positive reinforcement, pairing, prompting, and fading. The purpose of this training was to increase the skills of both parents and caregivers of children with autism. The objectives focused on ways of teaching appropriate behaviors and coping with maladaptive behaviors. Ewen (2003) found that the parents and caregivers showed an increase in general self-efficacy. They also showed an increase in self-efficacy for teaching appropriate behaviors and coping with maladaptive behaviors, and they showed decreased stress in both of these areas. However, with only six participants, the degrees of freedom were small, and these measured changes were not statistically significant.

The present study conducted a systematic replication of the previous study with a larger number of participants to look for statistical significance indicating that the training decreases stress and increases self-efficacy for teaching appropriate behaviors and coping with maladaptive behaviors. The training was offered to parents and caregivers of children with autism and other developmental disabilities in and around the

local community in the spring of this current year. The participating parents and caregivers were given pretest and posttest self-report measures of general self-efficacy, and of self-efficacy and perceived stress related to teaching appropriate behaviors and coping with maladaptive behaviors. These self-report measures asked about the caregiver's self-efficacy and stress involved in teaching appropriate behaviors, such as appropriate communication of wants and needs, social interaction skills, play skills, personal safety, and independent self-help skills. The measures also indicated their self-efficacy and stress involved in coping with maladaptive behaviors, such as tantrums, self-stimulation, property destruction, aggression, social withdrawal, and elopement. This study additionally focused on whether or not changes in the caregiver's behavior are associated with a change in the child's behavior. This was done by video recording sessions of interaction between caregivers and their child. During these sessions the caregiver used applied behavioral techniques that were taught during the caregiver training. The study also included revised shorter forms of the self-report measures based on participant feedback from the previous training. The researcher tested for statistically significant increases in self-efficacy when teaching appropriate behaviors and coping with maladaptive behaviors and decreases in stress for teaching appropriate behaviors and coping with maladaptive behaviors. The researcher also observed the caregivers' use of behavioral techniques, along with the children's targeted behaviors. A systematic replication of the earlier study allowed the researcher to examine the effectiveness of the training in increasing self-efficacy, reducing perceived stress, and increasing behavioral

skills for parents and caregivers of children with autism and other developmental disabilities.

## REVIEW OF THE LITERATURE

A review of current literature follows to examine existing information about autism and other developmental disabilities, treatments based on applied behavior analysis, self-efficacy and stress in parents and caregivers, and training programs for parents and caregivers.

### Autism

All but one of the caregivers in the current study provided care for children with autism. The *American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders* (DSM IV, TR, 2000) states that essential features of autism include a lack of normal social interaction and communication with peers, family, and siblings. The child will often lack the use of eye contact, gestures, and body language used in social interaction and communication. The child may also show little to no interest in forming friendships with peers, resulting in the inability to share interests and achievements with others. These children are also found to have severe language impairments, which may include echolalia, pronoun reversal, or in the most severe cases, mutism. Autistic children have a strong resistance to change in routine or the environment, which often involves tantrums. When observing autistic children, one may see little or no appropriate play with toys, along with unusual reactions to normal environmental stimulation, self-stimulation such as twirling or rocking, and an unusual

attachment to or fascination with objects. The literature suggests that there is no single set definition of autism. Autism involves a variety of behaviors and characteristics. In most cases, individuals with autism have an associated diagnosis of mental retardation in the range of mild to severe. The literature states that a correct diagnosis of autism is sometimes difficult because not all of the common behaviors and characteristics are identified in each person with autism. The fact that frequency and intensity of particular characteristics and behaviors can vary substantially also poses a challenge to a proper diagnosis. Children with autism in most cases are impaired in the area of communication by a deficit in both verbal and nonverbal skills. The child will often times exhibit repetitive and stereotyped patterns of behavior, interests, and activities including clapping, finger flicking, preoccupation with parts of objects, and the repetitive manipulation of objects. Approximately 5 per 10,000 individuals are diagnosed with an autistic disorder, with reported cases ranging from 2 to 20 cases per 10,000 individuals.

Freeman (1997) stated that characteristics of autism can occur in the first month of life, but that typically children with autism are not diagnosed prior to two or three years of age. Characteristics can include behavioral deficits in attention, cognition, speech, language, and affective and social functioning. Also included as characteristics are behavioral excesses such as explosive aggression and self-injury. Freeman pointed out that autism is a developmental diagnosis of a behaviorally defined syndrome in which symptoms occur on a continuum or spectrum ranging from mild to severe.

## Attention Deficit/Hyperactivity Disorder

One of the caregivers in the current study provided care for a child with the diagnosis of attention deficit/hyperactivity disorder (ADHD). The *American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders* (DSM IV, TR, 2000) states that essential features of ADHD include a continuous pattern of inattention and/or hyperactivity-impulsivity in comparison to other children of the same developmental age. These inattention or hyperactivity-impulsivity symptoms must be present before the age of seven. These symptoms must be present in two settings such as home and school. Often times there is interference in appropriate social, academic, or occupational functioning. Inattention is oftentimes observed in academic, occupational, or social situations. Children diagnosed with ADHD often have difficulty paying attention to detail, resulting in messy work and ability to complete a task. Children often appear to be inattentive or engage in a variety of tasks before completing one particular task. This engagement in a variety of tasks results in an inability to complete tasks both at home and school. Hyperactivity is often seen in the classroom and includes squirming in one's seat and moving hands or feet continuously. Impulsivity is also exhibited in the home and school and can include interrupting class instruction to answer a question, talking to other students during instruction, and grabbing or touching items inappropriately.

Approximately 3 to 7% of school age children are diagnosed with ADHD.

## Treatment Based on Applied Behavior Analysis

Catania and Brigham (1978) in a book entitled *Handbook of Applied Behavior Analysis* discussed the foundations of applied behavior analysis (ABA). These foundations include the principles of operant conditioning and the experimental analysis of behavior. Part of this handbook focused on the methodology of ABA. They discussed research in ABA across settings, populations, and behaviors. They noted that interventions or treatment programs using ABA techniques are derived from operant conditioning. Cooper, Heron, and Heward (1987) stated that operant conditioning includes reinforcement, which is defined by its effects on behavior. If an event directly follows a behavior, and if the event increases the probability of that behavior occurring again in the future, reinforcement has occurred. Research is considered applied if it focuses upon clinically or socially significant behavior and aims to achieve a behavior change of social significance. Skinner (1974) in a book entitled *About Behaviorism* included a chapter on operant behavior. Skinner stated that when the consequence of behavior is reinforcement, the behavior is more likely to occur. He stated that positive reinforcers strengthen behavior. He stated that, "A positive reinforcer strengthens any behavior that produces it: a glass of water is positively reinforcing when we are thirsty, and if we then draw and drink a glass of water, we are more likely to do so again on similar occasions."

Heflin and Alberto (2001) defined applied behavior analysis (ABA) as a branch of behavioral psychology in which the focus of study is observable interactions between individuals and their environment. Cooper, Heron, and Heward (1987) in their book,

*Applied Behavior Analysis*, defined ABA as a discipline devoted to the understanding and improvement of individuals' behavior. They went on to state that ABA focuses on objectively defined and observable behaviors of social significance, and seeks to improve the target behavior and demonstrate a relationship between the procedures used and the behavior change itself. In addition it uses the methods of science including description, quantification, and analysis.

Baer, Wolf, and Risley (1968, 1987) defined seven dimensions or essential characteristics of applied behavior analysis. Applied behavior analysis is defined as being applied, behavioral, analytical, conceptually systematic, technological, effective, and generalized. “Applied” means that ABA focuses on the implementation of basic principles to behaviors that are of social significance to the participant involved. “Behavioral” means that ABA focuses on studying and changing observable behaviors. “Analytic” means that ABA uses scientific study to identify functional relationships between behavior and environmental events. “Conceptually systematic” means that ABA focuses on using procedures that are related to the basic principles of behavior. “Technological” means that ABA uses procedures that are precisely defined. “Effective” means that ABA focuses on ensuring that changes in behavior are significant to the individuals involved, cost effective, efficient, and that procedures used promote generalization and maintenance. “Generalized” means that ABA focuses on procedures used to achieve a change in behavior that can be used with a variety of individuals and in a variety of settings. These seven dimensions are important in defining ABA, which is the basis for the teaching strategies outlined in the caregiver training.

Simpson (2001) discussed ABA as an essential and scientifically valid method of educating and coping with autistic children. Simpson focused on the effectiveness of ABA in relation to children with autism and on parent and family involvement in training programs based on ABA techniques, such as reinforcing a desired response. Simpson also pointed out that ABA has become a common topic at Individual Education Program meetings, in which parents of children with autism may feel very strongly about ABA procedures when making program requests. This review cites articles that state that ABA is a versatile and highly utilitarian tool with the potential for wide application. It continues to state that ABA can yield significant benefits and gains for parents, caregivers, and children with autism-related disorders.

Lovaas (1987) reported a study on the results of a behavior modification program on two groups of young children with autism. Participants in the behavior modification program were assigned to one of two groups: an intensive-treatment experimental group consisting of 19 children who received more than 40 hours of one-to-one treatment per week and a minimal-treatment group consisting of 19 children who received 10 hours or less of one-to-one treatment per week. The study also included a control group that consisted of 21 young autistic children who were not involved in this specific behavior modification program, but received treatment similar to the minimal treatment group. The results showed that in the pretreatment comparison, the two groups did not differ and appeared to be similar. However in later testing, around seven years of age, participants in the intensive-treatment group did significantly better than the minimal-treatment group in the area of achieving normal intellectual and educational functioning.

Lovaas reported that 47% of the participants in the intensive-treatment group achieved normal intellectual and educational functioning, while only 2% of the minimal-treatment and control children achieved normal intellectual and educational functioning.

McEachin, Smith, and Lovaas (1993) conducted a follow-up study on autistic children, which was based upon the previous study conducted by Lovaas in 1987. The study included an experimental group that was the original intensive behavioral treatment group, and a comparison group that was the minimal behavioral treatment group. The mean age for the children in the experimental group was 13 years of age. The mean age for the children in the comparison group was 10 years of age. The study found that individuals in the intensive behavioral intervention group had maintained intellectual functioning since the previous assessments conducted at 7 years of age, as measured by standardized intelligence tests, including the Wechsler Intelligence Scale for Children-Revised. The intensive behavioral treatment group also displayed significantly higher levels of functioning than the minimal behavioral intervention group based on measures of adaptive behavior and personality, including The Vineland Adaptive Behavior Scales and The Personality Inventory for Children. In addition, it was reported that nine of the intensive behavioral treatment group participants had average intelligence and average levels of adaptive functioning. One participant of the intensive behavioral treatment group was removed from the general education setting and placed in a special day class for children with language delays. The remaining eight participants in the intensive behavioral treatment group stayed in general education courses and exhibited no maladaptive behaviors. The reported findings found that the

intensive behavioral treatment group achieved larger gains than the minimal behavioral treatment group in the area of intellectual functioning, higher levels of adaptive functioning, and the ability to learn in the general education setting. The training in the current study does not teach caregivers intensive behavioral programming such as Lovaas used in his study. The caregiver training is based on more basic skills of ABA, such as reinforcement and pairing. The Lovaas studies (1987, 1993) are important because they show the effectiveness of behavior modification programs for children with autism, a type of developmental disability.

Gresham, Beebe-Frankenberger, and MacMillan (1999) reviewed results for a variety of treatment programs for children with autism. The review evaluated the efficacy and effectiveness of those treatment programs, which include the UCLA Young Autism Project (YAP), Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH), Learning Experiences Alternative Program (LEAP), the Douglas Development Institute program, the Princeton Child Development Institute program at Princeton University, and the Denver Health Sciences Center Program (DHSCP). The review reported that all of these programs resulted in significant developmental gains, less restrictive placement in schools, and an increase in intelligence test scores. YAP, LEAP, the Douglas Development Institute program, and the Princeton Child Development Institute program contain principles based on ABA, behavioral intervention techniques, and parent behavioral skills training.

Sundberg and Partington (1998) in a book entitled *Teaching Language to Children with Autism and Other Developmental Disabilities* pointed out the importance

of implementing early intervention treatment programs for children with severe language delays. They pointed out that if language does not begin to develop over a reasonable period of time, the child may begin to exhibit inappropriate behavior such as an increase in self-stimulatory behavior. The authors supported the use of ABA as the most successful approach for working with children autism and other developmental disabilities. Therefore the authors pointed out that individuals who conduct day-to-day interventions with these children need to be skillful in the basic techniques of ABA such as shaping, prompting, and fading. The authors continued to point out that to become skillful in implementing ABA techniques one must require formal training in the area of ABA. This particular training is designed to include ABA techniques described by Sundberg and Partington (1998).

Sundberg and Partington's agency developed the training material, "Quick Tips" (2001), as a resource for training parents and professionals. The concept and materials for the "Quick Tips" are based in part on *Teaching Language to Children with Autism or Other Developmental Disabilities*, by Sundberg and Partington (1998), and *Teaching Children with Language Delays: A Handbook of Strategies and Techniques for the Classroom*, by Sullivan, Sundberg, Partington, Ming, and Acquisto (1997). The "Quick Tips" (2001) focus on teaching appropriate behaviors. The "Quick Tips" (2001) training material was used in the previous study by Ewen (2003) and is the basis for the systematic replication the previous study. The "Quick Tips" use ABA techniques including reinforcement, pairing, instructional control, prompting and fading, discrete trials, correction procedures, and shaping.

Leaf and McEachin (1999) published a book entitled *A Work in Progress*, which contains information on behavior management strategies and teaching techniques that are successful in improving problem behavior. Leaf and McEachin cited specific historical research including the research by Lovaas (1987) and McEachin, Smith and Lovaas (1993) that support the use of ABA as an effective method for reducing maladaptive behaviors in children with autism and other developmental disorders. This book provided an extensive amount of information related to behavioral strategies such as reinforcement, behavior management techniques, play and social skills, and curriculum for discrete trial teaching. They also pointed out the relationship between stress and the environment. The book offered suggestions for caregivers on how to change one's environment to reduce stress in both the caregiver and child. The authors stated that reducing stress by creating a calm environment will decrease the intensity of a child's behavior, resulting in calmer behaviors. Creating a calm teaching environment will promote a decrease in power struggles and an increase in the child's opportunity for choice. This particular training in the current study offered caregivers the opportunity to learn a variety of teaching strategies that might help them create a calm environment and therefore reduce many of the environmental factors responsible for increasing stress. These teaching strategies included reinforcement, instructional control, pairing, and shaping.

Baldwin (1999) in an article entitled *Applied Behavior Analysis in the Treatment of ADHD: A Review and Rapprochement* reviewed many different cases of children diagnosed with ADHD who benefited from the use of applied behavior analysis

techniques. These techniques included identifying reinforcers, positive reinforcement for appropriate behaviors, and the use of rewards contingent on appropriate behavior. These techniques were relevant to this particular training because caregivers were given information on how to identify reinforcers and positively reinforce appropriate behavior.

#### Challenges for Parents and Caregivers of Children with Developmental Disabilities

Abelson (1999) identified respite care needs of parents of children with developmental disabilities and the impact of lack of respite care on these families. The participants included families from Iowa who had children with a range of developmental disabilities including autism. The families were given a respite care needs assessment survey. The assessment enabled the researcher to get an indication of the day-to-day demands placed on the families, common reasons why parents want respite care, and the seasons when respite care is needed most. The study found that there was a need for respite services for families with developmentally disabled children in Iowa. Respite care needs were the same for all families regardless of degree or extent of disability, income level, and rural or urban settings. The study also found that the need for respite care services increased in the summer when the public school system is closed. This information is important in identifying who can benefit from respite care services and when respite care services are needed most. This information encourages respite care providers to offer respite services to a variety of families and encourages ongoing respite care services in local areas.

Maurice, Mannion, Letso, and Perry (2001) compiled parents' reports on the challenges faced when identifying needed services for their autistic children. These parents discussed two areas of concern for parents of children with autism. The first area included difficulties in the process of diagnosis, identifying available treatment options, and obtaining a qualified explanation of the role of behavior analysis in intervention. The second area included the ability to find and afford qualified individuals to implement the behavioral treatment of choice. Each of the parent's reports included a response to each of the identified challenges. Parents reported feeling overwhelmed, due to the inability to obtain a timely and accurate diagnosis. Parents also reported an absence of specific directions related to treatment options. In addition, parents were faced with the inability to obtain information in the area of applied behavior analysis. The parents' reports also shared solutions to these challenges, which included the opportunity to enroll their children in ABA based programs and an increase in published literature on the subject of ABA over the past several years.

#### Self-Efficacy in Parents and Caregivers of Children with Developmental Disabilities

Bandura (1977) reported that self-efficacy is important for successful behavioral change in therapy. Bandura's concept of self-efficacy focused on the belief that we can behave in a manner that produces successful outcomes. He also stated that having the expectation that we can master a task has important implications for our self-concept and our ability to adjust to various situations. Bandura stated that if an individual experiences a successful outcome after a behavior, the individual's self-efficacy or expectation of

success in doing that behavior increases, and the individual is more likely to engage in that behavior again in the future. In the current study, caregivers were coached in practicing ABA strategies that were likely to have successful outcomes for teaching appropriate behaviors or coping with maladaptive behaviors of the child. The caregivers might then leave the training with an expectation that they can master these strategies and make effective behavioral changes in the area of teaching appropriate behaviors and coping with maladaptive behaviors.

#### Stress in Parents and Caregivers of Children with Developmental Disabilities

Mash and Wolfe (1999) described the exhausting and stressful demands of raising a child with autism. They stated that “Life for the parents of a child with autism can be a daily grind, a totally draining, sleepless, relentless effort to prevent their child from harming herself, guess their child’s needs, and search for ways of preventing their child from withdrawing from them forever.” They also pointed out that “Parents of children with autism may also experience social ostracism from friends who find it difficult to be around such demanding children, or from strangers who may be unaware of the context for the child’s disruptive behavior or the parents efforts to control these behaviors.”

Boyd (2003) stated that stress is common in parents of children with developmental disabilities. The literature suggests that it is important for parents to have a way to cope with this stress. It is found that social support is a way to accomplish this goal. Boyd stated that social support can refer to formal services one would receive from

a professional organization and also to services offered by less structured organizations such as a club or group meeting.

According to Sharpley and Bitsika (1997), three stressful factors are associated with parenting a child with autism. These include concern over the permanency of the condition, society and family member's lack of acceptance for autistic behaviors, and very low levels of social support received by parents. It is reported that as a group, mothers of children with autism appear to be the most adversely affected by stress-related factors that result from caring for a child with a disability.

Sharpley and Bitsika (1997) conducted a study to determine whether stress, anxiety, and depression among parents of children with autism could be related to gender of parents, age of child, age of onset, parental health, access to family members, and level of knowledge among family members. The study found that the most common source of stress for parents of children with autism was related to their child engaging in maladaptive behaviors. Females reported higher levels of stress from parenting than males, but also showed higher levels of confidence in handling their child's maladaptive behaviors. Parents with a major illness or disability reported higher levels of anxiety, depression, and stress. Parents who had access to other family members had lower scores on depression, anxiety, and stress and reported higher levels of confidence in handling maladaptive behaviors. The study reported that parents' confidence in their ability to handle their child's maladaptive behaviors was directly related to the parents' confidence in another family member's understanding of their child's problems. The study went on to report that confidence is an important factor when training caregivers on how to deal

effectively with children with autism. The current training for caregivers of children with developmental disabilities was expected to give parents the opportunity to increase their confidence in teaching appropriate behaviors and coping with maladaptive behaviors, by practicing successful parenting behaviors and experiencing successful outcomes.

Waltz (2002) reported that parents often experience a burnout that is accompanied by feelings of hopelessness, anger, resentment, and physical illness. She noted that respite care services can be available at no or low cost through community agencies. The parent training in this present study was made available to parents and also to local respite workers for children with autism. This training was expected to help increase the ability of parents and respite workers to successfully teach appropriate behaviors and cope with maladaptive behaviors.

Cowen and Reed (2002) conducted a study on parenting stress levels in families of developmentally disabled children who receive respite care services in a rural Midwestern state. The participants were 148 self-referred families and their 265 developmentally disabled children who received respite care services from rural community agencies. During this study parents were given a break from the stress of caring for their child. Children were provided with a safe environment in which they could interact and explore. A variety of child-oriented interventions were implemented including socialization activities and activities to improve self-esteem and self-confidence. Parents were asked to complete a Parent Information Form, which identified socio-demographic and health characteristics of the parent and developmentally disabled child. Parents were also asked to complete pre and post Parenting Stress Index (PSI)

questionnaires, which consists of 101 items that measured the amount of stress parents experienced as the role of parent. The PSI was designed to identify dynamics within the family system, which could lead to dysfunctional parenting behaviors or child behavior problems. The PSI also contained subscales that associate stress with the child's specific characteristics, the parent's characteristics, and stressful life events. The study found that, out of the 87 parents who completed pretest and posttest PSI questionnaires, the mean Total Stress Scores for both indicated that the parents were at high risk for developing dysfunctional parenting behaviors. However, there was a significant decrease in the Total Stress Score at posttest after providing respite care interventions, which gave parents a release from stresses directly related to parenting a child with a developmental disability. Statistical results of this study indicated that parenting stress significantly decreased when respite care interventions were provided. This decrease in stress resulted in a decreased risk for the development of dysfunctional parenting behaviors. The study indicated that respite care services are an appropriate and effective intervention to decrease stress in parenting a child with a developmental disability. Participants of the current study included respite care staff who might benefit from learning effective teaching strategies which may result in a decrease in both parent and respite worker stress levels. The current study also allowed parents to learn ABA based teaching strategies that might prevent them from developing dysfunctional parenting behaviors due to the high amounts of stress involved in parenting a child with a developmental disability.

### Parent Training

Briesmeister and Schaefer (1998) in Chapter 9 of their *Handbook of Parent Training* discussed parent training for families of children with developmental disabilities. The authors pointed out that within the field of behavior modification, which emerged in the late 1960's, it was shown that individuals with developmental disabilities were responsive to treatments based primarily on the principles of operant conditioning. These treatments often consisted of teaching parents to use ABA techniques such as reinforcement and shaping. Briesmeister and Schaefer explained that in many parent-training programs, strategies are based upon the principles of applied behavior analysis. The authors go on to state that the use of behavioral strategies have placed an emphasis on the role of parents as teachers of behavior change. The training in the current study also focused on caregivers as the role of teacher when implementing the variety of teaching strategies focused on during the training. The particular teaching strategies are also based on principles of behavior modification and applied behavior analysis.

## RESEARCH HYPOTHESES

The researcher expected to find that the caregiver training in applied behavior analysis strategies would increase caregivers' general perceived self-efficacy, increase their self-efficacy for teaching appropriate behaviors and coping with maladaptive behaviors, and decrease their perceived stress in teaching appropriate behaviors and coping with maladaptive behaviors. The researcher also expected that the caregiver training would facilitate an increase in the caregivers' use of positive reinforcement and clear instructions, and also an increase in the children's appropriate behaviors and a decrease in their maladaptive behavior. Therefore, several specific hypotheses were addressed in this study.

1. The caregivers' general perceived self-efficacy at posttest will be significantly higher than their pretest general self-efficacy.
2. The caregivers' perceived self-efficacy for teaching appropriate behaviors at posttest will be significantly higher than their pretest self-efficacy for teaching appropriate behaviors.
3. The caregivers' perceived self-efficacy for coping with maladaptive behaviors at posttest will be significantly higher than their pretest self-efficacy for coping with maladaptive behaviors.
4. The caregivers' stress levels for teaching appropriate behaviors at posttest will be significantly lower than their pretest stress levels for teaching appropriate behaviors.

5. The caregivers' stress levels for coping with maladaptive behaviors at posttest will be significantly lower than the pretest stress levels for coping with maladaptive behaviors.
6. Caregivers will show an increase in the ratio of positive reinforcement to negative feedback or demands during caregiver training compared to pretraining baseline.
7. Caregivers will show an increase in the frequency of use of clear instructions during caregiver training compared to pretraining baseline.
8. Children will show an increase in appropriate behaviors during caregiver training compared to pretraining baseline.
9. Children will show a decrease in maladaptive behaviors during caregiver training compared to pretraining baseline.

## METHOD

### Participants

Participants in this study were adult caregivers of children with developmental disabilities in the local area of Humboldt County, California. The caregivers included parents of children diagnosed with autism and other developmental disabilities and behavioral respite care staff. There was space available for 25 caregivers of children with developmental disabilities to participate in the training. Institutional Review Board approval to conduct the research was received on March 9, 2004, with the approval number of 04-54. Eight caregivers of children with developmental disabilities participated in the training, and seven of these served as participants in this study. Three parents of children with autism and one parent of a child diagnosed with attention deficit/hyperactivity disorder participated in the study. Three behavioral respite staff working with children diagnosed with autism also participated in this study. Space was also available for five of the training participants to participate in single-subject research. The single-subject research focused on observing the caregiver interacting with their child, and implementing the strategies used in the parent training. The videotaping allowed the researcher to see if there was an increase in the caregiver's use of ABA strategies, and also to see if there was an increase in appropriate behaviors and decrease in maladaptive behaviors of the child over time. The researcher had no direct contact with the child. The single-subject research focused on videotaping the caregiver interacting

with the child and implementing the use of the ABA strategies used in the parent training. One parent of a child diagnosed with autism and one behavioral respite staff member working with a child with autism participated in the single-subject portion of the research.

### Measures

Participants were asked to complete a general self-efficacy measure (Shrauger and Schohn, 1995; see Appendix A). The measures used in this study also included short-form survey measures that were shortened based on the recommendations received from the previous study by Ewen (2003). These measures were shortened and refined by Ewen and the researcher. Thus, participants completed a short-form self-efficacy measure for teaching appropriate behaviors (see Appendix B) and coping with maladaptive behaviors (see Appendix C) and perceived stress measure for teaching appropriate behaviors (see Appendix D) and coping with maladaptive behaviors (see Appendix E). These short-form measures were in the form of a self-report questionnaire relating to specific self-efficacy as reported through their confidence and a self-report questionnaire relating to perceived stress. Both of the measures related to various situations for teaching appropriate behaviors and coping with maladaptive behaviors of a developmentally disabled child.

The questionnaire items were presented in the form of a 5-point Likert scale, to include ratings from Not at all Confident to Completely Confident and from Not at all Stressed to Completely Stressed. These measures were administered before and after the parent training. The measures were presented to the participants in a counterbalanced

fashion between self-efficacy and perceived stress, as well as between teaching appropriate behaviors and coping with maladaptive behaviors. In addition to the use of the self-report survey for rating confidence and stress in teaching appropriate behaviors and coping with maladaptive behaviors, single-subject measures were used to assess the behavioral skills acquired through the training process.

The study also involved the researcher videotaping sessions of interaction between caregivers and their child. Two research assistants then independently observed these taped sessions and tallied the frequency of the caregivers' use of clear instructions, positive reinforcement, demands, and negative feedback, and the frequency of the child's maladaptive and appropriate target behaviors. The researcher conducted the videotaping in the environment in which the caregiver naturally interacts with the child. The researcher did not interact directly with the child. A videotaping consent form was included in the materials presented to the caregivers at the pre-training meeting.

### Materials

The materials used in this study included the short-form self-report survey measures based on the recommendations received in the previous study, frequency recording sheets (see Appendix F), and the actual "Quick Tips" training intervention materials (Behavior Analysts, Inc., 2001; see Appendix G). The frequency recording sheets were used to record the frequency of caregivers' use of positive reinforcement in comparison to negative feedback or demands, the use of clear instructions, and the frequency of the child's maladaptive and appropriate target behaviors. Videotaping

sessions of interaction between caregivers and their child were also used as part of the training materials. All participants were asked to complete the Videotape Permission and Confidentiality Agreement form (see Appendix H). Participants were asked to complete a Demographic Information form (see Appendix I). A certificate of training completion was given to each participant following the completion of the training. Participants were also given a copy of the "Quick Tips" training manual (Behavior Analysts, Inc, 2001). Parents of those children with caregivers involved in single subject research were provided with a parental consent form (see Appendix J). Participants of the training also filled out a training course evaluation at the last session of the training (see Appendix K).

#### Procedure

Participants were notified of the training through flyers which were posted at the Redwood Coast Regional Center, the Humboldt Child Care Council, and the Humboldt Community Access and Referral Center, and distributed by consultants in the local area (see Appendix L). Participants were given a letter of informed consent, which included information on participation in the study (see Appendix M).

The training sessions occurred one time per week for five weeks, with each session lasting three hours. Participants were required to spend additional time on homework activities assigned during the training process. The "Quick Tips" Training Flyer gave each participant a detailed description of the training process (see Appendix L). The training took place at the Redwood Coast Regional Center, located at 525 2<sup>nd</sup> Street, Suite 300 in Eureka, California. The individual who conducted the training is a

local Board Certified Behavior Analyst, extensively trained in the area of applied behavior analysis, and a participant in the creation of the Behavior Analysts, Inc. "Quick Tips" (2001). The first hour of the first session of the training was designated as the pre-training period. In this pre-training period participants were asked to fill out the informed consent, videotape consent, parental consent form, and demographic information forms. In this pre-training period, participants also filled out the self-report measures for general perceived self-efficacy, self-efficacy for teaching appropriate behaviors and coping with maladaptive behaviors, and perceived stress levels for teaching appropriate behaviors and coping with maladaptive behaviors.

During the training the parents engaged in a variety of activities related to the teaching strategies outlined in the "Quick Tips" training manual (Behavior Analysts, Inc, 2001). These activities included discussing training content in groups, completing group exercises, viewing and discussing relevant videos, and discussing relevant cases and experiences with developmentally disabled children.

On the last session of the training the participants completed posttest measures for general perceived self-efficacy, self-efficacy for teaching appropriate behaviors and coping with maladaptive behaviors, and perceived stress levels for teaching appropriate behaviors and coping with maladaptive behaviors.

The two participants involved in the single-subject research were videotaped once a week in their home for a total of five weeks. The videotaping sessions each lasted 20 minutes. The researcher conducted the videotaping in the environment in which the caregiver naturally interacts with the child. The researcher did not interact directly with

the child. Two research assistants then independently observed these taped sessions and used a coding procedure to analyze caregiver skill acquisition and child behaviors. The research assistants were blind or uninformed about the hypotheses, and the tape sequence was shuffled for viewing. The research assistants recorded the frequency of the caregivers' use of clear instructions, positive reinforcement, demands, and negative feedback, and the frequency of the child's maladaptive and appropriate target behaviors. All videotapes were viewed in a private viewing area to ensure confidentiality.

The two adult participants in the single subject research each identified two target child behaviors. The two target behaviors included an appropriate behavior that they could teach the child and a maladaptive behavior exhibited by the child. The appropriate and maladaptive behaviors were operationally defined to ensure reliability during the coding process. The first participant chose the self-help skill of toileting as the appropriate behavior and noncompliance as the maladaptive behavior. The toileting behavior chosen by this participant was never observed on tape due to the parents' request to engage in teaching this behavior in a private setting without videotaping equipment. Toileting was never recorded during any session and therefore was not operationally defined for the coding process. Noncompliance was defined as the child's passively ignoring a request to perform a task (e.g., looking in the other direction or leaving the general area where the request was made). The second participant chose spontaneous requesting as an appropriate behavior and vocal outburst as a maladaptive behavior. Spontaneous requesting was defined as verbally requesting items or activities without being asked or prompted to do so (e.g., "go outside", "teddy bear"). Outburst

was defined as vocal, nonverbal crying out, yelling, or squealing (e.g., "uh, uh, uh", "eeeeee", "waaaa").

Two research assistants were given copies of each of the operationally defined behaviors for each participant. They were given a small training to ensure their understanding of each definition. The research assistants also received frequency tally sheets for each participant (see Appendix N). The two observers then observed the videotapes and independently tallied the behaviors. Interobserver reliability was calculated for each behavior within each session to ensure accuracy in the coding process, by dividing the number of agreeing tallies by the number of total tallies and multiplying by 100, to obtain percent of agreement.

#### Potential Benefits, Risks, and Management of Risks

The potential benefits of participation in this study included contribution to knowledge about applied behavior analysis and parent training research by examining the effectiveness of a parent training program based on applied behavior analysis techniques, including positive reinforcement, pairing, prompting, and fading. Published literature on parent training states that current research is somewhat limited in data reporting specific caregiver behavior changes that lead to child behavior changes. This study, through parent surveys and observing videotaped sessions between the caregiver and child, allowed the researcher to collect data on both parent and child behavior changes, resulting in a benefit to current published literature concerning parent training. This study's potential benefits also included decreasing caregiver stress and increasing

caregiver self-efficacy for teaching appropriate behaviors and coping with maladaptive behaviors. Benefits of this study also included parents' and caregivers' ability to engage in conversation with other individuals working with children with developmental disabilities. Parents and caregivers were able to identify with other participants and offer support to one another. Parents and caregivers also received training in the area of applied behavior analysis, which enabled them to use effective teaching strategies that they reported on during the training process. Parents and caregivers also received input on the type of teaching strategies that would work best with their child. Parents and caregivers reported their success with these specific teaching strategies, including discrete trial, instructional control, and use of positive reinforcement.

The potential risks that were considered at the beginning of this study included the issue of confidentiality in both the survey measures and single-subject research. There might be a possibility of recognizing individuals by their demographics. The study also might have found no increase in self-efficacy levels or decrease in stress levels, causing frustration in the participants involved in the study. The training also may have caused a disruption in the daily lives of participants. They would be required to attend training sessions and might need to search out appropriate childcare while they were in the sessions. Caregivers would also be implementing new strategies learned in the parent training. Implementing these new strategies might cause changes in the child's normal routine and interaction with their caregiver.

Management of the risks related to participation in this study were addressed through an informed consent form outlining the participants' involvement in this study

and their right to withdraw from the study at any time. Each caregiver involved in the study was assigned a number prior to data collection and videotaping to ensure confidentiality over time. Each participant's measures including videotapes were kept in the proper locked filing cabinet required when storing data. This locked file cabinet is located at Humboldt State University.

Parents and caregivers showed overall enjoyment and appreciation for the time spent at the training. No disruptions or problems due to change in routine were reported during the training process. All parents were able to find childcare during the training sessions. The participants were debriefed on findings related to this study. During the training caregivers were informed of homework exercises and self-evaluations. All questions and concerns related to these topics associated with the parent training were addressed. Participants were given additional contact information in case they had any questions or concerns not addressed during the training.

## RESULTS

### Demographic Information

The following demographic information was collected for the seven participants at the beginning of the training. Four of the participants had provided care for a child with a developmental disability for more than five years, one participant had provided care for a child with developmental disability for three to five years, two participants had provided care for a child with developmental disability for one to three years, and one participant had provided care for a child with developmental disability for six months to one year. Five of the participants had previous training in applied behavior analysis strategies, while two of the participants had no previous training in applied behavior analysis. All seven participants had taken classes in child development or education, and three participants had also taken classes in behavior analysis or learning. Six of the caregivers were female and one caregiver was male. Four of the participants were parents of the child with a developmental disability and three of the participants were behavior respite workers caring for a developmentally disabled child. Five of the participants provided 15 or more hours per week of care for a child with a developmental disability, while two participants provided 9 to 12 hours per week of care for a child with a developmental disability. The seven developmentally disabled children were all boys, with ages of four, six, seven, ten, eleven, and seventeen. Six of the children were diagnosed with autism, and one child was diagnosed with attention deficit/hyperactivity disorder.

### Changes in Self-Efficacy, Confidence, and Stress

For scoring the General Self-Efficacy measures, Items 1, 2, 6, and 7 were reverse-coded and then item codes were summed. For scoring the confidence and stress measures, the responses on the seven scale items were summed and then divided by seven, to yield a score that is the average of the item ratings on the 1-5 Likert scale. Each of the five self-efficacy, confidence, and stress measures for caregivers of children with developmental disabilities were then analyzed with repeated-measures analysis of variance to compare pretest and posttest measures in order to test for significant changes over time.

The means, standard deviations, and change scores for these measures are shown in Table 1. The participants showed a significant increase in general self-efficacy from pretest ( $M = 16.64, SD = 5.89$ ) to posttest ( $M = 20.93, SD = 4.40$ ),  $F(1,6) = 11.790, p < .01, \eta^2 = .663$  (see Figures 1 and 2). The participants showed a significant increase in reported confidence for coping with maladaptive behaviors from pretest ( $M = 3.13, SD = 1.29$ ) to posttest ( $M = 3.70, SD = 1.43$ ),  $F(1,6) = 8.842, p < .05, \eta^2 = .596$  (see Figures 3 and 4). Participants showed a significant increase in reported confidence for teaching appropriate behaviors from pretest ( $M = 3.07, SD = 1.11$ ) to posttest ( $M = 3.78, SD = 1.38$ ),  $F(1,6) = 17.229, p < .01, \eta^2 = .742$  (see Figures 5 and 6). The participants showed a decrease in reported stress for coping with maladaptive behaviors from pretest ( $M = 3.26, SD = 1.32$ ) to posttest ( $M = 2.54, SD = 1.38$ ), but this decrease was not statistically significant,  $F(1,6) = 3.860, p > .05, \eta^2 = .391$  (see Figures 7 and 8). The participants

also showed a significant decrease in reported stress for teaching appropriate behaviors from pretest ( $M = 2.40, SD = 1.12$ ) to posttest ( $M = 1.83, SD = 1.03$ ),  $F(1,6) = 7.304, p < .05, \eta^2 = .549$  (see Figures 9 and 10).

Four of the specific items also showed statistically significant changes, as shown in Table 2. Participants showed a significant increase in their reported confidence for teaching personal safety from pretest ( $M = 2.57, SD = 1.51$ ) to posttest ( $M = 3.71, SD = 1.25$ ),  $F(1,6) = 8.000, p < .05, \eta^2 = .571$ . Participants showed a significant increase in their confidence for teaching self-help skills from pretest ( $M = 3.14, SD = 1.35$ ) to posttest ( $M = 3.71, SD = 1.38$ ),  $F(1,6) = 8.000, p < .05, \eta^2 = .571$ . Participants showed a significant increase in confidence for teaching personal boundaries from pretest ( $M = 3.00, SD = 1.41$ ) to posttest ( $M = 3.71, SD = 1.60$ ),  $F(1,6) = 15.000, p < .01, \eta^2 = .714$ . The participants also showed a significant decrease in stress for teaching communication skills from pretest ( $M = 2.57, SD = 1.27$ ) to posttest ( $M = 1.50, SD = 0.87$ ),  $F(1,6) = 9.247, p < .05, \eta^2 = .606$ .

Pearson correlations among the measures' change scores were examined. There was a significant, negative correlation between the change scores for participants' confidence in coping with maladaptive behaviors and their stress in coping with maladaptive behaviors,  $r(5) = -.869, p < .05$ . This correlation indicates that greater increases in confidence are associated with greater decreases in stress for coping with maladaptive behaviors.

Table 1. Mean Pretest, Posttest, and Change Scores for Each Measure, with Standard Deviations in Parentheses

Measure	Pretest	Posttest	Change
General Self-Efficacy Scale	16.64 (5.89)	20.93 (4.40)	+ 4.29 *
Confidence in Coping with Maladaptive Behaviors	3.13 (1.29)	3.70 (1.43)	+ 0.57 *
Confidence in Teaching Appropriate Behaviors	3.07 (1.11)	3.78 (1.38)	+ 0.71 **
Stress in Coping with Maladaptive Behaviors	3.26 (1.32)	2.54 (1.38)	- 0.72
Stress in Teaching Appropriate Behaviors	2.40 (1.12)	1.83 (1.03)	-0.57 *

\* Significant change at  $p < .05$

\*\* Significant change at  $p < .01$

Table 2. Mean Pretest, Posttest, and Change Scores for Specific Items that Show Significant Change, with Standard Deviations in Parentheses

	Pretest	Posttest	Change
Confidence in Teaching Personal Safety	2.57 (1.51)	3.71 (1.25)	+ 1.14 * (1.07)
Confidence in Teaching Self-Help Skills	3.14 (1.35)	3.71 (1.38)	+ 0.57 * (0.54)
Confidence in Teaching Personal Boundaries	3.00 (1.41)	3.71 (1.60)	+ 0.71 * (0.49)
Stress in Teaching Communication Skills	2.57 (1.27)	1.50 (0.87)	- 1.07 * (0.93)

\* Significant change at  $p < .05$

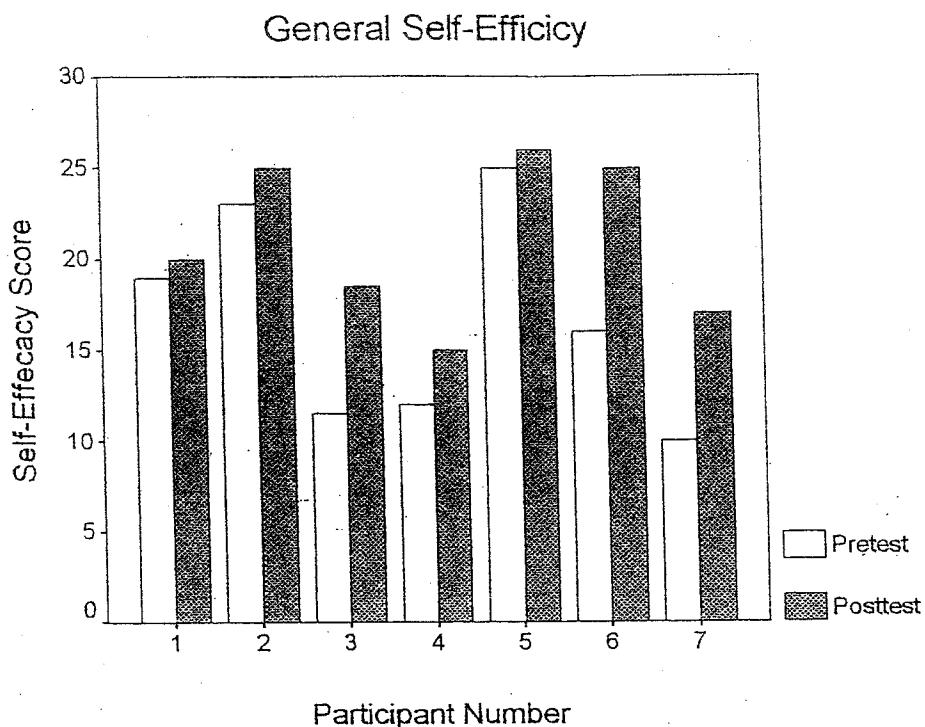


Figure 1. Individual participant scores for General Self-Efficacy at pretest and posttest.

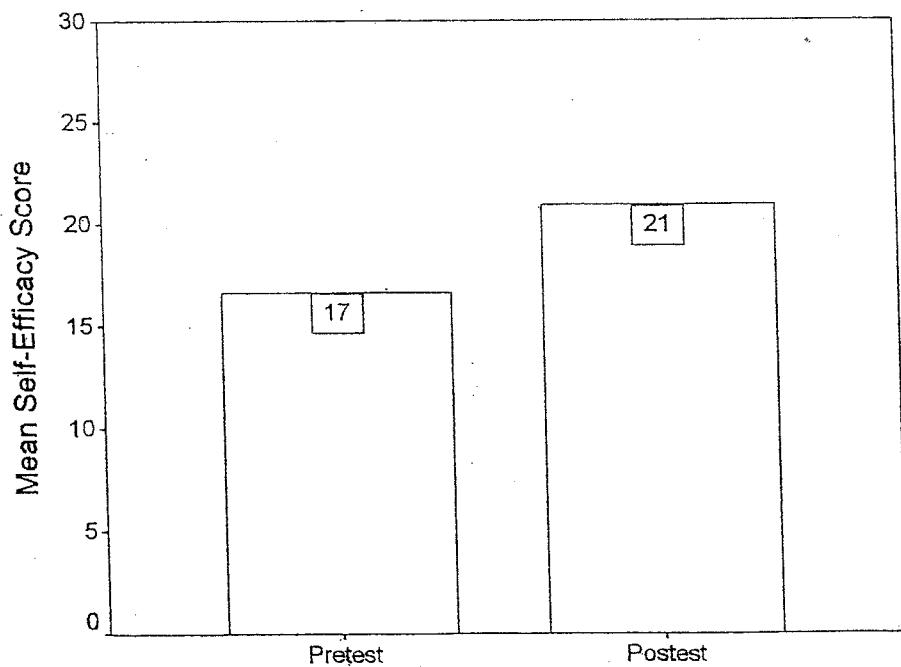


Figure 2. Mean General Self-Efficacy at pretest and posttest, showing a significant increase at  $p < .01$ .

### Confidence in Coping with Maladaptive Behaviors

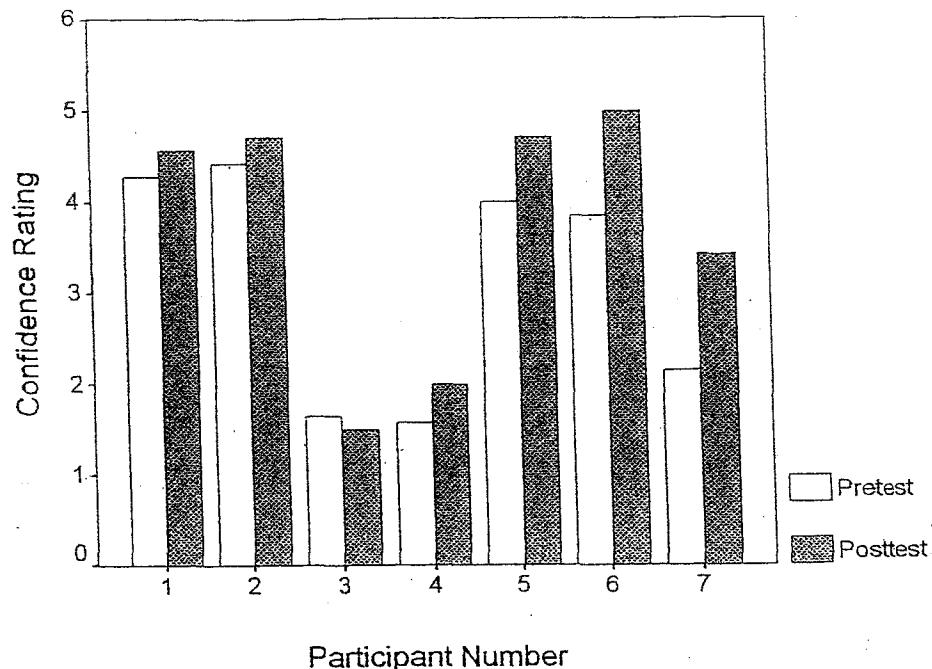


Figure 3. Individual participant scores for Confidence in Coping with Maladaptive Behaviors at pretest and posttest.

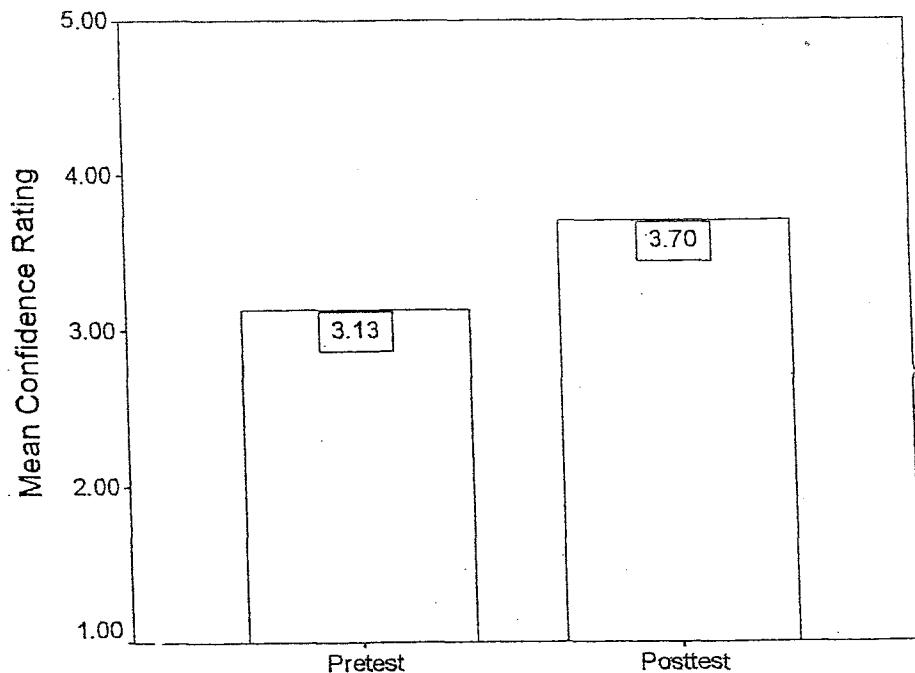


Figure 4. Mean Confidence in Coping with Maladaptive Behaviors at pretest and posttest, showing a significant increase at  $p < .05$ .

## Confidence in Teaching Appropriate Behaviors

40

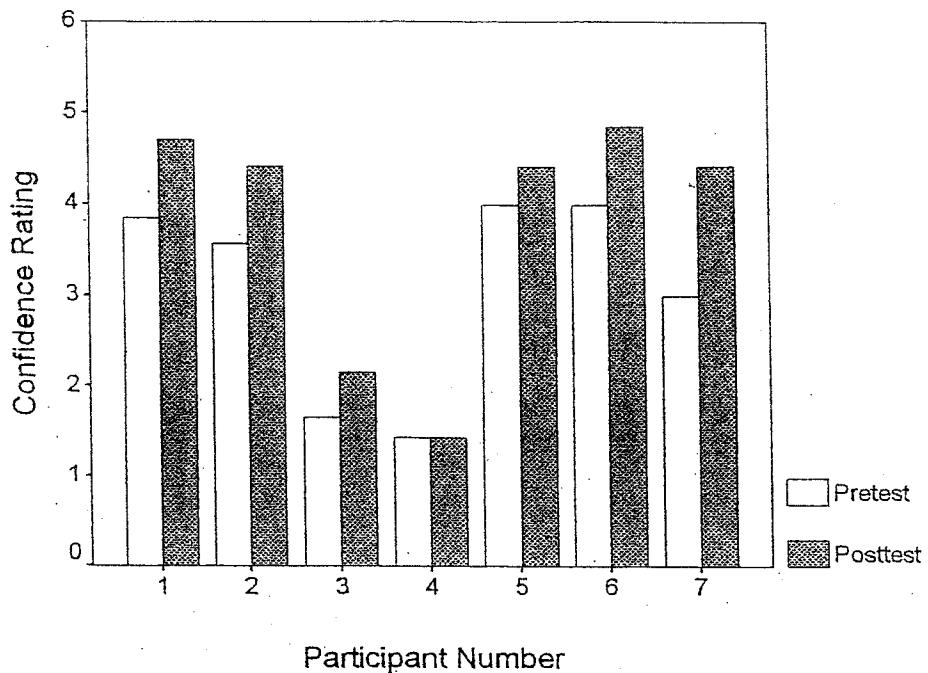


Figure 5. Individual participant scores for Confidence in Teaching Appropriate Behaviors at pretest and posttest.

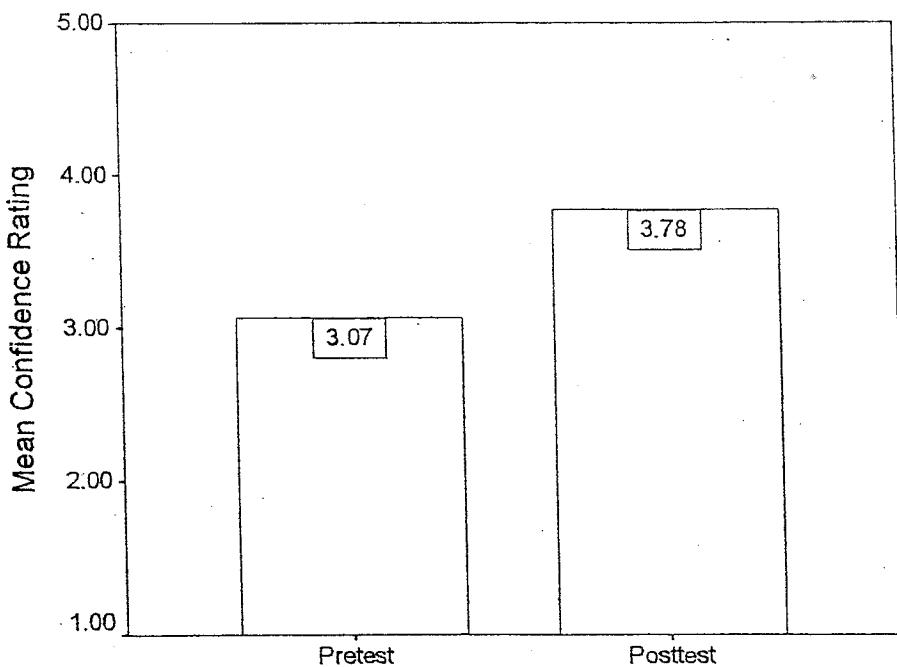


Figure 6. Mean Confidence in Teaching Appropriate Behaviors at pretest and posttest, showing a significant increase at  $p < .01$ .

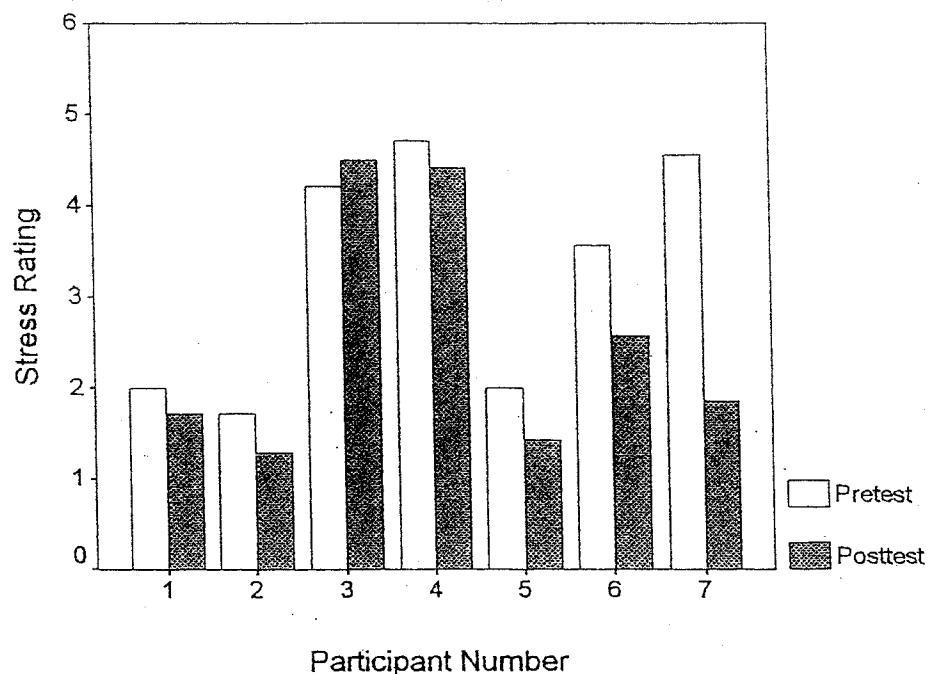


Figure 7. Individual participant scores for Stress in Coping with Maladaptive Behaviors

at pretest and posttest.

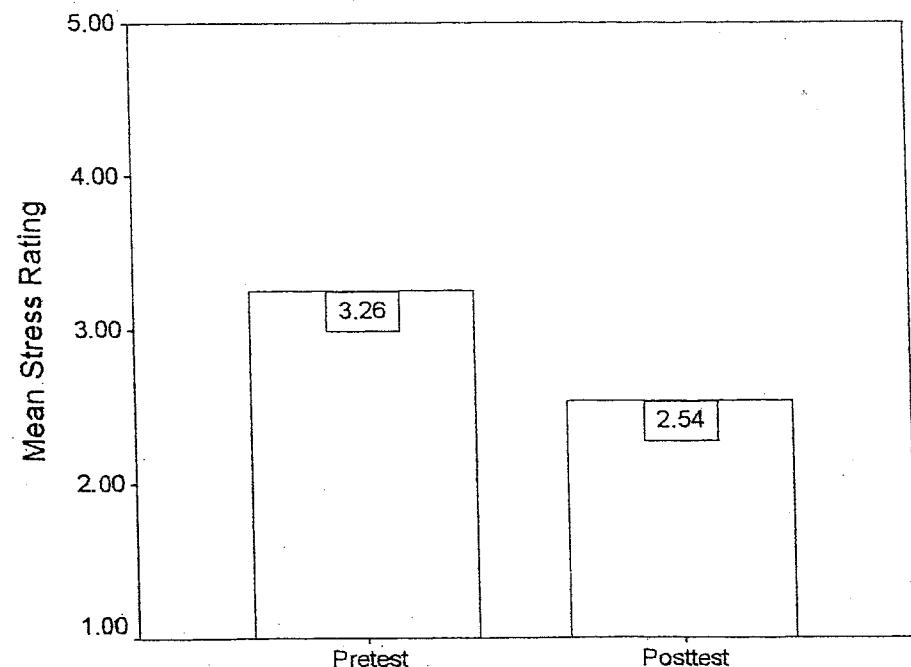


Figure 8. Mean Stress in Coping with Maladaptive Behaviors at pretest and posttest,

showing a nonsignificant decrease at  $p > .05$ .

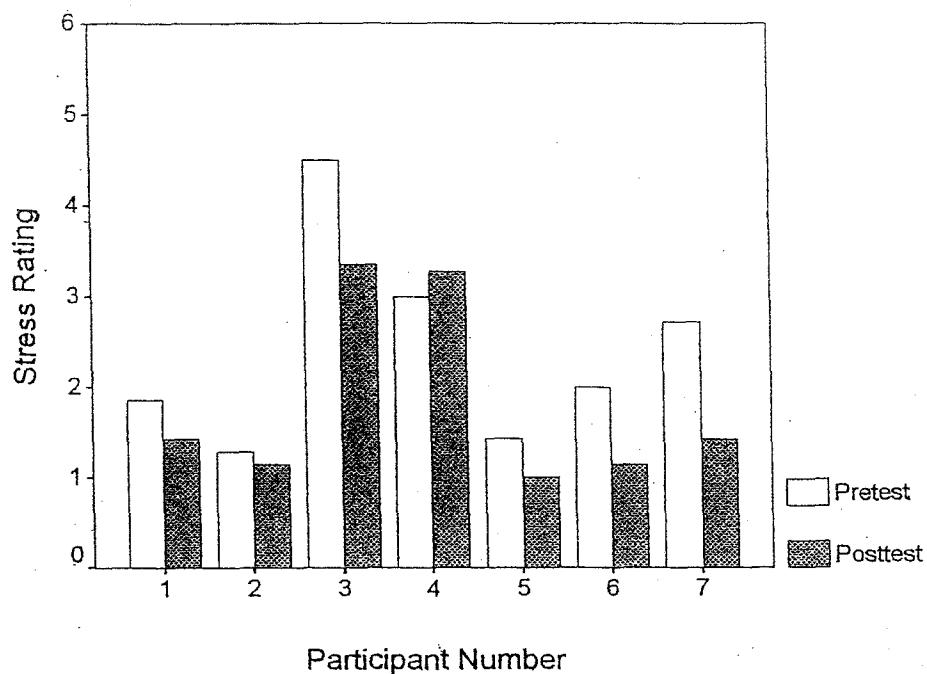


Figure 9. Individual participant scores for Stress in Teaching Appropriate Behaviors at pretest and posttest.

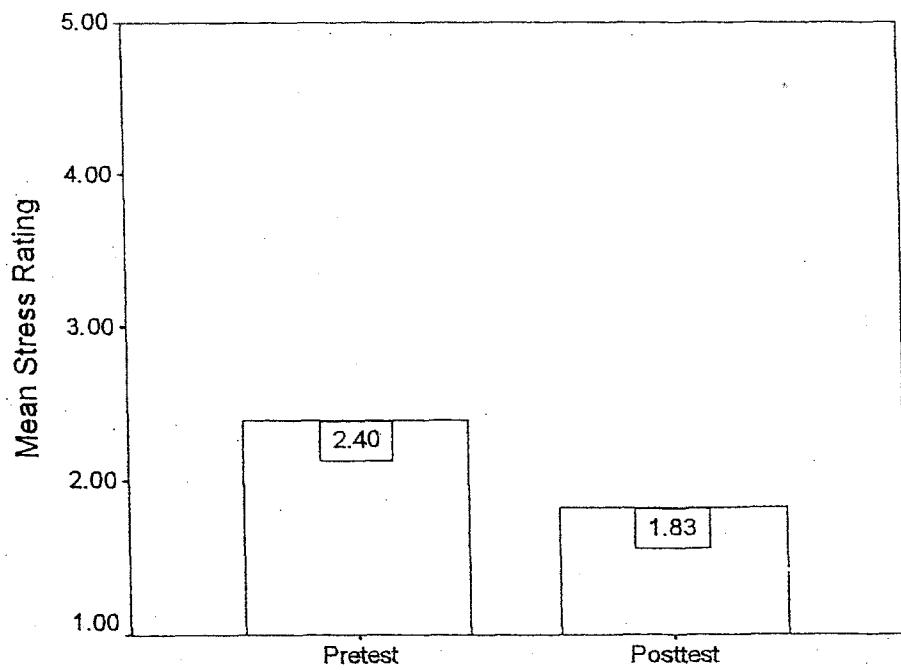


Figure 10. Mean Stress in Teaching Appropriate Behaviors at pretest and posttest, showing a significant decrease at  $p < .05$ .

### Single-Subject Behavioral Observations

Interobserver reliability was calculated for each behavior to ensure accuracy in the coding process, by dividing the number of agreeing tallies by the number of total tallies and multiplying by 100, to obtain percent of agreement. Interobserver reliability was above 91% for all of the behaviors and sessions, except for one that was 80% (see Tables 3-5). The set of behavioral data collected in the single-subject research was individually graphed over time to look for changes in levels between baseline and intervention.

Participant 1 focused on a process called pairing in which the adult pairs herself with reinforcing items and activities to build rapport and a positive relationship with their child. Participant 1 implemented the pairing process in Sessions 2-5. Consistent with the caregiver's use of pairing, the frequency of demands and negative feedback were at zero during Sessions 2, 3, 4, and 5. Participant 1 showed an increase in the percent of positive reinforcement relative to positive reinforcement and negative feedback/demands combined, during the caregiver training when compared to pretraining baseline. At baseline, Session 1, the percent of positive reinforcement relative to positive reinforcement and negative feedback was 14% (see Figure 11). The ratio of positive reinforcement to negative feedback at baseline was 0.17 to 1. During the training phase, Sessions 2-5, the percent of positive reinforcement relative to positive reinforcement and negative feedback was 100% (see Figure 13). The ratio of positive reinforcement to negative feedback in the training phase was 32 to 0. Data did not indicate an increase in the frequency of use of clear instructions during caregiver training compared to

pretraining baseline. The child never exhibited the target self-help skill of toileting, during any of the videotaped sessions. Therefore, there was no data to indicate an increase in appropriate behaviors during caregiver training compared to pretraining baseline. The child showed a decrease in noncompliance during caregiver training compared to pretraining baseline (see Figure 15).

Participant 2 used a method called discrete trial instruction to teach specific skills during the five videotaped sessions. Because of caregiver's use of discrete trial instruction, the frequency of demands and negative feedback were analyzed separately. Participant 2 showed an increase in the percent of positive reinforcement to negative feedback during the caregiver training when compared to pretraining baseline. At observation Session 1, the percent of positive reinforcement, relative to positive reinforcement and negative feedback, was 67% (see Figure 14). The ratio of positive reinforcement to negative feedback in Session 1 was 2.09 to 1. In observation Sessions 2-5, the percent of positive reinforcement relative to positive reinforcement and negative feedback was 83% (see Figure 14). The ratio of positive reinforcement to negative feedback in Sessions 2-5 was 2.63 to 1. Data did not indicate an increase in the frequency of use of clear instructions during caregiver training compared to the first session. The child never exhibited the target of spontaneous requests during any of the videotaped sessions. Therefore, there was no data to indicate an increase in appropriate behaviors during caregiver training compared to pretraining baseline. The child showed a very low frequency of outbursts during videotaped sessions, one during baseline and

one during training. Therefore the data did not indicate a decrease in maladaptive behaviors during caregiver training compared to pretraining baseline (see Figure 16).

#### Training Course Evaluations

All participants completed a training course evaluation at the end of the last session of the five-week training. Five of the participants reported participating in the training because the subject was of interest, one participant reported the need to use it in life with her son, and one participant reported she had a son with autism. Participants were given questions on a Likert scale ranging from Absolutely Not (1) to Absolutely (5) to complete the training course evaluation (see Table 7). All of the participants' evaluation responses were either a 4 or 5 on the Likert scale. Participants also answered three self-report questions (see Table 8). The answer to these questions revealed that participants learned a variety of new things during the course of the training. Participants also gave some ideas for future trainings offered through the Redwood Coast Regional Center and suggestions on how to improve the training in general.

Table 3. Percent of interobserver agreement for Adult 1 behaviors over sessions.

(Session 1 was observed by only one observer and then the tape was accidentally recorded over.)

Adult Behavior	Session 1	Session 2	Session 3	Session 4	Session 5
Instructions	—	100%	100%	100%	100%
Demands	—	100%	100%	100%	100%
Negative Feedback	—	100 %	100%	100%	100%
Positive Reinforcement	—	92%	100%	100%	100%

Table 4. Percent of interobserver agreement for Adult 2 behaviors over sessions

Adult Behavior	Session 1	Session 2	Session 3	Session 4	Session 5
Instructions	100%	99%	99%	100%	99%
Demands	80%	100%	92%	96%	98%
Negative Feedback	100%	92 %	97%	100%	98%
Positive Reinforcement	100%	96%	98%	100%	99%

Table 5. Percent of interobserver agreement for Child 1 behaviors over sessions  
 (toileting was never recorded during videotaped sessions)

Child Behavior	Session 1	Session 2	Session 3	Session 4	Session 5
Noncompliance	—	91%	100%	100%	100%
Toileting	—	—	—	—	—

Table 6. Percent of interobserver agreement for Child 2 behaviors over sessions  
 (spontaneous requesting was never recorded during videotaped sessions)

Child Behavior	Session 1	Session 2	Session 3	Session 4	Session 5
Outburst	100%	100%	100%	100%	100%
Spontaneous Request	—	—	—	—	—

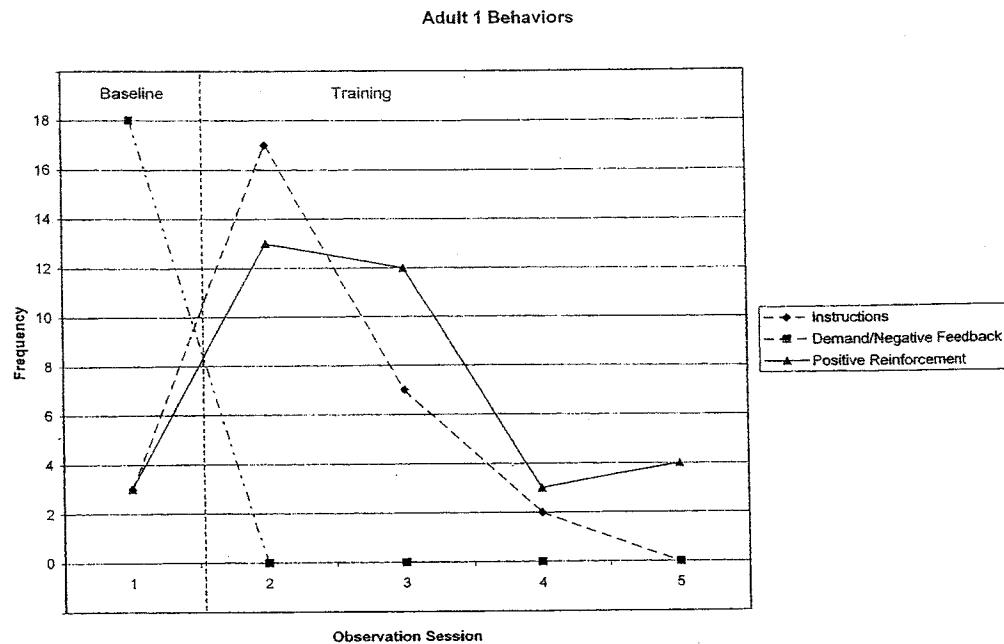


Figure 11. Frequency of observed instructions, demands, negative feedback, and positive reinforcement for Adult 1 over sessions.

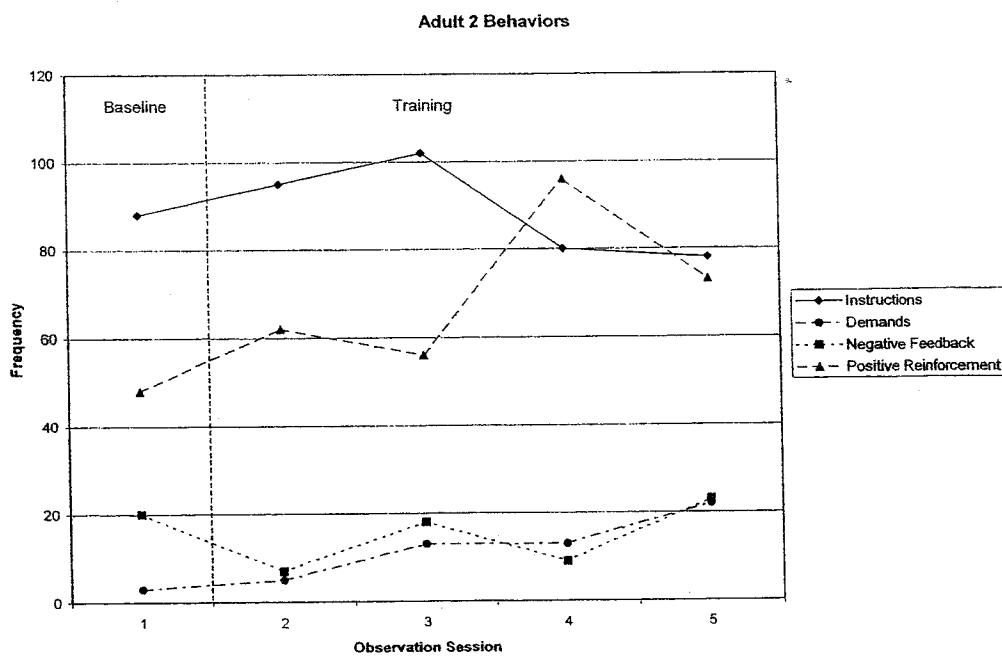


Figure 12. Frequency of observed instructions, demands, negative feedback, and positive reinforcement for Adult 2 over sessions.

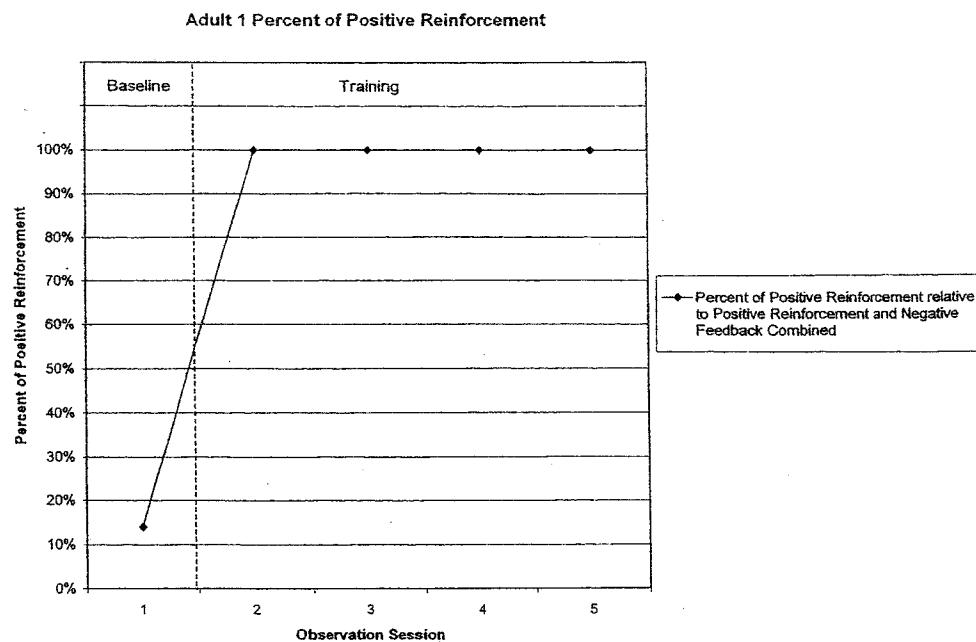


Figure 13. Percent of positive reinforcement relative to positive reinforcement and negative feedback combined for Adult 1 over sessions.

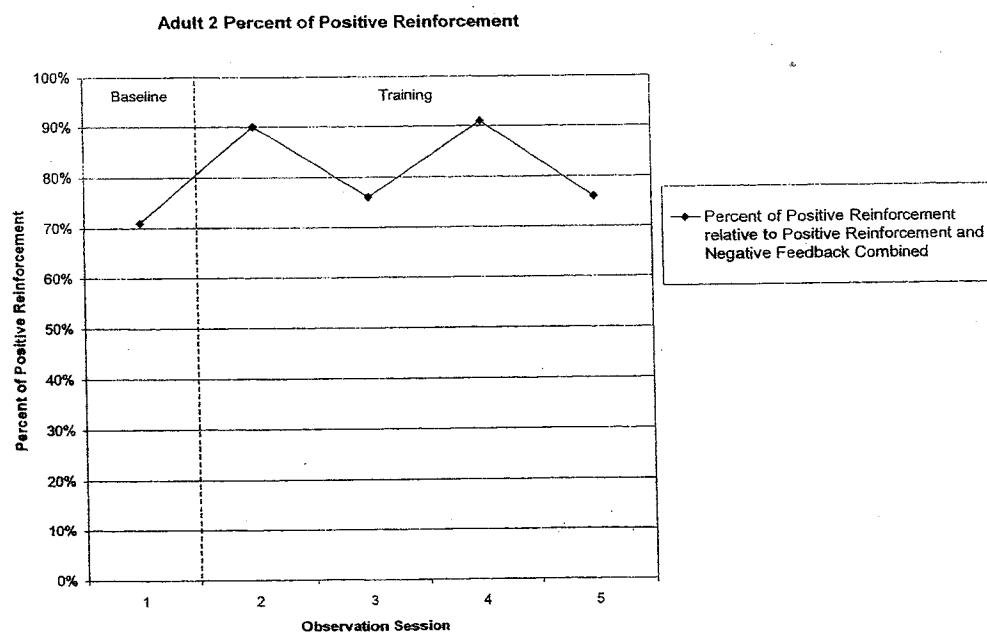


Figure 14. Percent of positive reinforcement relative to positive reinforcement and negative feedback combined for Adult 2 over sessions.

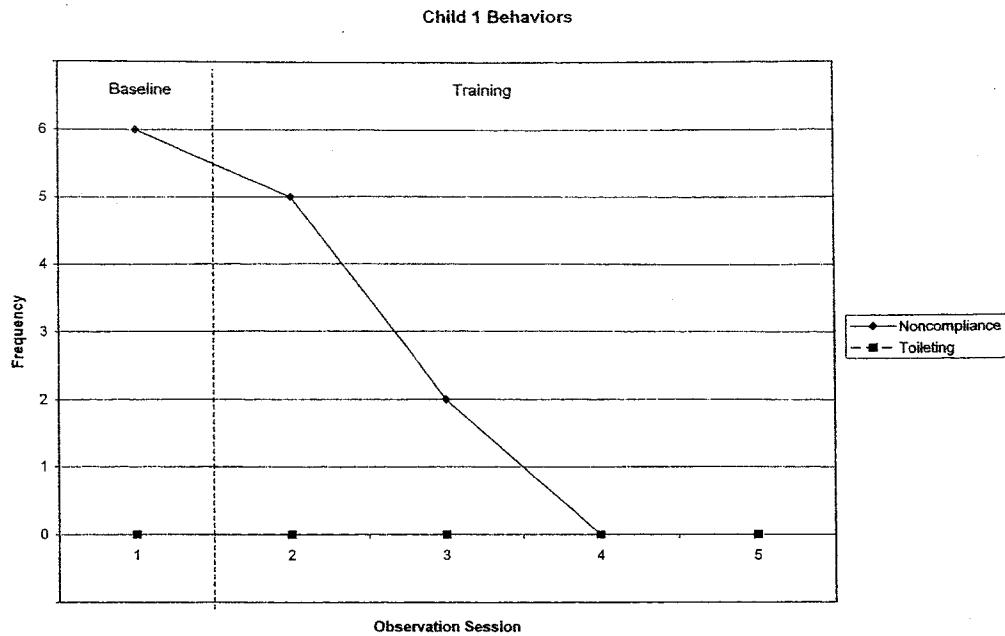


Figure 15. Frequency of observed noncompliance and toileting for Child 1 over sessions.

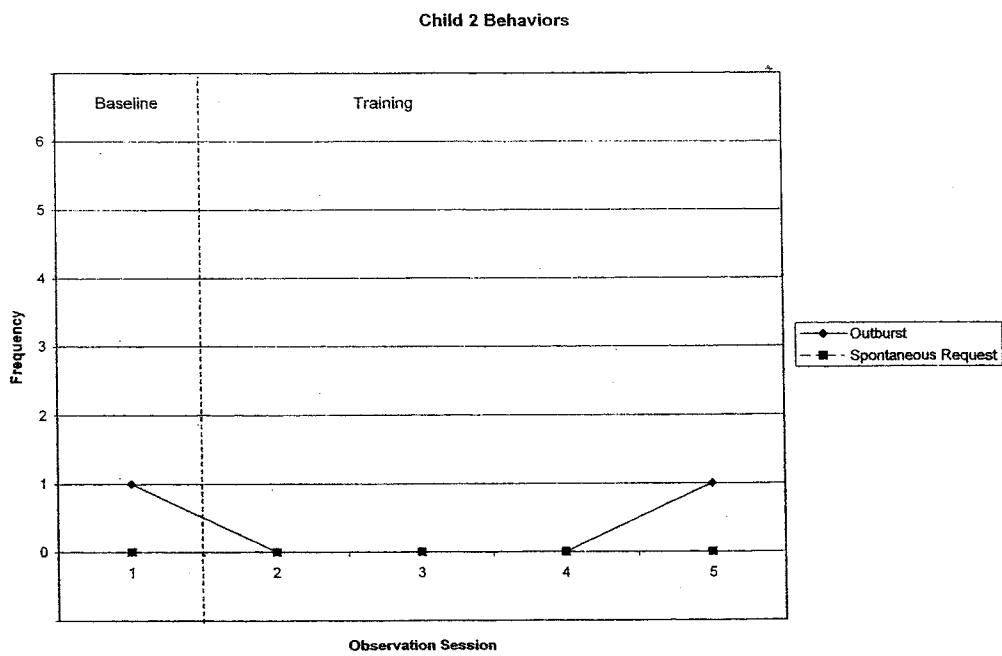


Figure 16. Frequency of observed outbursts and spontaneous requests for Child 2 over sessions.

Table 7. Summary of Participant Evaluations on a Likert Scale from 1 to 5, where 1 means Absolutely Not and 5 means Absolutely.

Question	Mean Rating	Standard Deviation	Response Range
1. Was the training consistent with its objectives and title?	5.00	(.00)	All 5
2. Was the training content and level appropriate to your experience and previous training?	4.86	(.38)	4 - 5
3. Did the training expand your knowledge in this topic?	4.71	(.49)	4 - 5
4. Was the training relevant to your current or future duties and activities?	5.00	(.00)	All 5
5. Were written handouts clear, helpful, and appropriate?	4.86	(.38)	4 - 5
6. Were role-plays, videos, discussion groups, or other exercises clear, helpful, and appropriate?	5.00	(.00)	All 5
7. Were you able to complete the homework exercises?	4.29	(.49)	4 - 5
8. Was the instructor able to engage and control the atmosphere of the group?	5.00	(.00)	All 5
9. Was the instructor knowledgeable in the subject matter?	5.00	(.00)	All 5
10. Was the training an appropriate length and appropriately paced for the content?	5.00	(.00)	All 5
11. Did taking this training benefit you?	4.86	(.38)	4 - 5
12. Did taking this training benefit the child you care for?	4.71	(.49)	4 - 5

Table 8. Evaluation Responses on Open-Ended Questions.

What was the most important thing you learned that (a) you did not know, or (b) now understand in greater depth?
<p>I think that it takes time to change undesirable behaviors, and that you need to use lots of reinforcement.</p> <p>I now understand discrete trials more.</p> <p>The value of fading prompts and establishing instructional control.</p> <p>To remember 4:1 and to have appropriate amount of time for correct responses before prompting.</p> <p>Ideas for rewards.</p> <p>That there is a way to make him become more drawn into what I'm doing with him. I can engage him. He does like me.</p> <p>How important pairing is and what it is.</p>
What other courses/trainings would you like to see RCRC offer?
<p>This again and everything.</p> <p>Working with your respite worker.</p> <p>Follow-up for this training - more info.</p> <p>Strategies for complex behaviors.</p>
If you could change one thing about this training presentation, what would it be?
<p>More info on how to deal with toileting issues (ie: poop smearing).</p> <p>I would make it geared more to people who have a background in the field.</p> <p>More group exercises.</p> <p>More hands on.</p> <p>Be able to attend all of it (school schedules for kids in the way).</p> <p>Nothing for the instructor, it was great!</p>

## DISCUSSION

The purpose of this study was to investigate the effectiveness of caregiver training in increasing self-efficacy and decreasing stress levels in caregivers of children with developmental disabilities. The study also looked at caregiver and child behavior changes. The participants showed a significant increase in general self-efficacy, confidence for coping with maladaptive behaviors, and confidence for teaching appropriate behaviors from pretest to posttest. The participants also showed a nonsignificant decrease in stress for coping with maladaptive behaviors and a significant decrease in stress for teaching appropriate behaviors from pretest to posttest. The participants also showed significant mean changes for four specific items from pretest to posttest. The participants showed a significant increase in their confidence for teaching personal safety, confidence for teaching self-help skills, and confidence for teaching personal boundaries from pretest to posttest. The participants also showed a significant decrease in stress for teaching communication skills from pretest to posttest.

The researcher also found a significant negative correlation between the change scores for participants' confidence in coping with maladaptive behaviors and their stress in coping with maladaptive behaviors. This correlation indicates that greater increases in confidence are associated with greater decreases in stress for coping with maladaptive behaviors.

### Conclusions About Hypothesis

The first hypothesis was that caregivers' general perceived self-efficacy at posttest would be significantly higher than their pretest general self-efficacy. Caregivers' general perceived self-efficacy at posttest was significantly higher than their pretest general self-efficacy.

The second hypothesis was that caregivers' perceived self-efficacy for teaching appropriate behaviors at posttest would be significantly higher than their pretest self-efficacy for teaching appropriate behaviors. Caregivers' perceived self-efficacy for teaching appropriate behaviors at posttest was significantly higher than their pretest self-efficacy for teaching appropriate behaviors.

The third hypothesis was that caregivers' perceived self-efficacy for coping with maladaptive behaviors at posttest would be significantly higher than their pretest self-efficacy for coping with maladaptive behaviors. Caregivers' perceived self-efficacy for coping with maladaptive behaviors at posttest was significantly higher than their pretest self-efficacy for coping with maladaptive behaviors.

The fourth hypothesis was that caregivers' stress levels for teaching appropriate behaviors at posttest would be significantly lower than their pretest stress levels for teaching appropriate behaviors. Caregiver's stress levels for teaching appropriate behaviors at posttest was significantly lower than their pretest stress levels for teaching appropriate behaviors.

The fifth hypothesis was that caregivers' stress levels for coping with maladaptive behaviors at posttest would be significantly lower than the pretest stress levels for coping with maladaptive behaviors. Caregivers' stress levels for coping with maladaptive behaviors at posttest were lower than the pretest stress levels for coping with maladaptive behaviors, but the difference was not statistically significant.

The sixth hypothesis was that caregivers would show an increase in the ratio of positive reinforcement to negative feedback or demands during caregiver training compared to pretraining baseline. Caregivers showed an increase in the ratio of positive reinforcement to negative feedback or demands during caregiver training compared to pretraining baseline.

The seventh hypothesis was that caregivers would show an increase in the frequency of the use of clear instructions during caregiver training compared to pretraining baseline. Caregivers showed no increase in the frequency of use of clear instructions during caregiver training compared to pretraining baseline.

The eighth hypothesis was that children would show an increase in appropriate behaviors during caregiver training compared to pretraining baseline. Due to the absence of these target behaviors during video recording, no increase could be observed in appropriate behaviors during caregiver training compared to pretraining baseline.

The ninth hypothesis was that children would show a decrease in maladaptive behaviors during caregiver training compared to pretraining baseline. One child showed a very low frequency of maladaptive behaviors both during caregiver training and

pretraining baseline. One child showed a decrease in maladaptive behaviors during caregiver training compared to pretraining baseline.

Participants reported very positive evaluation ratings of the course training and reported learning a variety of new skills during the training. The researcher is interested in obtaining follow-up measures on participants within one year of this study. All participants provided follow-up contact information, indicating interest in participating in follow-up evaluation.

#### Limitations of the Study

One limitation of this study included the use of self-report measures to measure the participants' general self-efficacy, confidence, and stress. Participant responses on the self-report measures may not be accurate due to a number of factors, including the presence of the researcher, testing room environment, and daily events which occurred prior to filling out measures such as stress level before arriving at the training.

Although participants were found to have an increase in general self-efficacy and confidence and a decrease in stress, the researcher cannot say for certain that it was caused by training sessions. Participants may have been exposed to a number of extraneous variables including increased social support or other daily events, which may have caused an increase in confidence and decrease in stress.

Another limitation to this study is the limited number of participants who participated in the training. Due to personal issues, at least four potential participants were unable to continue the training sessions. Although statistical significance was found

with the seven participants, an increased sample size would have better represented the population of caregivers in the community. A larger sample size might be available if caregivers of adults with developmental disabilities participated in the training sessions.

The different skill levels of participants was also a limitation to this study. The participants were parents and behavior respite staff who had various levels of previous training, consultation services, and experience in directly teaching appropriate behaviors and coping with maladaptive behaviors. Participants with similar levels of training, services, and experience would allow the training leader to focus on specific skill levels during the training sessions.

Another limitation involved the degree of accountability for completing homework exercises. Some of the participants completed homework assignments and some did not. In the future, the researcher may offer a visual reminder and points for those who have completed homework exercises, such as displaying a visual chart with point reinforcers to remind participants of the importance of completing the homework exercises.

The limitations in the single-subject research involved the different settings in which the video recording took place. Oftentimes the setting determined the frequency of a variety of behaviors. In the future the researcher may set up a specific room or place in the home that would promote a consistent environment where the caregiver could practice the teaching strategies learned during the training process. Another limitation involved the daily life events that occurred during this training such as occasional illness which affected the performance of the both caregiver and child.

### Future Research

Future research may include examining the effectiveness of an applied behavior analysis training program on general self-efficacy, confidence, stress, and behavioral skills of caregivers of children and also adults with developmental disabilities, using larger sample sizes, and more behavioral observations.

Also in the future it would be beneficial to have a closer match between the child target behaviors observed by the researcher and the behaviors that the caregiver is focusing on coping with or teaching during the observation sessions. Adult Participant 1 was focusing on pairing, in which the adult pairs or associates herself with reinforcing items and activities, in order to build rapport and a positive relationship with the child. The frequency data indicate that this adult was successfully carrying out pairing. The observational data in the training phase showed her use of positive reinforcement, along with zero negative feedback or demands. The child's target behavior of noncompliance decreased, but the researcher was unable to observe the target behavior of toileting due to caregiver's request to maintain privacy for that behavior. Adult Participant 2 was carrying out discrete trial instruction, which involves giving a discriminative stimulus or cue at the beginning of each trial. The cue was usually a simple instruction to the child. If the child responded correctly, she gave the child an immediate positive reinforcer. If the child did not respond correctly, she usually gave a simple "no" and then started a new trial. The observers coded her cues as either simple instructions or as demands. Her simple "no" responses were coded as negative feedback. The positive reinforcers given after each correct response were coded as positive reinforcement. Therefore the

observational data reflected her appropriate use of discrete trial instruction. The cues and "no" responses did not seem severe or aversive. The child was observed to learn a number of valuable skills over the sessions, including saying his name, spelling new words, and completing fine motor tasks. Spontaneous requests by the child were not observed on the videotapes, because the adult was focusing on teaching different skills rather than spontaneous requests during those times.

### Implications

The findings of this research support the value of applied behavior analysis based training programs for caregivers as a successful intervention for significantly increasing general self-efficacy, significantly increasing confidence for teaching appropriate behaviors and coping with maladaptive behaviors, and significantly decreasing stress for teaching appropriate behaviors. Further research may provide necessary information concerning the types of training that is successful in increasing confidence and reducing stress for caregivers.

This research also implies that caregiver confidence and stress can be altered by learning new strategies to teach appropriate behaviors and cope with maladaptive behaviors. This effect is very important in this field because numerous caregivers feel burnout, increased levels of stress, and decreased levels of confidence. This training may offer be an important solution to this continuing problem in this field.

This research also adds to the previous research conducted by Ewen (2003). Although the researcher was unable to achieve a large sample size, the results did show a

significant increase in general self-efficacy, confidence for teaching appropriate behaviors, and coping with maladaptive behaviors, and a significant decrease in stress for teaching appropriate behaviors. Participants also showed a significant increase in their confidence for teaching personal safety, teaching self-help skills, and teaching personal boundaries, and participants showed a significant decrease in stress for teaching communication skills. These statistically significant results may be partly due to the shorter form measures used in this study. These shorter form measures appeared to cause no participant frustration or stress, which occurred in a previous study.

This research also adds to the body of research published on caregiver training by looking at changes over time in caregiver and child behaviors. In future research caregivers may be observed in similar settings and observed for extended periods of time to allow an increase in appropriate behaviors and decrease in maladaptive behaviors as the caregivers implement a variety of teaching strategies over time.

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## **APPENDIX A**

### **GENERAL SELF EFFICACY**

Below are listed a few statements that reflect common feelings and attitudes. Try to respond honestly and accurately, but it is not necessary to spend much time deliberating about each item. Think about how the item applies to you during the last two months. Indicate your degree of agreement/disagreement with each statement as follows:

1 Strongly Disagree	2 Somewhat Disagree	3 Somewhat Agree	4 Strongly Agree
------------------------	------------------------	---------------------	---------------------

- 1. I often feel unsure of myself even in situations I have successfully dealt with in the past.
- 2. I lack some important capabilities that may keep me from being successful.
- 3. I have fewer doubts about my abilities than most people.
- 4. When things are going poorly, I am usually confident that I can successfully deal with them.
- 5. I have more confidence in myself than most people I know.
- 6. Much of the time I don't feel as competent as many of the people around me.
- 7. If I were more confident about myself, my life would be better.

If there are any comments you would like to include about any part of the survey, please feel free to write them:

Thank you for your participation!

## **APPENDIX B**

### **SELF-EFFICACY FOR TEACHING APPROPRIATE BEHAVIORS**

Please indicate how **Confident** you feel as of right now, that you would be able to do each of the following with the child you care for by circling the number that corresponds with your feelings

	Not at all confident	Slightly Confident	Moderately Confident	Mostly Confident	Completely Confident
1. Teach the child <b>personal safety</b> (e.g., street safety, safety of child and others, stranger awareness)	1	2	3	4	5
2. Teach the child <b>play skills</b> (e.g., toy manipulation, peer imitation, turn-taking)	1	2	3	4	5
3. Teach the child <b>communication skills</b> (e.g., respond to questions, communicate wants and needs, follow instructions)	1	2	3	4	5
4. Teach the child <b>self-help skills</b> (e.g., use toilet independently, get ready for school, ready for bed)	1	2	3	4	5
5. Teach the child <b>personal boundaries</b> (e.g., personal space, gentle touch, appropriate touch)	1	2	3	4	5
6. Teach the child to <b>follow instructions</b> (e.g., sit at desk, wash hands, put away toys)	1	2	3	4	5
7. Teach the child to <b>generalize skills</b> (e.g., follow instructions in several environments, from several instructors, with instructions presented in a variety of ways)	1	2	3	4	5

## **APPENDIX C**

### **SELF-EFFICACY FOR COPING WITH MALADAPTIVE BEHAVIORS**

Please indicate how **Confident** you feel as of right now that you could manage the following situations with the child you care for by circling the number that corresponds with your feelings

	Not at all Confident	Slightly Confident	Moderately Confident	Mostly Confident	Completely Confident
1. The child engages in <b>self-stimulatory</b> behavior (e.g., flaps arms, spins in circles, makes vocal noises continuously)	1	2	3	4	5
2. The child exhibits <b>aggression towards others</b> (e.g., bites, pushes, hits another child)	1	2	3	4	5
3. The child engages in <b>self-injurious</b> behavior (e.g., bangs head on surfaces, bites self, scratches self)	1	2	3	4	5
4. The child exhibits <b>non-compliance</b> (e.g., refuses to sit in chair, ignores instructions, ignores adults requests)	1	2	3	4	5
5. The child engages in <b>tantrum</b> (e.g., throws self on floor, screams, kicks)	1	2	3	4	5
6. The child engages in <b>property destruction</b> (e.g., breaks merchandise, tears up work materials, destroys other's property)	1	2	3	4	5
7. The child engages in <b>elopement</b> (e.g., climbs tree out of reach, leaves property without permission, runs away in community setting)	1	2	3	4	5

## **APPENDIX D**

### **STRESS IN TEACHING APPROPRIATE BEHAVIORS**

Please indicate how **Stressed** as of right now you think you would feel trying to do each of the following with the child you care for by circling the number that corresponds with your feelings

	Not at all Stressed	Slightly Stressed	Moderately Stressed	Mostly Stressed	Completely Stressed
1. Teach the child <b>personal safety</b> (e.g., street safety, safety of child and others, stranger awareness)	1	2	3	4	5
2. Teach the child <b>play skills</b> (e.g., toy manipulation, peer imitation, turn-taking)	1	2	3	4	5
3. Teach the child <b>communication skills</b> (e.g., respond to questions, communicate wants and needs, follow instructions)	1	2	3	4	5
4. Teach the child <b>self-help skills</b> (e.g., use toilet independently, get ready for school, ready for bed)	1	2	3	4	5
5. Teach the child <b>personal boundaries</b> (e.g., personal space, gentle touch, appropriate touch)	1	2	3	4	5
6. Teach the child to <b>follow instructions</b> (e.g., sit at desk, wash hands, put away toys)	1	2	3	4	5
7. Teach the child to <b>generalize skills</b> (e.g., follow instructions in several environments, from several instructors, with instructions presented in a variety of ways)	1	2	3	4	5

## **APPENDIX E**

### **STRESS IN COPING WITH MALADAPTIVE BEHAVIORS**

Please indicate how **Stressed** as of right now you think you would feel trying to manage each of the following situations with the child you care for by circling the number that corresponds with your feelings

	Not at all Stressed	Slightly Stressed	Moderately Stressed	Mostly Stressed	Completely Stressed
1. The child engages in <b>self-stimulatory</b> behavior (e.g., flaps arms, spins in circles, makes vocal noises continuously)	1	2	3	4	5
2. The child exhibits <b>aggression towards others</b> (e.g., bites, pushes, hits another child)	1	2	3	4	5
3. The child engages in <b>self-injurious</b> behavior (e.g., bangs head on surfaces, bites self, scratches self)	1	2	3	4	5
4. The child exhibits <b>non-compliance</b> (e.g., refuses to sit in chair, ignores instructions, ignores adults requests)	1	2	3	4	5
5. The child engages in <b>tantrum</b> (e.g., throws self on floor, screams, kicks)	1	2	3	4	5
6. The child engages in <b>property destruction</b> (e.g., breaks merchandise, tears up work materials, destroys other's property)	1	2	3	4	5
7. The child engages in <b>elopement</b> (e.g., climbs tree out of reach, leaves property without permission, runs away in community setting)	1	2	3	4	5

## APPENDIX F

### FREQUENCY RECORDING SHEETS

**Adult 1 behaviors:**

Instructions: A brief, verbal direction, question, or prompt given while teaching a skill (e.g., “what color”, “do this”, “play ball”)

Demand: A verbal command to undo an action the child has done (e.g., “stop that”, “get off there”, “pick that up”, “don’t do that”)

Negative Feedback: Verbal criticism of the child’s behavior (e.g., “no”, “that’s wrong”, “bad job”)

Positive Reinforcement: Verbal praise, touch, or access to toy or edible item. Each individual incident of verbal praise, touch, access to item or edible will be counted separately (e.g., “good job”, tickle, “you’re so smart”)

**Child 1 behaviors:**

Noncompliance: Passively ignoring a request to perform a preferred task (e.g., looking in other direction, leaving general area where request was made)

Toileting: (Not shown on video)

**Adult 2 behaviors:**

**Instructions:** A brief, verbal direction, question, or prompt given while teaching a skill (e.g., “what color”, “do this”, “play ball”)

**Demand:** A verbal command to undo an action the child has done (e.g., “stop that”, “get off there”, “pick that up”, “don’t do that”)

**Negative Feedback:** Verbal criticism of the child’s behavior (e.g., “no”, “that’s wrong”, “bad job”)

**Positive Reinforcement:** Verbal praise, touch, or access to toy or edible item. Each individual incident of verbal praise, touch, access to item or edible will be counted separately (e.g., “good job”, tickle, “you’re so smart”)

**Child 2 behaviors:**

**Outburst:** Crying out, yelling, squealing (e.g., “uh, uh, uh”, “eeeeee”, “waaaa”)

**Spontaneous requesting:** Verbally requesting items or activities without being asked or prompted to do so (e.g., “go outside”, “teddy bear”)

## APPENDIX G

“QUICK TIPS”

BEHAVIOR ANALYST, INC.

## Behavior Analysts, Inc. QuickTips

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### Series One: Behavioral Teaching Strategies

- QT1: Reinforcement
- QT2: Pairing
- QT3: Instructional Control
- QT4: Prompting and Fading
- QT5: Discrete Trials
- QT6: Correction Procedure
- QT7: Shaping

concept and materials based in part on:  
*Teaching Language to Children with Autism or Other Developmental Disabilities* by:  
Mark L. Sundberg, Ph.D. and James W. Partington, Ph.D.

and

*Teaching Children with Language Delays: A handbook of strategies and techniques for the classroom* by:  
Michelle T. Sullivan, Mark L. Sundberg, Ph.D., James W. Partington, Ph.D.,  
Siri Ming, M.A., and Jean Acquisto, M.S.

Behavior Analysts, Inc.  
Pleasant Hill, CA 94523  
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<p><b>Reinforcement</b> occurs when a consequence to a behavior results in an increase in the likelihood of the behavior occurring again in the future under similar circumstances. A <b>reinforcer</b> is that consequence that results in the increase in the behavior.</p> <p>Reinforcement strengthens any behavior—either appropriate or inappropriate—and it is not dependent on someone (for example, a teacher) planning out a program of reinforcement. That is, reinforcement occurs all the time and is one way we all learn new behavior.</p> <p>Reinforcement can be either the presentation of a positive stimulus (presenting toys, edibles, or praise) or the removal of an aversive stimulus (removing work tasks).</p>	<p>In order to use the principle of reinforcement effectively, you must have an idea of what is reinforcing for your child. Think about your child's preferences for food, toys, personal possessions, social interactions, or activities. What does he tell you he wants? In some cases, your child may be able to lead you to items he wants or, alternatively, sign or name them. If not, what items does he play with, touch, or otherwise engage with when given the opportunity? Look for preferred sensory stimulation—auditory, visual, tactile, vestibular, etc. List out all the features of some favorite items or toys, and explore other items that have similar features. For example, your child may like a stuffed frog toy. Would he like other stuffed animals? Would he like other soft items? Would he like other green items? Would he like other frog toys? If it makes noises, would he like other items that make noise? Be a detective, and don't be afraid to try out things that seem silly—remember, reinforcers can be literally anything at all!</p>
<p>When behavior analysts talk about the <i>function</i> of a behavior, we are talking about the reinforcement that has been maintaining a behavior (or causing the behavior to increase). If a behavior is occurring, that means that it is being reinforced in some way. Generally, one can think of behaviors occurring because they are reinforced by one of two things: getting something you want, or escaping or avoiding something you don't want.</p>	<p>From these sources you will develop a list of <i>potential</i> reinforcers. However, you must observe your child closely to determine if a particular item is in fact acting as a reinforcer. Remember that a reinforcer increases behavior—so, if your child is not responding any more, you may not be reinforcing adequately. If your child does not make any attempts to access the item, it may not be a reinforcer. Your child's behavior will tell you if the item you have is truly a reinforcer. If you give your child a cookie but he tosses it on the floor, the cookie is not likely to be a reinforcer at that moment (at least not in the way you might think—it could be a reinforcer if your child makes a game of throwing cookies on the floor). Alternatively, if your child eats the cookie and then reaches for another, the cookie is probably a reinforcer. Remember, the key criterion for recognizing a reinforcer is whether the behavior is being maintained or increased over time as a result of receiving the item. If you give your child a cookie when he comes to the table when called, and the frequency of coming to the table when called increases, then the cookie is acting as a reinforcer.</p>
<p>Behavior might be reinforced by access to: attention (such as praise, other social attention, or even a "reaction"); tangible items or activities (such as toys, edibles, physical games like tickles, the candy that a child whines for in the grocery store...); and sensory stimulation. Behaviors might also or alternatively be reinforced by escape or avoidance of: attention (such as teasing, or otherwise "unwanted" attention—being seen as a "teacher's pet" for example); activities or tasks (e.g., work or other less-favored activities); and sensory stimulation (e.g., pain).</p>	<p>Reinforcers affect the behavior that immediately precedes them. Therefore, provide reinforcers as quickly as possible following a desired behavior—waiting too long will reduce the effectiveness of the reinforcer, and increase the possibility that some other (possibly undesired) behavior will be reinforced.</p>
<p>Use the principle of <b>differential reinforcement</b>: save higher "value" reinforcers for more difficult, more independent, and better responses.</p> <p>Have <b>variety</b> and use <b>small amounts</b> to avoid satiation—motivation changes from moment to moment, and reinforcers can lose their value if they are used over and over again, or are sometimes available "for free".</p>	<p>The key to being able to effectively use reinforcement to teach your child appropriate behavior is in knowing what is reinforcing <i>right now</i> for your child. Observing your child's behavior is critical: what is he showing you that he wants in this moment? Whatever that is, that's the reinforcer to use. Now you have the opportunity to reinforce good behavior or present an instruction and reinforce your child's response.</p>
<p><b>Reinforce desired behavior frequently!</b> Aim for five to six times as many interactions following desired behavior as interactions following undesired behavior.</p>	<p>Note also that the difficulty of the response (the "response effort") will also affect the level of motivation. While an item may be sufficiently reinforcing for an easy response, it might not be "worth it" for a more difficult response, especially if other reinforcers are available for less "work".</p>
<p>Latham, G.I. (1994). <i>The power of positive parenting</i>. Logan, UT: P &amp; T Ink. "Chapter 2: How Behavior Develops"</p> <p>Martin, G.L., &amp; Pear, J.J. (1999). <i>Behavior modification: What it is and how to do it</i>, 6th ed. Englewood Cliffs, NJ: Prentice Hall. "Chapter 3: Getting Behavior to Occur More Often with Positive Reinforcement"</p> <p>Pryor, K. (1984) <i>Don't Shoot the Dog</i>. New York: Bantam Books. "Chapter 1: Reinforcement is Better than Rewards"</p> <p>Skinner, B.F. (1953). <i>Science and human behavior</i>. New York: Free Press.</p> <p>University of Athabasca. (2000) Online tutorial on Positive Reinforcement. <a href="http://server.bmod.athabasca.ca/html/prtut/reinpair.html">http://server.bmod.athabasca.ca/html/prtut/reinpair.html</a></p>	<p>Copyright © 2001 by Behavior Analysts, Inc. <a href="http://www.behavioranalysts.com">www.behavioranalysts.com</a></p>  <p>Product QTIV.1.0</p>

<b>Exercises: Identifying Reinforcers</b>
<p><input type="checkbox"/> Watch your child/student for 30 minutes in an unstructured situation with relatively free access to items: what items does s/he reach for, walk towards, interact with, touch, or otherwise show interest in?</p> <p><input type="checkbox"/> When your child is given the opportunity, what activities does s/he prefer to engage in?</p> <p><input type="checkbox"/> Are there any common themes to the items and activities your child seems to enjoy—sensory modality (visual, auditory, vestibular...), process (spinning things, banging, putting in...), etc.? Think of at least five additional potential activities or items that involve this theme.</p> <p><input type="checkbox"/> Can you add to your list considering the categories of reinforcement by access to: attention (physical or social), activities and items, or sensory stimulation?</p>
Potential Reinforcers for _____:
<b>Reinforcement Checklist</b>
<p><input type="checkbox"/> consequence appears to be something that the child wants</p> <p><input type="checkbox"/> variety is available</p> <p><input type="checkbox"/> delivery is immediate</p> <p><input type="checkbox"/> delivery is contingent on best response</p> <p><input type="checkbox"/> the amount of effort required to get reinforcement is not too high</p> <p><input type="checkbox"/> high effort responses are reinforced more highly</p> <p><input type="checkbox"/> prompted, mastered, or otherwise low effort responses are reinforced at a lower level</p> <p><input type="checkbox"/> inappropriate behaviors are not reinforced</p> <p><input type="checkbox"/> potential reinforcers are not available "for free" at other times</p> <p><input type="checkbox"/> there is a high ratio of interaction following appropriate behavior vs. interaction following inappropriate behavior</p>



<p><b>Pairing</b> is the process by which you establish yourself as a reinforcer, in order to build a positive relationship and rapport with your student (for parents, your child). It involves the association of a "neutral stimulus" (you, other instructors) with an existing reinforcer, and results in the "neutral stimulus" becoming reinforcing. It is also the process by which you can shape the social skills of interaction and engagement.</p> <p>There are two primary aspects of pairing:</p> <ul style="list-style-type: none"> <li>• Presenting yourself and your words in association with the delivery of reinforcers.</li> <li>• Reinforcing interaction and engagement behavior at whatever level is appropriate for the child.</li> </ul>	<p>While many primary caregivers are already well established as a source of reinforcement, as they begin to place more demands, they will need to also be sure to maintain this positive relationship. Parents who have fewer interactions with their children may need to systematically establish this relationship, as will any instructors coming into the home to help work with a child, or those working at school with the child. Really, everyone involved with a child, including you, should spend time pairing with reinforcers. The idea is for the child to want you (or any other instructor), to respond favorably to your presence, and to come to you when he sees you (rather than avoiding or hiding from you). In order for this to happen, you must <i>frequently</i> pair yourself with reinforcement: not just at the "beginning" of working with a child, but always.</p>
<p><b>How to Pair Yourself</b></p> <p>First, ensure that you have identified a variety of potential reinforcers to pair with. Once you have these items and activities, simply present them to the child, at the same time, pairing yourself and your words with the delivery of that reinforcer. For example, you might say, "Here comes the tickle monster," and then tickle your child's tummy. By announcing the tickle in this way, your words are associated with a positive experience. Alternatively, if you tickled your child and then said, "I tickled you," your words would have little impact and your child would have a harder time learning that good things come with them. When you are pairing, you will not place any demands on your child. Reinforcement will at first be "free," and then simply be contingent on some form of interaction with you—and this interaction may be very small (even simply being with you or approaching you, at first, for a very early learner) or fairly involved (singing a song with you or playing a game, for a more social learner).</p> <p>Many beginning instructors feel they need to barrage the student with reinforcers when pairing. Instead, let the child's behavior guide you. Once your child starts to engage with you, wait for signs of interaction and interest (no matter how small, you should see some signs) before reinforcing. If your child continues to engage with you, then the item or activity you are using is probably reinforcing, so keep using it. Wait for the child to end the activity or show signs of disinterest before attempting to engage them in a different activity.</p> <p>You should also take care not to become associated with the termination of ongoing reinforcing activities or other negative experiences. For example, if your child is currently engaged in play, and it is necessary to transition to another activity, don't interrupt his play with a demand. You could bring the currently reinforcing activity with you to the next task or activity (if your child was playing with trucks in the sandbox, you could bring one of the trucks with you to the next activity). Even better, when possible you could become involved in the ongoing play activity, such as pushing the swing that your child is sitting on. The key is to interact with your child without interrupting a fun activity—ultimately, to blur the boundaries between "play" and "work". Of course, you will never be able to completely avoid all negative or non-reinforcing experiences. Nevertheless, you should aim to maximize positive experiences and minimize negative ones, particularly when first working with your child more intensively. Your teaching time should be carefully thought out to ensure that it is as reinforcing as possible.</p>	<p>While you may associate yourself with the delivery of any items or activities that your child finds reinforcing, it will be easiest to pair with those items and activities that:</p> <ul style="list-style-type: none"> <li>• Are easily controllable by you</li> <li>• Can be delivered multiple times, in small amounts</li> <li>• Go away by themselves (you don't have to remove them)</li> <li>• Are somehow better with you than without you (you are a critical part of these items or activities being good or fun)</li> </ul> <p>In order to be able to use items and activities as reinforcers in pairing, it is essential that you maintain control over them. That is, you must restrict access to reinforcers, and only deliver reinforcers when your child is interacting appropriately with you (or otherwise behaving in a manner you would like to increase). If a child can independently get favorite toys, for example, then those items will not have the same "power" as if he can only get them when he interacts with you during pairing.</p> <p><b>Don't:</b></p> <ul style="list-style-type: none"> <li>• Place demands.</li> <li>• Reinforce inappropriate behavior.</li> <li>• Turn a reinforcer into a task.</li> <li>• Be associated with negative events.</li> </ul> <p><b>Do:</b></p> <ul style="list-style-type: none"> <li>• Pair yourself and your words with the delivery of reinforcers.</li> <li>• Reinforce interaction and engagement</li> <li>• Control access to reinforcers.</li> <li>• Choose reinforcers that are better with you than without you.</li> <li>• Be sure you are using items and activities your child wants in that moment (follow your child's lead and interests).</li> <li>• Narrate activities (rather than instruct).</li> <li>• Evaluate yourself often: does your child run to you or away from you?</li> <li>• Pair frequently! Pairing is <i>never</i> "finished."</li> </ul>

Sundberg, M. L., & Partington, J. W. (1998). *Teaching language to children with autism or other developmental disabilities*. Pleasant Hill, CA: Behavior Analysts, Inc. Chapter 5: Beginning Language Intervention.



Potential reinforcers to use when pairing with _____:
<input type="checkbox"/> Easily controlled by you <input type="checkbox"/> Can be given frequently and in small amounts <input type="checkbox"/> Go away by themselves <input type="checkbox"/> Better with you than without you
Interaction skills to shape for _____:
<b>Pairing Checklist</b>
<input type="checkbox"/> child initiates engagement with instructor <input type="checkbox"/> instructor reinforces engagement/interaction <input type="checkbox"/> instructor pairs self and words with the delivery of reinforcement <input type="checkbox"/> reinforcers appear to be something the child wants <input type="checkbox"/> Instructor narrates activities <input type="checkbox"/> instructor is not associated with negative events <input type="checkbox"/> reinforcers are small, easily controlled, and can be presented multiple times. <input type="checkbox"/> variety of reinforcers is available <input type="checkbox"/> Instructor is a critical part of the reinforcer/reinforcing activity



<p><b>Instructional control</b> is the likelihood that your instructions will evoke a correct response from your child/student (your instructions "control" the responses of your child). If you do <i>not</i> have instructional control, you might describe your child as "noncompliant", or "nonresponsive".</p> <p>Instructional control involves two critical components:</p> <ul style="list-style-type: none"> <li>• You must be associated with the delivery of reinforcement (see <i>QuickTips: Pairing</i>).</li> <li>• You must develop a history of reinforcing compliance to your instructions.</li> </ul>	<p>Once you have successfully <i>paired</i>, begin to present instructions for very easy (mastered) skills. For a child with very few skills, this could be as simple as a "high five," a visual motor task such as putting a single form box piece in, instructions such as "sit down" in the context of an activity (e.g., sitting down for snack) and so on. When your child complies with these instructions, reinforce that compliance heavily! As the history of reinforcement for compliance grows, your instructional control grows and you can gradually increase the difficulty of instructions.</p> <p>If you are not sure if your child knows how to respond to a particular instruction, you have two options. One, do not present the instruction in the first place. Two, present the instruction with enough prompts that you can be certain your child can respond. Always make sure your child responds, by prompting as necessary before reinforcing.</p>
<p>Developing instructional control is an ongoing process that moves from pairing into teaching new, more difficult skills. The key to this strategy is to maintain a high success rate. At the beginning, you might spend most of your time with a child simply pairing with reinforcement, until you have established a good rapport. At that point, your child's success rate should be at 100%—there really should be no demands whatsoever. The next phase is to introduce instructional control activities along with pairing activities. Again, your child's success rate should be near 100%—all the instructions should be completely easy and mastered. Once your child is happy to see you, interacts easily with you, and responds readily to known instructions, then you are ready to introduce the teaching of new skills. But even at this point, you should aim for a high success rate: at least 80%. To maintain this level, you must be including a flow of pairing activities and instructional control (easy) activities along with the introduction of any new skills. The process of pairing and maintaining instructional control continues forever.</p>	<p>You should be sure to control access to a particular reinforcer until your child has complied with a task. That is, a reinforcing item should not be made available to your child "for free". If your child can get the reinforcer without having to comply with instructions (for example, simply by going and getting it himself), he will not have much reason to respond to your demands.</p> <p>There are a few things you can do to control your child's access to reinforcing items. When working with your child, keep all reinforcing materials near you. Having the reinforcers close to you will allow you to decide when to deliver a reinforcer, rather than your child being able to "help himself" to the reinforcers. In addition, when you deliver a reinforcer, only give small amounts of the reinforcing item at a time (e.g., a sip of juice, a small piece of food, a brief view of a movie, ten seconds of tickling, etc.). By only delivering small amounts of reinforcers at a time, your child will want more, and you will therefore have an opportunity to present more instructions.</p>
<p>When either beginning to establish instructional control, or when finding that you need to re-establish instructional control, you can consider three areas for problem solving:</p> <p><b>Setting:</b> Is the setting conducive to learning, or distracting from learning? How can you change the setting to make the activity more fun? Do you need to remove distractions? Do you need to "disguise" the work by doing it in a different setting, such as during play or in an activity such as cooking? Do you need to associate the work setting with more reinforcement, by for example, doing more fun activities at the table?</p> <p><b>Task:</b> How can you modify the task so that your child is more motivated to participate? Can you make it easier? Is it too boring? Are you presenting too many of the same types of tasks at once? Are you making sure you mix in known trials with new trials so that the success rate stays high? Are you following through on all instructions with prompting so that there is no reinforcement for noncompliance?</p> <p><b>Reinforcement:</b> Is there sufficient "pay-off" for the amount of work required? More difficult tasks should get better reinforcement. Is the consequence you are using truly reinforcing right now (is it really something your child wants)? Are you inadvertently reinforcing inappropriate behavior (by, for example, " bribing" your child when they are not attending to you)? Have you controlled access to reinforcers contingent on compliance ("no freebies")?</p> <p><b>Remember:</b> Every time your child shows you that he wants something, you have an opportunity to teach. Capitalize on your child's "in-the-moment" motivation to present simple instructions to teach something new or maintain instructional control. Use what you know about your child's general interests and motivations to create a motivating context for learning.</p>	
<p>Sundberg, M. L., &amp; Partington, J. W. (1998). <i>Teaching language to children with autism or other developmental disabilities</i>. Pleasant Hill, CA: Behavior Analysts, Inc. Chapter 5: Beginning Language Intervention.</p> <p>Pryor, K. (1984) <i>Don't Shoot the Dog</i>. New York: Bantam Books. Chapter 1: Reinforcement is Better than Rewards, Chapter 3: Stimulus Control: Cooperation without Coercion</p>	<p>Product QT3v.1.0</p>



Most motivating setting for _____:
Known (easy) skills to present to _____:
Potential ways to reinforce compliance:
<b>Instructional Control Checklist</b>  <ul style="list-style-type: none"><li><input type="checkbox"/> instructor is paired with the delivery of reinforcement</li><li><input type="checkbox"/> instructor presents mastered (known) instructions</li><li><input type="checkbox"/> instructor reinforces compliance to mastered instructions</li><li><input type="checkbox"/> instructor reinforces appropriate behavior</li><li><input type="checkbox"/> instructor prompts and follows through on instructions as necessary</li><li><input type="checkbox"/> better responses are consequated with higher value reinforcers</li><li><input type="checkbox"/> instructor controls access to reinforcers</li><li><input type="checkbox"/> reinforcer used appears to be something the child wants</li><li><input type="checkbox"/> variety and choice of reinforcers are available</li><li><input type="checkbox"/> inappropriate behavior is not reinforced</li></ul>



<p>Prompts are anything that help your child/student respond correctly to an instruction. They are given <i>in addition</i> to whatever instruction you would like to evoke a particular response. There are many different types of prompts, including:</p> <ul style="list-style-type: none"> <li>• <b>Physical/partial physical prompts:</b> physically manipulating your child's hands/body so that the response occurs (also often called "hand over hand").</li> <li>• <b>Imitative and echoic prompts:</b> modeling (physically or vocally) the correct answer (e.g., clapping your own hands as you give the instruction, "clap hands"; saying "cat" when you ask what a picture of a cat is).</li> <li>• <b>Gestural prompts:</b> either giving a partial model, or gesturing to indicate the location of the correct response (e.g., pointing to the chair as you say "sit down")</li> <li>• <b>Positional prompts:</b> moving the stimuli in an array so that the correct choice is clear (e.g., moving the correct choice closer, reducing the array of choices)</li> <li>• <b>Direct verbal prompts:</b> verbal instructions that tell the child exactly what to do, often as part of a multi-step task (e.g., saying "turn on the water" when you are working on washing hands)</li> <li>• <b>Indirect verbal prompts:</b> a verbal "hint" that a response should occur, without saying exactly what to do (e.g., saying "what do you need to do next?" when working on washing hands)</li> </ul>	<p>Fading is the systematic removal of prompts, and is essential if you want your child to independently respond to your instructions.</p> <p>To fade, you should introduce increasingly subtle prompts after each correct response from your child. To increase your child's independence, you should adjust the reinforcement so that your child receives more powerful reinforcers with each increment of progress—more independent responses should get more reinforcement than more prompted responses. You should also try to vary the prompt style used, so that your child does not become dependent upon a specific type of prompt. Using the least intrusive prompt will make fading easier: that is, use partial prompts rather than full prompts, imitative rather than physical prompts, and gestural or positional prompts rather than more direct prompts (such as physical or imitative) whenever possible.</p> <p>Before or while giving a prompt, always restate the original instruction so that the response will be given under the control of the instruction rather than the prompt. If, for example, you give the instruction "Touch cup," and your child doesn't respond, and you then tap the cup without repeating your instruction, you will only teach him to attend to your prompts. In this example, you should be sure to repeat, "Touch cup" before or as you tap the cup so that your child responds to both the instruction and the prompt—the goal, of course, being to get the child to touch the cup when instructed, without the prompt being necessary.</p>
<p><b>Errorless learning</b> involves presenting an instruction with a prompt, so that there is a 100% chance that your child will be correct. When using errorless learning, the instruction is not presented without prompts until the prompts have all been systematically faded. This technique should be used when teaching new skills, and is particularly helpful when teaching early learners as it minimizes the frustration that would result from frequent errors. Errorless learning involves fading out prompts systematically over a period of time, rather than trying to transfer the skill to independence immediately (see QuickTips: Correction Procedure).</p> <p>For example, to teach your child to imitate tapping the table, give the instruction, "Do this" while tapping the table and physically prompting the response by placing your hand on his hand and tapping the table. Once this level of the skill is strong, the next time you give the instruction, move your hand to his wrist so that he is tapping more independently. Later, try and go a little further and move your hand to his lower arm. Then, try a partial physical prompt, keeping your hands at his lower arm and gently pushing his hand down so that he completes the action. Eventually you should be able to give the instruction "Do this" while tapping the table, and evoke the correct response without any prompts. This is just one example of the sequence of prompts that you can use. Some children may not need this many prompt levels, while others may require many trials at each level.</p>	<p>There are many teaching factors that may contribute to prompt dependency, and prompt dependency may also result when an inappropriate skill is targeted. Here are some key points to remember when prompting (also see QuickTips: Correction Procedure, Discrete Trials, and Instructional Control):</p> <ul style="list-style-type: none"> <li>• Be sure you have your child's attention before presenting an instruction.</li> <li>• Wait (up to 5-7 seconds) for an independent response before assuming that your child is not going to respond.</li> <li>• Be sure you have an effective reinforcer.</li> <li>• Repeat the instruction whenever you provide the prompt.</li> <li>• Attempt to fade the prompts as quickly as possible.</li> <li>• Reinforce less prompted (more independent) responses more highly than more prompted (less independent) responses.</li> </ul> <p>Another potential problem area is <b>inadvertent prompting</b>. If your child responds correctly only to a certain instructor, it is possible that she is inadvertently prompting the response (or, that she is the only one with good instructional control). Have someone observe you, or videotape yourself, to watch for inadvertent prompts. Some common inadvertent prompts are: looking at the correct answer, providing imitative or echoic prompts without realizing it, moving the correct target, always having the correct answer in the same position or order, and changing your expression depending on whether the child appears to be reaching for the correct answer or not.</p>

Martin, G.L., & Pear, J.J. (1999). *Behavior modification: What it is and how to do it*, 6th ed. Englewood Cliffs, NJ: Prentice Hall. "Chapter 9: Developing Appropriate Behavior with Fading"

Skinner, B.F. (1953). *Science and human behavior*. New York: Free Press.

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**Exercise: Identifying a Variety of Prompts**

Select several skills that you are trying to teach your child. How many different ways can you prompt these skills? Rank these in order of intrusiveness.

**Skill:****Instruction:****Possible prompts:****Skill:****Instruction:****Possible prompts:****Skill:****Instruction:****Possible prompts:****Prompting Checklist**

- the prompt used is the least intrusive one that will ensure success
- if there is no response to the prompt, a more intrusive prompt is used until the child is successful
- a variety of prompts are used to teach the skill
- the instruction is repeated with the prompt
- instructor attempts to fade the prompt as soon as possible
- less-prompted responses are reinforced more highly than more-prompted responses
- instructor gives sufficient time (up to 5-7 s) after instruction before repeating the instruction with a prompt
- instruction is presented when the child is attending
- instructor is not inadvertently prompting the response



<p>Discrete trial instruction is a method of teaching specific skills. The instruction is made up of very specific units or "discrete trials." Each discrete or individual trial consists of three parts:</p> <p style="text-align: center;"><math>S^D \longrightarrow R \longrightarrow S^R</math></p> <p><b><math>S^D</math>: discriminative stimulus</b>—the instruction, materials, etc. that come to evoke the desired response, through a history of reinforcement</p> <p><b>R: response</b>—the response to the <math>S^D</math></p> <p><b><math>S^R</math>: reinforcement</b> for a correct response (or another consequence for incorrect responding; see QuickTip: Correction Procedure)</p> <p>To use discrete trials, you must simply determine the appropriate wording of the instruction for the response you want to teach, present that instruction, and reinforce correct responding. Thus, the likelihood increases that the child will make that same response to that instruction in the future (see QuickTips: Reinforcement). Discrete trials may occur in any setting, with groups or individuals, and with almost any skill. Discrete trials are, simply, good effective teaching.</p>	<p>There are many advantages to using discrete trials:</p> <ul style="list-style-type: none"> <li>Instructions are consistent across instructors (since they are pre-defined); consistency is essential when teaching children with language delays.</li> <li>A high rate of teaching trials is possible, since skills are broken down into smaller responses; a high rate of responding is essential when teaching children with language delays.</li> <li>Data collection is easier when the correct response is clearly defined.</li> <li>Consistency of reinforcement for correct responses improves the rate of acquisition.</li> </ul> <p>Some potential drawbacks of traditional, structured discrete trial approaches require careful programming and a broad view of discrete trials:</p> <ul style="list-style-type: none"> <li>If discrete trials are not conducted in many different settings, generalization of skills might not occur rapidly. Therefore, present trials everywhere!</li> <li>If the <math>S^D</math> does not vary once the skill is learned, the skill may not generalize to more natural wording of instructions. Therefore, begin to vary the <math>S^D</math> as soon as the skill is learned!</li> <li>If functional skills are not targeted, they may not be maintained outside the structured setting. Therefore, target functional skills that will be used everywhere!</li> </ul>
<p>Before presenting the <math>S^D</math>, make sure you have your child's/student's attention, and you have potential reinforcers available. You might need to adjust your positioning or present a mastered (known) trial to ensure that your child is attending and responding. It's always a good idea to "warm up" with a few easy instructions. Try to avoid always using your child's name as an attention-getting device: if the only time he hears his name is when it is associated with "work", then it may become aversive and lead to worse attending rather than better!</p> <p>Be sure to present the <math>S^D</math> in a clear, concise, and consistent manner. Using too many words can make attending to the most critical words difficult. At the beginning, you want to make sure that reinforcement for responding is associated with the most important parts of the <math>S^D</math>. Later, you can begin to vary the wording. When using errorless learning (see QuickTips: Prompting and Fading), you will present the <math>S^D</math> with a prompt initially.</p> <p>Only present the <math>S^D</math> one time before doing something else—either regaining your child's attention, or correcting his response (see QuickTips: Correction Procedure). Simply repeating the <math>S^D</math> will not help your child to be successful.</p>	<p>First, be sure that you know ahead of time what the correct response is! This seems obvious, but especially in cases where articulation is poor, or you are working on multiple word answers, it is very important for everyone to know what you have currently defined as the correct response. Reinforcing something less than the best response can result in "backsliding", while holding out for something too difficult can result in frustration and attempts to escape from teaching.</p> <p>Give enough time for your child to respond to the <math>S^D</math> before you assume that there will be no response (i.e., before prompting the response). Waiting as long as five to seven seconds may be necessary for some children (if their attention and motivation can be maintained), and it is often better to have a longer wait time but an independent response, than to have to prompt and fade your prompts. Once the skill is better known, you can work on decreasing the wait time (the <i>latency</i>).</p> <p>Do not consider responses that occur with inappropriate behavior to be correct. Do not consider chained responses—guessing, giving multiple answers—to be correct. In these instances, follow the correction procedure for an incorrect response. When shaping (see QuickTips: Shaping), you will consider an approximation to be a correct response.</p>
<p><i>See QuickTips: Reinforcement.</i></p> <p>Use specific praise: restate what it was that your child did correctly, to create more exposure to the language associated with the response, and to pair the language with reinforcement.</p> <p>Use a variety of reinforcers, in small amounts, and control access to reinforcers so that your child does not become satiated, or there is no incentive to respond because that item is available "for free" at other times. Use your child's name within the reinforcement so that it is associated with positives.</p>	<p>Koegel, R.L., Schreibman, L., Good, A., Cerniglia, L., Murphy, C., &amp; Koegel, L.K. (1989). <i>How to teach pivotal behaviors to children with autism: A training manual</i>. Santa Barbara, CA: University of California, Santa Barbara.</p> <p>Lovaas, O. I. (1977). <i>The autistic child: Language development through behavior modification</i>. New York: Irvington Publishing.</p> <p>Sundberg, M. L., &amp; Partington, J. W. (1998). <i>Teaching language to children with autism or other developmental disabilities</i>. Pleasant Hill, CA: Behavior Analysts, Inc.</p>



**Exercise: Teaching in the Natural Environment**

Discrete trials can and should take place in many different settings, both more structured and less structured, and in the context of ongoing, motivating daily events. Choose a setting or activity that your child enjoys (e.g., bathtime, cooking, at the zoo, etc.) and plan out what skills you might teach, including possible instructions and reinforcers:

**Setting/Activity:** e.g. Getting dressed

S<sup>D</sup>: Get a shirt/socks/pants/shoes (laid out on bed)      R: getting item requested  
 S<sup>D</sup>: Which one do you put on your feet? (items on bed)      R: select socks or shoes  
 S<sup>D</sup>: What color is the shirt?      R: name color  
 S<sup>D</sup>: Give me your arm/leg/head/hand etc.      R: putting out arm etc.  
 Etc... (note above examples are not all for the same level!)

S<sup>R</sup>: praise, tickles, bounce on bed  
 S<sup>R</sup>: praise, tickles, sock puppet  
 S<sup>R</sup>: putting shirt on head in goofy way  
 S<sup>R</sup>: tickle on body part

**Setting/Activity:** \_\_\_\_\_

S<sup>D</sup> \_\_\_\_\_

R \_\_\_\_\_

S<sup>R</sup> \_\_\_\_\_

**Setting/Activity:** \_\_\_\_\_

S<sup>D</sup> \_\_\_\_\_

R \_\_\_\_\_

S<sup>R</sup> \_\_\_\_\_

**Setting/Activity:** \_\_\_\_\_

S<sup>D</sup> \_\_\_\_\_

R \_\_\_\_\_

S<sup>R</sup> \_\_\_\_\_

**Discrete Trials Checklist**

- instructor ensures child is attending before presenting S<sup>D</sup>
- S<sup>D</sup> is concise and clear
- S<sup>D</sup> is appropriate for task
- instructor allows sufficient time (up to 5-7 s) for a response
- instructor reinforces correct responses immediately
- instructor does not reinforce chained responses or inappropriate behavior
- item/activity used as reinforcer appears to be something the child wants



<p>Correction procedure should be the consequence for an incorrect or lack of response to an instruction (<math>S^D</math>) (see QuickTips: Discrete Trials). It is a systematic method of prompting and fading. Rather than punishing the student for incorrectly responding, such as by saying "NO," a correction procedure is a consequence that helps the student to be successful quickly (thus avoiding much frustration). The goal of a correction procedure is to get the correct response to occur to an unprompted <math>S^D</math> (so it can then be reinforced). The steps are as follows.</p>	<p>Let's say you gave a student the <math>S^D</math> "Knock" and the student claps instead. To get him to respond, and respond correctly, you need to implement a correction procedure:</p> <p>You: Repeat the <math>S^D</math> "Knock," and give an imitative prompt by knocking on the table.      Student: responds by knocking on the table      You: "Nice knocking."      You: Present the <math>S^D</math> "Knock" without the imitative prompt (i.e., without knocking on the table).      Student: knocks on the table      You: "Wow! Great knocking!" (and perhaps tickle the student).</p>
<p>When your child/student gives an incorrect response, or does not give any response (but is clearly attending), you should immediately represent the original <math>S^D</math> with enough of a prompt to ensure success—whatever is the least intrusive prompt that you are sure will help your child be correct right away. For example, if you ask your child, "Touch cup," while holding up a cup and a shoe, and your child responds by touching the shoe, present the <math>S^D</math> again and immediately prompt the correct response by, for example, moving the cup closer, tapping the cup, wiggling the cup, removing the shoe, etc.</p>	<p>Then, you might present some other trials, but before ending the session or moving on to other tasks, present the <math>S^D</math> "Knock," one more time. If the student responds with a knock this time, reinforce with gusto.</p>
<p>Once your child responds to the prompted <math>S^D</math>, reinforce this response with specific praise, and then begin to fade the prompt. For example, if your child responds to your question "Touch cup," when given a large positional prompt, say, "That's right, that's the cup." You may or may not at this point then repeat the <math>S^D</math> and give a smaller positional prompt, depending on your knowledge of how your child typically responds. Next, present the <math>S^D</math> again, this time with no prompt. If your child responds correctly, reinforce with more praise or a better reinforcer than the previous time. Depending on how new the skill is, you might also use a small tangible or physical reinforcer. This step is called a transfer trial. The purpose of this trial is to "transfer" the response from the prompted <math>S^D</math> to the original unprompted <math>S^D</math>. This step is critical to getting the child to respond to the original instruction without prompts.</p>	<p>Once your child has responded correctly a few times to the original instruction without prompts, you may add some additional steps to increase the likelihood that your child will respond independently the next time the instruction is presented—your goal being for the child to remember the correct response after being asked to do other responses.</p>
<p>If your child is incorrect on the transfer trial, attempt a few more times using a less subtle prompt. If your child fails to respond after a few attempts, end the correction procedure on the most independent (least-prompted) response.</p>	<p>One option is to present one (or a few) distracter trials after the unprompted response, and then immediately return to the original <math>S^D</math>. A distracter trial may be any mastered instruction. It "clears the slate" so that your child is not simply repeating the same response over and over, without having to attend to the <math>S^D</math>. Another option is to increase the complexity of the response in some way. This might include, for example, increasing an array of choices. Additional options are to simply do a completely different task and then come back to the original <math>S^D</math>. The key is that you are having your child return to the instruction he was having difficulty with so that he gets more practice, and has the opportunity to more independently respond (and get much higher reinforcement for that better response).</p>
<p>Although with many children, the correction procedure goes very smoothly, there are a number of points at which your child may respond incorrectly. The over-riding rule is to always end on your child's most independently successful response. Another critical (and often-missed) point is that you should be sure to save the highest reinforcers for when your child responds to an <math>S^D</math> the very first time, without having to go through correction procedure. Otherwise your child may learn that the best results come when he is wrong and then allows you to prompt him through correction. The most likely point for an incorrect response to be made within correction procedure is following a distracter trial. If this occurs, simply return to a prompted <math>S^D</math> and then the transfer trial. Stop after a correct transfer trial and do some other types of trials to regain a high success rate.</p>	<p>Sometimes it is difficult to get the child to respond correctly to a transfer trial. This may point up other problems with prompt dependency (see QuickTips: Prompting and Fading), or it may mean that with this particular skill it may be beneficial to do errorless learning rather than correction procedure, in order to avoid frustration. In any case, fade your prompts as much as possible, and end with the least intrusive prompt you can. Be sure that less-prompted responses get more reinforcement than more highly prompted responses. A third possibility is that you are unable to get a successful response even with prompting, or only with very intrusive prompts. This indicates that you either need to work on instructional control (see QuickTips: Instructional Control), or on teaching your child the skills necessary to respond to the prompts you are using before trying to teach this current skill. For example, if you are trying to teach a vocal label, but your child cannot vocally imitate, then it would be better to drop work on vocal labeling, and instead work on your child's ability to vocally imitate. Your child must be able to respond to the prompts you use in order for you to be able to effectively utilize either correction procedure or errorless learning.</p>



**Exercises: Practicing Correction Procedure**

This is an exercise to do with a role play partner—your spouse, another child, a friend, another therapist, etc. Select a bunch of pictures. For one of them, either make up an imaginary name for the item (write this down so you don't forget it!), or use the name of that item in a foreign language that your partner doesn't know (don't tell them which one you're doing this with, or what the name is yet). Using the two different language activities described below (an expressive and a receptive skill), practice correction procedure.

1) With the pictures on the table, present instructions to "touch (name of picture)". When you get to the made-up or foreign name, your partner is likely to be wrong. Practice teaching this new word with correction procedure. Be sure you have good reinforcers!

2) Hold up each picture and ask "what's this?" When you get to the made-up or foreign name, your partner is likely to be wrong. Practice teaching this new word with correction procedure. Be sure you have good reinforcers!

**Correction Procedure (teaching new skills)**

<b>1) Present S<sup>D</sup></b> (make sure you have child's attention)	<b>Reinforce HUGE if correct</b> (best possible reinforcer—e.g., bowl of popcorn) end here if correct
---	---

continue on if incorrect or no response:

<b>2) Present S<sup>D</sup> plus prompt</b>	<b>Reinforce little</b> (specific praise or small amount of tangible—e.g., piece of popcorn)
---	---

<b>3) Present S<sup>D</sup> NO prompt</b>	<b>Reinforce medium</b> (enthusiastic praise or small amount of tangible—e.g., two pieces of popcorn)
---	--

----if successful to this point: distracter trial (reinforce)---

<b>4) Present S<sup>D</sup></b>	<b>Reinforce big</b> (tangible, enthusiastic praise—but not as much as if correct at Step 1—e.g., handful of popcorn)
---------------------------------	--

**Correction Procedure Checklist**

- instructor presents S<sup>D</sup> when child is attending
- if incorrect or no response, instructor immediately presents S<sup>D</sup> again, with a prompt
- instructor adjusts prompts for success as necessary
- instructor fades prompts as necessary and immediately presents S<sup>D</sup> without prompts
- instructor presents a distracter trial if child has been successful
- instructor returns to original S<sup>D</sup>
- reinforcement is varied according to the independence of the response
- item or activity used as reinforcer appears to be something the child wants



**Shaping** is the differential reinforcement of approximations towards a target response. For many skills, you can prompt the correct response, and reinforce the response when it occurs. However, sometimes the response you want never occurs even with prompting. The reasons may be that the response is too complex or foreign. For example, suppose you want to teach your child/student to say the word "book." However, when you give the instruction "say book," he just says "bah." If you were to wait until he said "book" to reinforce the response, your child would probably stop responding entirely. Alternatively, the skill may be beyond your child's level in other ways—for example, sitting quietly in circle group for 15 minutes, when right now he can't sit longer than 1 minute. To teach such new responses, you need to rely on shaping.

Shaping develops new responses incrementally, meaning that you reinforce responses that come close to (are approximations of) the new behavior in a stepwise fashion. Each time the student makes progress, you give more reinforcement for those better responses, while decreasing reinforcement for lesser responses. Withholding reinforcement for the earlier responses results in response variation, allowing you to reinforce better and better responses. Shaping results in a change in the behavior itself—either in the "topography" of the behavior (what it looks or sounds like, such as "ba" moving towards "book") or the duration or intensity of the behavior. For example, you could shape being able to sit at the table for one minute by starting with reinforcing sitting at the table for five seconds and then gradually increasing the requirements.

The change in the behavior itself is what distinguishes shaping from prompting or developing instructional control over existing skills. When prompting, the response stays the same, while the antecedents to the response (the instruction and prompts) change. In shaping, the instruction stays the same, while the response changes to become more accurate (as the criterion we use to determine reinforcer delivery changes—our "definition" of the correct response changes).

Generally, shaping is used for skills that cannot be prompted easily—such as vocal imitation (echoics), fine motor skills, general muscle strength and coordination, and increasing the duration of participation in activities. If prompts are possible for certain steps of the shaping process, they may nevertheless be used—shaping does not rule out the use of prompts, it is simply a different procedure. Shaping may also be used with a student who is heavily dependent on prompts to respond, in order to reinforce more independent responding.

If your child can make the response that you are trying to teach, but simply does not do it when you ask (for example, he has very good fine motor control, but will not imitate a sign when you ask), then this is probably more a matter of needing to gain instructional control (see QuickTips: Instructional Control) rather than needing to shape the response. However, if, for example, you are trying to teach your child to vocally imitate the word "book", but you have never heard him say this word, then shaping would be necessary.

There are three elements to the shaping procedure: the *terminal response*, *starting point*, and the *successive approximations*. The terminal response is the new behavior or final objective of the shaping procedure; the starting point is a response that the student can do and somewhat resembles the terminal response (for example, the response "bah" to your S<sup>D</sup> "say book"); and the successive approximations are the steps that define the path the student takes from the starting point to the terminal response (for example, "bah," then "buh," then "buuh," then "book").

**Identifying successive approximations:** consider the paths that your child might take towards the terminal response and which steps along the path will receive reinforcement. Although your child may not take the exact path you plan out, by identifying possible steps, everyone will be more likely to observe the small improvements your child makes. All instructors should highly reinforce the highest level of response that the student has achieved. If one instructor highly reinforces a lesser response than the student is capable of, the student will not be motivated to give higher level responses with other instructors.

**Reinforcing approximations:** Start out by reinforcing the starting point response several times, or until it occurs reliably to the instruction. Then, reduce the amount of reinforcement you deliver for that step (consider that step response mastered), and wait for your child to give a higher level response (the next step) before reinforcing heavily. When your child does give a higher level response, and is beginning to be somewhat consistent with it (don't "hold out" if the better response has only occurred once!), do not reinforce the lesser response any longer (at this point with some skills, prompts may be given to perform the current level of response if the student makes a lesser response at any time). Repeat this stepwise process of reinforcing better responses highly and ceasing to reinforce lower level responses until your child reaches the target (terminal) response.

A few rules of thumb exist to guide you from one step to the other. First, never move to (require) a new step until the previous one is consistent. Second, reduce the level of reinforcement for mastered steps to increase the likelihood of the student moving forward. Be sure to strongly reinforce any improvement, and stop reinforcing lesser responses when improvement is made. Third, make sure you are looking for small enough steps so that the student can succeed. If your child stops responding, first check the effectiveness of your reinforcers, and then evaluate the steps of your procedure. Finally, remember, most instructors require some practice with shaping before they come proficient. Stick with it.

Martin, G.L., & Pear, J.J. (1999). *Behavior modification: What it is and how to do it*, 6th ed. Englewood Cliffs, NJ: Prentice Hall. "Chapter 5: Getting a New Behavior To Occur: An application of shaping"

Pryor, K. (1984) *Don't Shoot the Dog*. New York: Bantam Books. "Chapter 2: Shaping: Developing super performance without strain or pain"

Skinner, B.F. (1953). *Science and human behavior*. New York: Free Press.

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**Exercises: Shaping a behavior**

To practice shaping, try a version of the "hot/cold" game. Have one member of a group leave the room, and select a particular motor skill to "shape" for your "student". For the purposes of this exercise, you must imagine that you cannot prompt the skill in any way—your "student" does not speak English, cannot follow instructions, and cannot imitate you! When your "student" returns, try to shape the behavior you have targeted, by providing some short reinforcing signal (such as a clap or click of a clicker) whenever he makes an approximation towards the desired skill. For example, if you have selected "turn around in circles" as the skill, whenever he begins to rotate his body, you would click. As he rotates more, click more. If he stops rotating, don't click—wait for an approximation to return. You might find "superstitious" behavior arising as you inadvertently reinforce more than just the response you are after. Also, as an adult, your "student" might be trying to "reason out" the correct response. Nonetheless, you will see the power of shaping! Note that shaping a new skill with your child will take considerably longer than this demonstration...

**Skills to shape for** \_\_\_\_\_

Select appropriate skills to shape for your child. Identify starting and terminal responses as well as possible successive approximations and reinforcers to use. For example, shaping "staying with me in the grocery store" might have a starting point of walking in to the grocery store and back out, with successively longer forays in, going in and purchasing a favorite item (with a reinforcer of getting the item), purchasing multiple items, etc. Shaping the articulation of a sound or word might start with any vocal production in response to your instruction, with successively more accurate vocal imitation. Keep track of your child's current level so everyone knows his best response.

**Skill to shape:** \_\_\_\_\_

**Note current level**

**Sp:**

**Starting point:**

**Reinforcement:**

**Successive approximations:**

**Shaping Checklist**

- better approximations are reinforced highly
- responses are reinforced immediately
- lesser approximations are reinforced at a minimal level or not at all
- instructor appears to know child's best level of response
- consequence appears to be something that the child wants



## **APPENDIX H**

### **VIDEO TAPE PERMISSION AND CONFIDENTIALITY AGREEMENT**

### Video Tape Permission and Confidentiality Agreement

The staff of the Redwood Coast Regional Center and the research team from Humboldt State University agrees to maintain confidentiality of all video tapes and other homework assignments submitted for the purposes of the "Quick Tips for Success: Behavioral Teaching Strategies". No tapes or homework information will be used for purposes other than the immediate assignments as laid out in the course and for course evaluation purposes without the express written permission of the training participants. We also agree to maintain confidentiality of all information conveyed to us in any way, including information shared during discussion of homework assignments, role-plays, videos, or any other class activities.

I agree to maintain the confidentiality of all information regarding training participants conveyed to me in any way, including information shared during discussion of homework assignments, role-plays, videos, or any other class activities.

---

Print Name (Course Participant)

Signature and Date

I agree to maintain the confidentiality of all information gathered from participants for research purposes.

---

Print Name (Course Participant)

Signature and Date

I agree to maintain the confidentiality of all information about course participants, including information shared during discussion of homework assignments, role-plays, videos, or any other class activities.

---

Print Name (Course Participant)

Signature and Date

I give permission for the videotapes I submit during the training series to be used for the purposes of research on the effectiveness of an applied behavior analysis strategies training for parents and caregivers.

---

Print Name (Course Participant)

Signature and Date

## **APPENDIX I**

### **DEMOGRAPHIC INFORMATION**

*Please circle the answer that corresponds to you and/or the child you provide care for.*

1. How long have you provided care for a child with a developmental disability?

- Less than 6 months
- 6 months – 1 year
- 1 year – 3 years
- 3 years – 5 years
- More than 5 years

2. Have you had previous training in applied behavior analysis strategies?

- Yes
- No

3. If yes, what previous training have you had (please list previous training and the number of hours of training)?

4. Have you taken classes in child development or behavior analysis?

- Yes
- No

5. If yes, what classes have you taken (please list previous classes) ?

6. a) Caregiver's Gender: Male / Female                    b) Child's Gender: Male/Female

7. What is your relationship to the child with a developmental disability?

- Parent
- Sibling
- Grandparent
- Aunt/Uncle
- Other relative
- Guardian
- Respite Worker
- Behavior Respite Worker
- Other \_\_\_\_\_

8. How old is the child you care for? \_\_\_\_\_

9. How many hours per week do you provide care for a child with a developmental disability?

- 1 – 3 hours
- 3 – 6 hours
- 6 – 9 hours
- 9 – 12 hours
- 12 – 15 hours
- 15 or more hours

10. How many children with a developmental disability have you provided care for? \_\_\_\_\_

11. What is the diagnosis of the child you care for? \_\_\_\_\_

## **APPENDIX J**

### **PARENTAL CONSENT**

Effects of an Applied Behavior Analysis Training Program on Self-Efficacy, Perceived Stress, and Behavioral Skills of Parents and Caregivers of Children with Developmental Disabilities

Department of Psychology, Humboldt State University

Parental Consent Form

I \_\_\_\_\_ permit \_\_\_\_\_ to act as my child's caregiver and give my permission as the child's legal guardian for \_\_\_\_\_ to indirectly participate in the "Quick Tips" training as the child for whom \_\_\_\_\_ will be implementing the training strategies learned. I understand that by giving my consent for \_\_\_\_\_ to work with my child, I am also agreeing to allow my child to be indirectly involved in a research study. I understand that participation is voluntary and that I may withdraw this consent at any time without penalty.

\_\_\_\_\_  
Legal guardian signature

\_\_\_\_\_  
Date

I agree to allow \_\_\_\_\_ to videotape working with my child as a part of the training.

\_\_\_\_\_  
Legal guardian signature

\_\_\_\_\_  
Date

I agree to allow videotapes of my child interacting with his/her caregiver to be used for research purposes on the effectiveness of an applied behavior analysis strategies training program for parents and caregivers.

\_\_\_\_\_  
Legal guardian signature

## **APPENDIX K**

### **TRAINING COURSE EVALUATION FORM**

**Quick Tips for Success: Behavioral Teaching Strategies**  
**Siri Ming, M.A., B.C.B.A.**

I am a...

- Direct support staff
- Parent/family member
- Teacher
- Other: \_\_\_\_\_

My primary reason for attending this program was:

- Subject was of interest
- Reputation of instructor
- Recommended by colleague
- Required by employer
- Other: \_\_\_\_\_

*Please use the following scale to answer the questions below:*

*Absolutely Not – 1      Probably – 2      Uncertain – 3      Somewhat – 4      Absolutely – 5*

1. Was this training consistent with its objectives and title?

Absolutely Not – 1      Probably – 2      Uncertain – 3      Somewhat – 4      Absolutely – 5

2. Was the training content and level appropriate to your experience and previous training?

Absolutely Not – 1      Probably – 2      Uncertain – 3      Somewhat – 4      Absolutely – 5

3. Did the training expand your knowledge in this topic?

Absolutely Not – 1      Probably – 2      Uncertain – 3      Somewhat – 4      Absolutely – 5

4. Was the training relevant to your current/future duties and activities?

Absolutely Not – 1      Probably – 2      Uncertain – 3      Somewhat – 4      Absolutely – 5

5. Were written handouts clear, helpful, and appropriate?

Absolutely Not – 1      Probably – 2      Uncertain – 3      Somewhat – 4      Absolutely – 5

6. Were role-plays, videos, discussion groups, or other exercises clear, helpful, and appropriate?

Absolutely Not – 1      Probably – 2      Uncertain – 3      Somewhat – 4      Absolutely – 5

7. Were you able to complete the homework exercises?

Absolutely Not – 1      Probably – 2      Uncertain – 3      Somewhat – 4      Absolutely – 5

8. Was the instructor able to engage and control the atmosphere of the group?

Absolutely Not – 1      Probably – 2      Uncertain – 3      Somewhat – 4      Absolutely – 5

9. Was the instructor knowledgeable in the subject matter?

Absolutely Not – 1      Probably – 2      Uncertain – 3      Somewhat – 4      Absolutely – 5

10. Was the training an appropriate length and appropriately paced for the content?

Absolutely Not – 1      Probably – 2      Uncertain – 3      Somewhat – 4      Absolutely – 5

11. Did taking this training benefit you?

Absolutely Not – 1      Probably – 2      Uncertain – 3      Somewhat – 4      Absolutely – 5

12. Did taking this training benefit the child you care for?

Absolutely Not – 1      Probably – 2      Uncertain – 3      Somewhat – 4      Absolutely – 5

What was the most important thing you learned that (a) you did not know, or (b) now understand in greater depth?

What other courses/trainings would you like to see RCRC offer?

If you could change one thing about this training presentation, what would it be?

Would you be willing to be contacted as a follow-up to this training? If so, please provide contact information.

Please use the back of this sheet to provide us with any additional comments...

*Thanks for your participation!*

## APPENDIX L

### QUICK TIPS TRAINING FLYER

## QuickTips for Success: Behavioral Teaching Strategies

Redwood Coast Regional Center, with HCCC and HCAR respite services, presents a FREE workshop series for respite workers and families of children with autism or other developmental disabilities.

This is a unique opportunity to learn to implement behavioral teaching strategies! Presented by Siri Ming, M.A., B.C.B.A., RCRC Behavior Analyst and former director of training for Behavior Analysts, Inc., this workshop series provides intensive training in principles of reinforcement, prompting, fading, shaping, and discrete trial teaching as they apply throughout a child's day. Participants will learn to increase appropriate behavior and thus reduce inappropriate behavior.

This intensive workshop series will consist of five meetings as a group as well as self-directed homework assignments. Homework will include reading and exercises to complete with your child. For this training, we also have the exciting opportunity to offer individualized feedback on videotaped homework exercises. Video feedback is a unique and powerful training tool, so please sign up quickly for this option—we have only 5 spaces available for participants who are interested in assistance with video taping the implementation of the homework exercises and receiving individualized feedback.

The training is open to parents and other family members, and to respite or behavior respite workers who serve children with autism or other developmental disabilities. Class size is limited to 25 participants (5 spaces for video assistance).

The training meetings will be held on the following Mondays from 9 am-12 pm:  
March 22, March 29, April 5, April 12, and April 19.

Location: Redwood Coast Regional Center, 525 2<sup>nd</sup> Street, Suite 300, Eureka

RSVP by March 1st to Karen Reichlin, 445-0893 ext 318, or  
[kreichlin@redwoodcoastrc.org](mailto:kreichlin@redwoodcoastrc.org)

For questions about the training, contact Siri Ming, ext 315 or  
[sming@redwoodcoastrc.org](mailto:sming@redwoodcoastrc.org)

Please let us know if child care arrangements prevent you from attending this training.

This training is being offered as part of a Master's thesis research project conducted by Tricia A. Wood, under the supervision of Mary Gruber, Ph.D., B.C.B.A., Professor of Psychology. Participants are encouraged to participate in this research project, but it is not required. Questions about the research project may be directed to Tricia A. Wood at 498-9041 or Dr. Mary Gruber at 826-3748.

## **APPENDIX M**

### **LETTER OF CONSENT**

Department of Psychology, Humboldt State University

The purpose of this letter is to provide information to all participants in the Behavior Analysts, Inc., Quick Tips strategies training program conducted by Siri Ming, M.A., BCBA, Behavior Analyst, Redwood Coast Regional Center.

**Why should I participate?**

The purpose of this study is to analyze the effectiveness of an applied behavior analysis based training program that teaches caregivers of children with developmental disabilities basic teaching strategies based on principles in positive behavior modification.

**When and where will the training take place?**

Redwood Coast Regional Center, located at 525 2<sup>nd</sup> Street, Suite 300, Eureka CA.  
Monday 9:00am-12:00pm, starting March 22 through April 19

**What is expected of me as a participant?**

I agree to attend all scheduled training sessions. I will complete self-report measures before and after the specified training. I will implement appropriate activities with a child with a developmental disability, as part of the training program.

If I or/my child's caregiver is selected as a participant for the single subject design:

I \_\_\_\_\_ permit \_\_\_\_\_  
To participate in and have data collected on target behaviors. I understand that both me and my child's participation is strictly voluntary.

**How will I benefit from participation in this research?**

I will receive training services from individuals trained in applied behavior analysis techniques. I will learn skills that may better enable me to manage maladaptive behaviors, teach appropriate behaviors, and to provide support for the child I provide care for.

**What is the cost of the program?**

The training is provided for free by the Redwood Coast Regional Center.

**What will the data be used for?**

In agreeing to participate in the research study I agree to allow data collected before, during, and after the training to be analyzed to assess the effectiveness of the training program. The data will be used to examine the effects of training on confidence and stress related to caring for a child with a developmental disability, and frequency of child behaviors. Data collected may be disseminated in the professional realm, such as the researcher's thesis, professional journal, or psychological conference. No personally identifying information will be included in this dissemination.

**How will my rights and confidentiality be protected?**

Identifying information will not be included in the thesis results. Participants will be identified by numbers for the purpose of the results section. Any identifying information produced during training will be in the possession of the individuals conducting the training. The researcher and the Quick Tips trainers will have access to all records and research materials.

**What will happen to the data after the program is complete?**

All records will be the property of Humboldt State University, and will be in a locked file cabinet at Humboldt State University. Upon completion of the research, all raw data will be destroyed.

**What are the risks?**

As in all research there may be unforeseen risks to the participants. The potential risks of participation in this study may include you or the child you care for experiencing temporary stress or disruption of usual activities and temporary disruption of your normal routine or activities, as you implement new strategies learned in the training

**May I withdraw at any time?**

I understand that by participating in this study, I am agreeing to participate and that my child and I may withdraw at any time, free from penalty or risk of any kind.

The research will be conducted by Tricia Wood in partial fulfillment for the degree Master of Arts in psychology, and will be under the supervision of Mary Gruber, Ph. D., BCBA, Professor of Psychology. If I have any questions with anything pertaining to this study, I may contact Tricia Wood at (707) 498-9041, or Mary Gruber, Ph.D., at (707) 826-3748.

My signature indicates that I agree to participate in this study, in accordance with the information provided to me in this consent letter. Furthermore, my signature indicates that I grant permission for my child to be observed in this study when the training program requires such involvement.

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Participant signature

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Date