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Evaluation of a Standardized Protocol for Parent Training in Positive Behavior Support Using a Multiple Baseline Design

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Evaluation of a Standardized Protocol for Parent Training

in Positive Behavior Support Using a Multiple Baseline Design

by

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A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Arts
Department of Child and Family Studies
College of Behavioral and Community Sciences
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disabilities, Parental implementation, Function based interventions

Dedication

For everyone who stood by me through this whole ordeal, without all of your support and sometimes nagging I never would have gotten to where I am today. Thank you for everything.

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I would like to thank all of the faculty and staff who have helped guide and support me through this endeavor. Without each and every one of you I could not have accomplished this lofty goal. I want to especially thank Dr. Meme Hieneman, without whom I most certainly would not have kept it together long enough to finish this work. Your encouragement and support have meant the world to me and I couldn't have imagined doing it without you.

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ABSTRACT

Challenging behaviors such as hitting, kicking, screaming, destruction of property and other socially-inappropriate behaviors are common among children with significant disabilities. Behavior Parent Training (BPT), which is based on basic principles of Applied Behavior Analysis (ABA), has been shown to be effective in reducing these problem behaviors. Traditional approaches to BPT have typically emphasized consequence-based interventions, however, advances in the field of ABA (e.g., FBA, antecedent-based interventions) and PBS have led to more strategies that are more effective in complex community environments. Evidence of such practices is emerging but has not been adequately documented. The current study evaluated the use of a standardized PBS protocol in decreasing problem behaviors of four children with developmental disabilities. The success of the parent education protocol was evaluated using a multiple baseline across participants design. Results of this study showed that after participating in parent education using a standardized protocol, participants' children displayed decreases in problematic behavior as well as increases in adaptive behavior, for all but one of the participants.

Introduction

Challenging behaviors such as hitting, kicking, screaming, destruction of property and other socially-inappropriate behaviors are common among children with significant disabilities. There is some research to suggest that these problem behaviors can be up to four times more likely to occur in this population than among typically developing children (Lowe et al., 2007). These problem behaviors along with parental concern on how to manage these behaviors can cause significant stress for the parents (Moes, 1995). In addition, problem behaviors can have an effect on the entire family by limiting family routines, access to the community, and socialization (Cole & Meyer, 1989; Fox, Vaughn, Dunlap, & Bucy, 1997; Vaughn, Dunlap, Fox, Clarke, & Bucy, 1997).

Behavioral Parent Training (BPT) is one approach used to address problem behavior. BPT has been demonstrated to be effective in helping families reduce problem behavior of their children with disabilities. BPT is based on basic principles of Applied Behavior Analysis (ABA; Baer, Wolf, & Risley, 1968) and involves teaching parents intervention strategies to better manage their children's behavior. BPT has been evaluated using primarily group designs and has been shown to be effective in reducing problem behaviors such as non-compliance, temper tantrums, defiance, and aggressiveness (Serketich & Dumas, 1996).

In the past, BPT has focused primarily on consequence-based strategies (Eyeberg & Boggs, 1989), however, advances in the field of ABA have led to strategies that

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maximize the effectiveness of behavior change procedures in BPT. Advances include the use of functional assessments to determine the purpose problem behaviors serve (Day, Horner, & O'Neill , 1994; Durand & Crimmins, 1988; Iwata, Dorsey, Slifer, Bauman, & Richman, 1994), function based intervention strategies, and antecedent based strategies that address the contexts in which problem behaviors occur (Dunlap, Kern-Dunlap, Clarke, & Robbins, 1991). These evolutions in ABA have in-turn led to more positive, proactive, and individualized behavior interventions (Conroy, Dunlap, Clarke, Alter, 2005).

Positive Behavior Support (PBS) is an effort to integrate the principles and features of ABA into complex community environments, by contextualizing the process to fit the particular family who needs assistance and including key stakeholders in all aspects of the intervention process (Carr et al., 2002). More specifically, individualized interventions seek to decrease problem behavior through the use of multi-component interventions. These multi-component interventions include prevention strategies, positive consequences, and teaching replacement behaviors to take the place of the problem behaviors which can be readily implemented by direct support providers in natural contexts. PBS not only embraces the ABA principles of functional assessments and the use of antecedent and consequence-based intervention strategies to improve children's behavior, but also focuses on the importance of making greater lifestyle changes in general (Risley, 1996).

PBS has been shown to be effective in improving behavior in children with disabilities with a wide range of needs and characteristics (Buschbacher, Fox, & Clarke,

2004; Vaughn et al., 1997; Vaughn, Wilson, & Dunlap, 2002). While robust, PBS research has focused primarily on in-school interventions with the teacher or researcher as the intervention agent (Conroy et al., 2005). Through the years PBS has been most commonly evaluated and shown to be effective using single-case designs, primarily multiple baseline across behaviors or settings (Lucyshyn et al., 2007; Vaughn et al., 1997). A probable explanation for the extensive use of single subject designs in PBS is that the idiosyncratic, comprehensive nature of the approach lends itself most readily to single subject investigations. PBS is seen as an implementation approach using not just one procedure but multiple, individually-selected procedures that can be implemented as a package in less controlled settings. Single subject research, while important with regard to internal validity, makes it hard to evaluate interventions across children, especially since there is a lack of a standardized PBS protocol. To further demonstrate the effectiveness of PBS it is necessary to evaluate a standardized PBS protocol that can be used across participants employing the parent as the intervention agent.

The purpose of this research project was to take a standardized PBS protocol (Durand & Hieneman, 2008a; Durand & Hieneman, 2008B) that combined the principles of ABA (i.e., functional assessments, antecedent based strategies) and the components specific to PBS (i.e., contextual fit, stakeholder emphasis) and evaluate it with pessimistic families. The goal was to demonstrate the effectiveness of BPT in PBS with the parents operating as the intervention agents. This research project intended to use four participants from a larger study being run out of the University of South Florida directed by Drs. Mark Durand and Meme Hieneman. Participants were compared in a multiple

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baseline across participants design to determine if the use of a standardized protocol to parent education was effective on an individual level. The hypotheses for this study were: 1) participation in parent education would lead to a decrease in the problematic behavior of the participant's child and 2) participation in parent education would also lead to an increase in the adaptive behavior of the participant's child. Changes in a standardized measure (i.e., SIB-R) were also expected.

Literature Review

Behavioral Parent Training (BPT) is based on the principles of applied behavior analysis (ABA; Baer et al., 1968) and is used to help families develop the skills to manage their children's behavior. BPT grew out of a need to expand intervention programs to provide services to more families and children, especially those with disabilities (Symon, 2005). One way of expanding services is to empower parents to implement strategies themselves. BPT does just that by teaching parents ways in which they can implement intervention strategies in order to address their child's problem behavior. In general, BPT has been shown to be effective in reducing problem behavior in children, with children whose parents participated in BPT having better outcomes than 80% of those whose parents did not participate in BPT (Serketich & Dumas, 1996). More specifically, research in BPT has shown that including parents in the implementation of intervention strategies is a relatively inexpensive way to expand intervention services and provide these services to more families (Koegel, Bimbela, & Schreibman, 1996; McClannahan, Krantz, & McGee, 1982).

In the past BPT has focused heavily on the use of consequence based strategies, employing differential reinforcement and time-out as their main behavior change techniques. Both of these methods are illustrated in manuals that have been used to modify "antisocial" behavior in children (Eyeberg & Boggs, 1989). While BPT has been shown to be effective in the literature using group designs to evaluate its procedures

(Feldman & Werner, 2002; MacKenzie, Fite, & Bates, 2004) there have been advances in the field of ABA which have led to more proactive, positive, and individualized intervention strategies.

Advances in ABA include the use of functional assessments (O'Neill et al., 1997) to identify interventions that address the function of the problem behavior (Day, et al., 1994; Durand & Crimmins 1988; Iwata et al., 1994; Peterson, Derby, Berg, & Horner, 2002; Scott & Eber, 2003) and antecedent based strategies that address the contexts in which problem behaviors occur (Dunlap et al., 1991; Kern & Clemens, 2007). Functional assessments are used to identify the consequences maintaining problem behavior (Day et al., 1994; McNeill, Watson, Henington, & Meeks, 2002; Newcomer & Lewis, 2004) and the environmental variables surrounding the behavior (Duda, Dunlap, Fox, Lentini, & Clarke, 2004). Once an assessment has been conducted interventions are developed based on the assessment and the function the problem behavior serves.

Preventive strategies involve the modification of antecedents and setting events. These strategies are based on the idea that modifications made to the environment around the child can lead to decreases in problem behaviors. Antecedent manipulations such as curricular modifications (Dunlap et al., 1991), incorporation of choice or preference (Blair, Umbreit, & Bos, 1999), and introducing "neutralizing" routines (Horner, Day, & Day, 1997) have all been shown to be effective in reducing problem behavior.

Positive Behavior Support (PBS) is an effort to integrate the advancements in the field of ABA into a comprehensive system effective in complex community settings (Carr et al., 2002; Dunlap, et al., 2000; Horner et al., 1990). PBS seeks to use features

and concepts that have been shown to be effective in the field of ABA, such as functional behavior assessments and antecedent based strategies. More specifically, individualized interventions seek to decrease problem behaviors through multi-component interventions such as prevention, positive consequences, and teaching replacement behaviors. In combination with the advancements in the field of ABA, PBS seeks to not only decrease problem behaviors but there is also a strong focus on improvements in quality of life (e.g., independence, enhanced relationships).

The elements of PBS intervention plans fall into three categories: prevention strategies, replacement behaviors, and consequence management. Prevention strategies involve making adjustments to the environment around the behavior to make the behavior less likely to occur (Cihak, Alberto, Frederick, 2007; Conroy et al., 2005; Cote, Thompson, & McKerchar, 2005; Kern & Clemens 2007). Replacement behaviors involve teaching a new skill which will replace the problem behavior. Consequence management refers to the removal of reinforcing stimuli that have previously followed challenging behavior and instead presenting that reinforcing stimuli for appropriate behavior (Duda et al., 2004)

Through the use of functional behavior assessments (O'Neill et al., 1997) as the foundation for treatment, function- based interventions such as functional communication training (FCT) (Durand, 1990; Durand 1999), and the use of antecedent strategies (Buschbacher et al., 2004; Dunlap, et al., 1991; Horner et al., 1997), PBS is quickly becoming a popular approach to teaching parents how to effectively deal with the problem behaviors of their children with disabilities. In addition to these behavior

analytic components PBS also incorporates an emphasis on the stakeholder (i.e., the parents) participation and the contextual fit of interventions (Albin, Lucyshyn, Horner, & Flannery, 1996; Hieneman & Dunlap, 2000; Hieneman & Dunlap, 2001; Ruef & Turnbull, 2001; Soodak, et al., 2002).

Positive behavior support is considered a collaborative process. Parents, family members, and other important people in the child's life are included in all aspects of the PBS process. Once a team is established they are the ones who choose target behaviors as well as help to design the plan and implement the intervention strategies (Hieneman & Dunlap, 2000; Hieneman & Dunlap, 2001). During the PBS process parents are taught to conduct functional behavior assessments (FBA) and design and implement strategies themselves. This teaching process is typically guided by a professional however, by including the family in every step of the process PBS almost ensures that strategies will be implemented because they will address what is important to the family and also take into consideration the family values and how the plan will fit into their everyday lives (Albin et al., 1996; Lucyshyn, Dunlap, & Albin, 2002).

Research in PBS has shown it to be effective in decreasing problem behaviors (Buschbacher et al., 2004; Vaughn et al., 1997; Vaughn et al., 2002). For instance, Koegel, Stiebel, and Koegel (1998) conducted a study in which they sought to decrease aggression in children with autism toward a sibling. They did so by providing instruction to the parents on ways to rearrange the environment to make problem behaviors less likely and teach replacement behaviors that would make aggression less functional. The parents were to develop and implement strategies in their home with only minor

prompting when required. Results of the study showed that changing contextual stimuli associated with problem behavior and using functional communication training to replace aggression was an effective way to reduce aggression in children with autism.

Moes and Frea (2000) conducted a study which illustrates the effectiveness of contextualized interventions in which the parents are involved in all aspects of the planning. In this study, all assessment and intervention sessions took place in the participant's home and took place during routines the parents identified as problematic. Intervention strategies during the contextualized treatment planning condition were develop based on family preferences and input. During the prescriptive treatment planning condition a treatment package was provided to the parents without their input. Both conditions produced strategies based on the results of the functional assessment. However, substantial reductions in problematic behavior and increased compliance during family routines were observed only during the contextualized treatment planning condition. Results from this study illustrate the importance of stakeholder involvement and contextual fit of the intervention strategies.

Most research has used single case designs which has created a strong foundation by showing the procedures used are effective and produce a change in a single child's behavior, however, this cannot be said to generalize to other children (Barry & Singer, 2001; Lucyshyn, et al., 2007; Vaughn, et al., 1997). Studies which use a multiple baseline design are generally multiple baseline across behaviors or settings but not across multiple children. (Vaughn et al.,1997).

The Association for Positive Behavior Support (APBS) has defined PBS as: "a set of research-based strategies used to increase quality of life and decrease problem behavior by teaching new skills and making changes in a person's environment. Positive behavior support combines: valued outcomes, behavioral and biomedical science, validated procedures, and systems change to enhance quality of life and reduce problem behavior." However, APBS does not define what the validated procedures are and has yet to develop a standard protocol for individuals to follow. The ideas behind PBS have been articulated in the literature but how to translate that into practice has not been well documented. In studies involving PBS there is no standard protocol or procedure that is followed making it hard, if not impossible to replicate, across people. In order to add to the PBS literature it is important to determine if parent education using a standardized protocol is effective in reducing problematic behavior in multiple children.

Method

This research study was designed to add to the PBS literature through the evaluation of the effectiveness of parent education using a standardized PBS protocol (Durand & Hieneman, 2008a; Durand & Hieneman, 2008b) through the use of a multiple baseline design across four participants who have children between the ages of 3 and 5 with a developmental disability and severe problem behaviors. After participation in the intervention sessions each participant's child was expected to have 1) decreased levels of problematic behavior and 2) increased levels of adaptive behavior as measured by scoring videotaped probes using a partial interval system. Changes in standardized measures (e.g., SIB-R) were also expected.

Selection Criteria & Participants

Participants in this study were 4 mothers of children between the ages of 3-5 with diagnosed developmental disabilities (e.g., Autism, PDD-NOS, Williams syndrome) who had no previous training in PBS. Participants were also required to score high on pessimism as indicated by the Questionnaire of Resources and Stress (QRS) (See Appendix A) because this study was part of a larger research program targeting parents who are pessimistic and therefore less likely to complete training and implement interventions. This was measured using the pessimism subscale of the QRS, with participating parents scoring 6 or higher. In addition to the pessimism criteria a parent

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was eligible for the study if their child exhibited significant problem behavior as indicated by the following criteria:

- the Child Behavior Checklist (CBCL) (Achenbach & Rescorla, 2000), with a minimum inclusion percentile score for problem behavior being the 90th percentile or above;
- the Scales of Independent Behavior Revised (SIB-R) (Bruininks, Woodcock, Weatherman, & Hill, 1996), with a minimum score of -31 or below or "serious" on the general maladaptive index (GMI); and
- evidence of problematic behavior in an average of 20% or more of the intervals during one to four 30-minute videotaped sessions of a problematic routine.

Based on these criteria four participants were chosen. Participants were recruited via schools, parent support groups, therapy centers, and pediatricians. Prior to administering assessments, videotaping, or initiating intervention the researchers obtained written informed consent (See Appendix B). Of note, the larger study of which this was a part has been IRB approved with the University of South Florida Research Compliance Office.

Table 1 lists the four selected participants and their scores in order to meet inclusion criteria.

Table 1. Participants Scores for Inclusion Criteria				
	Child Behavior Checklist (CBCL)	Scales of Independent Behavior (SIBR)	Average % of Intervals with Problematic Behavior	Questionnaire on Resources and Stress (QRS)
Bobby	>97th percentile	-43 (Very Serious)	71%	8
Lilly	90th percentile	-40 (Serious)	27%	7
Cam	>97th percentile	-33 (Serious)	46%	7
Amanda	>97th percentile	-55 (Very Serious)	45%	9

Bobby (Karen)

Karen was a mother with 3 children. She contacted the study to get assistance with her 4 year old son, Bobby. Bobby was diagnosed with autism. His problem behaviors as reported by his mother included non-compliance (i.e., falling to the floor, not following directions, hiding in his closet) and aggression (i.e., hitting with an open hand) were of concern to his mother. On the baseline measures Bobby met criteria with scoring greater than the 97th percentile on the CBCL, -43 (very serious) on the GMI index of the SIB-R; and 76% of intervals with problematic behavior during baseline routine videotaping. Due to the level of problematic behavior displayed during the first video probe no other video probes were conducted.

Lilly (Sandy)

Sandy was a part-time substitute teacher with 3 children. Her daughter, Lilly, was 4 years old and had been diagnosed with William's Syndrome. Lilly's behaviors of concern were aggression (i.e., hitting with an open or closed hand, kicking her legs), destruction (i.e., slamming doors, kicking her bike helmet), and opposition (i.e., saying

"no", folding arms, walking away). Lilly scored in the 90th percentile on the CBCL; -40 (serious) on the GMI index of the SIB-R; and over the course of 3 video probes had an average of 27% of intervals in which problematic behavior occurred.

Cam (Michelle)

Michelle was a stay at home mother with 2 children. Cam was 3 years old and had been diagnosed with autism. His behaviors of concern were tantrums (i.e., screaming, dropping to the floor), biting, and screaming when not having a tantrum. Cam scored greater than the 97th percentile on the CBCL; -33 (serious) on the GMI index of the SIB-R; and over the course of 3 video probes had an average of 46% of intervals in which problematic behavior occurred.

Amanda (Susan)

Susan worked part-time as a piano instructor and had only one child. Amanda was 5 ½ years old and had been diagnosed with William's Syndrome and PDD-NOS. Amanda's behaviors of concern were throwing things at others and aggressive behaviors (i.e., pinching, hitting, kicking other people). Amanda scored greater than the 97th percentile on the CBCL; -55 (very serious) on the GMI index of the SIB-R; and over the course of 4 video probes had an average of 45% of intervals in which problematic behavior occurred.

Dependent Measures

Dependent measures included: child problematic and adaptive behaviors as measured by a partial interval scoring system of video probes, as well as scores on the

standardized measure of the SIB-R. The dependent measures are described in the following section.

Behavioral definitions for videotaped child behavior.

Child behavior was grouped into problematic and adaptive behavior categories for data analysis purposes. Problematic child behavior included:

1) aggression – striking or attempting to strike or injure another person with any part of their body or an object (e.g., hitting, kicking, biting, pushing, throwing objects at a person)

2) vocalization – crying or screaming involving high-pitched sounds which exceed normal conversational volume

3) destruction – slamming, striking, or throwing with risk of damage to those items (i.e., versus tossing a ball during play)

4) opposition – refusing to follow a direct request by saying or shaking head "no," turning or pulling away from the adult, actively resisting physical guidance (e.g., dropping to the ground, running away, struggling to retain an item), or engaging in behavior again immediately after being told no

5) self-stimulation – repetitive movements or manipulation of items that serves no functional use (i.e. flapping, rocking, manipulating fingers, flipping items)

6) other – behaviors of concern specific to child.

Adaptive child behavior included:

      1) engagement – participating in a physical activity through the manipulation of items or objects independently to complete a functional task (even if accompanied by problem behavior)

      2) interaction – initiating or responding to another person verbally (words, sounds) or non-verbally (gestures, movement, contact).

The tapes were viewed prior to scoring in order to make notes of specific examples of each child's behavior. If necessary, specific examples of each child's behavior were added to the above definitions. For an example of specific child behaviors see Appendix C.

Standardized measures.

The SIB-R is "a comprehensive measure of adaptive and problem behaviors. It is primarily designed to measure functional independence and adaptive functioning in school, home, employment, and community." The SIB-R was given during baseline and follow-up to compare participant's perceptions of problematic behavior with actual levels as indicated by the videotaped probes. Questions on the SIB-R fell into 8 categories: hurtful to self, hurtful to others, destructive to property, disruptive behavior, unusual or repetitive habits, socially offensive behavior, withdrawal or inattentive behavior, and uncooperative behavior. Parents were asked about the frequency and severity of behaviors in each category. The general maladaptive index (GMI) is an aggregate measure of all problem behaviors and was scored to determine if there was a decrease in the severity of problematic behavior following intervention. The maladaptive index

scores range from approximately +5 to -70, with an average of 0 and a standard deviation of 10 (among clinical samples). See Table 2 for the level of seriousness and index values associated with those levels.

Table 2. Categories for GMI Scores	
Level of Seriousness	Index Value
N - Normal	+10 to -10
MgS – Marginally Serious	-11 to -20
MdS – Moderately Serious	-21 to -30
S - Serious	-31 to -40
VS – Very Serious	-41 and below

Experimental Design

A non-concurrent multiple baseline design across participants was used to evaluate whether parent participation in parent education sessions had an effect on child behavior, both problematic and adaptive. The reason for using a non-concurrent baseline was because families started the assessment process at different times. Baseline video probes were discontinued once stability in disruptive behavior (i.e., not a decreasing trend) was achieved or videotaping was terminated due to the severity of problem behavior. Due to the severity of problem behavior, it was unethical to carry out further baseline and postpone treatment if the behavior was considered to be harmful or destructive as indicated by the parent. Intervention sessions were begun as soon as possible.

Participants were administered the SIB-R and began with a baseline stage during which 1, 2, 3, or 4 video probes were conducted in order to capture initial levels of problematic and adaptive behavior of the participant's child. Following baseline,

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participants attended eight parent training sessions (independent variable). After intervention, participants were involved in a follow-up phase in which the SIB-R was repeated and three video probes were conducted for comparison to pre-intervention percentages of problematic and adaptive behavior. Their data were graphed for visual analysis using procedures in the data analysis section.

Measurement and Reliability

For the purpose of this study participants identified a routine in which problematic behavior of their child was likely to occur. The routine was videotaped during baseline and repeated during follow-up. Videotaping was completed for the purpose of obtaining a baseline estimate with which to compare following intervention and to compare with other (e.g., standardized) measures. Baseline sessions were terminated early if problem behavior was considered dangerous or destructive. A project staff member, a student in the psychology department who had been trained in the procedures, worked with the family prior to videotaping to identify a routine that was particularly troublesome. They scripted out the details of the routine, including the time of day, people to be present, materials and activities, and parental presentation of demands and reactions. An example of the videotaping procedure form is included in Appendix D. Participants were reminded of the routine prior to research staff arrival. Before videotaping began the staff member placed themselves in an unobtrusive area of the room and refrained from interacting with the family.

Bobby's videotaped routine was getting dressed for school. Lilly's videotaped routine was coming in from outside to brush her teeth and wash her hands. Cam's routine

was play time where either Michelle or Cam's sister would try and get him to play. Amanda's routine was tutoring where Amanda's tutor would come into the home and try to direct Amanda to engage in activities.

Participants' baseline and follow-up videos were used to determine if there was any change in child behavior (i.e., decrease in problematic behavior, increase in adaptive behavior). Thirty minute videotaped probes of child behavior were scored using a ten-second partial interval system that provides a percentage of intervals in which problematic and adaptive child behaviors occur. The intervals were signaled by audiotape, with 10" observation periods followed by 5" recording periods. The trained observers watched the videotape during each ten-second interval, noting whether or not the target behaviors occurred at all during the interval using the data sheet created as part of the study (see Appendix E). If the child engaged in one or more of the problematic behaviors during a particular interval that interval was scored as problematic. If the child engaged in either of the adaptive behaviors during the interval the interval was scored as adaptive. In both instances the duration of the behavior(s) had no bearing on how the interval was scored. Both problematic and adaptive behaviors could have been scored in the same interval. The data yielded a percentage of intervals in which problematic and adaptive behaviors occurred.

Interobserver agreement (IOA) was calculated on approximately 1/3 of the videotapes, scoring to ensure accuracy. When conducting IOA, both observers scored the tape at the same time, shielding their answers from one another. IOA was calculated by dividing the number of intervals with agreements by the total number of intervals (i.e.,

agreements + disagreements) and multiplying by 100% in order to calculate total agreement. The mean total agreement for all dependent measures was 89% (range=80%-100%). The mean agreement for problematic behavior was 90% (range=81%-100%) and adaptive behavior was 89% (range=80%-97%). Reliability was achieved at a level of 98.5% (range=97%-100%) for Bobby, 89.5% (range=81%-100%) for Lilly, 84.75% (range=80%-91%) for Cam, and 88.75 (range=85%-92%) for Amanda.

As a self-report measure conducted with only parents, the SIB-R will not have an IOA measure completed by project staff. However, the SIB-R has documented test-retest reliability characteristics in the comprehensive manual. The two tests were completed by the same respondent within a 4 week period. The test-retest correlation was .97. The SIB-R will be used to make comparisons between changes in problematic behavior according to direct observation (i.e., videotaped probes) and participant's perception of the changes in problematic behavior following intervention.

Following participation in the eight parent training sessions participants were given post-assessment measures at no more than 2 weeks after completion of treatment. Measures given to the participants during post-assessment included the SIB-R and videotaping of the previously identified problematic routines for baseline was videotaped during all three follow-up probes. Pre and post-videos were compared to determine if there was a decrease in problematic behavior and increase in adaptive behavior among participant's children following treatment.

Procedures

The intervention was parent education using a standardized protocol teaching PBS principles and practices. The parent training was delivered in eight 90 minute sessions with a parent educator who had a Master's degree or higher with training in ABA and clinical psychology. The purpose of the program was to teach the parents principles of PBS and have them engage in all aspects of the assessment, design, and intervention process. The sessions followed the protocols precisely so that each parent created a comprehensive behavior support plan which was individual to them and contextualized to their life and environment.

The sessions began with a functional and ecological assessment that identified broad lifestyle goals for the child and the family, clearly defined behaviors of concern, baseline estimates of problematic behavior, and the collection and analysis of data to identify environmental events contributing to the behavior. Participants were taught to use indirect methods such as the Motivation Assessment Scale (Durand & Crimmins, 1986) and functional assessment interviews. They also employed direct observation measures (e.g., scatter plot, frequency/duration measures, ABC observations). The probable purposes (i.e., functions) and antecedent conditions associated with problem behaviors were determined using these tools. Based on data obtained, hypothesis statements which include a description of the behavior, antecedent variables surrounding the behavior, and the consequences maintaining the behavior were developed to guide intervention design.

The intervention included strategies focused on 1) preventing problem behaviors (e.g., modifications to the physical and social environment), 2) managing consequences to maximize reinforcement for positive behavior rather than problem behavior, and 3) developing skills to replace problem behavior (e.g., through the use of functional communication training) and function more effectively in targeted contexts. Strategies were consolidated into a specific written plan, with action steps, deemed acceptable to the parent(s). The behavior plan (see Appendices F, G, H, and I) specified strategies developed for each individual child as well as a plan for monitoring the outcomes of their intervention efforts and making changes to the plan if necessary. Participants share the behavior plan with the rest of their team to encourage consistent implementation. Although the same format was used for each participant the content of the behavior plan was individualized for each family. To see a more detailed description of individual session content refer to Table 3.

Session	Module	Objectives
Table 3. Description of the Objectives of Individual Sessions		
1	Introduction & Goal Setting	1. Understand PBS, including its key concepts and process as illustrated in scenarios. 2. Determine who needs to be involved in the PBS process for their child and how to engage them. 3. Identify broad goals related to lifestyle change for their children and families. 4. Define their children's behaviors of concern objectively (in terms of what they say or do) 5. Establish a system for tracking (i.e., frequency, duration) their children's behavior to establish a baseline.
2	Gathering Information	1. Understand the purpose and goals of understanding behavior through *functional (behavioral) assessment*. 2. Examine their current assumptions about what is influencing their child's behavior. 3. Learn how to gather information through watching their children • talking to other people • recording simple data (i.e., ABC charts)
3	Analysis & Plan Design	1. Be able to identify the events surrounding their child's behavior, including • circumstances in which their child's behavior is most likely and least likely (antecedents and setting events) • the results, outcomes, our functions of the behavior 2. Summarize these patterns into a brief sentence or paragraph (i.e., a hypothesis) to be used as a foundation for intervention planning. 3. Using the hypothesis, identify possible strategies for • preventing problems • managing consequences • replacing behavior
4	Preventing Problems	1. Understand the impact that circumstances preceding behavior (i.e., antecedents, setting events) may have on behavior. 2. Identify and prepare to implement strategies for preventing their child's problem behavior.
5	Managing Consequences	1. Understand the impact that consequences may have on behavior. 2. Identify and prepare to implement strategies for encouraging their child's positive behavior and responding to problem behavior.
6	Replacing Behavior	1. Understand the purpose and criteria for selecting skills to replace problem behavior. 2. Identify specific skills that meet the functions of their child's problem behavior and allow them to deal better with circumstances. 3. Create step-by-step plans for teaching replacement skills.
7	Putting the Plan in Place	1. Develop a written plan that includes all of the components (preventing problems, managing consequences, and replacing behavior). 2. Ensure that the strategies they select fit their child, family and circumstances and focus on lifestyle change. 3. Create an action plan for implementing the behavior plan.
8	Monitoring Results & Wrap-Up	1. Develop a plan for monitoring the results of the behavior plan including both changes in behavior and lifestyle outcomes. 2. Understand the longitudinal, problem-solving nature of positive behavior support and discuss how adjustments may need to be made to the plan over time.

The sessions were presented in order and included all the content listed in the session summaries. At the beginning of each session the parent educators reviewed the previous session, asking participants if they had any questions regarding the content from the previous week. They then went over the weekly progress report used to track changes in behavior, interventions were implemented, and additional homework the participant was to complete. If the participant had not completed all of the homework, the therapist assisted them in doing so and/or reassigned it for the following week. Throughout the review, parent educators provided feedback and guided the participants to modify assessment or intervention procedures as needed. Parent educators then outlined the goals of the session and presented the content, interspersing examples from the protocol and/or their own experience. Timelines for each section were identified on the protocol. Following each main section, the parent educators provided additional examples (as needed) and helped participants to apply the concepts and procedures to their own children, families, and circumstances. Parent educators encouraged the participants to write down the ideas they generated (on homework forms) and documented the relevant information shared by the participants on the therapist notes.

At the end of each session, parent educators go over the homework instructions and forms, making sure participants were prepared to complete the homework. Homework consisted of activities designed to help the participant implement concepts and procedures relating to the content addressed in the session. Parent educators took the participant through specific steps to clarify assignments (i.e., data collection and analysis, implementation). Participants were asked to apply the concept they learned during

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sessions at home (i.e., data collection, implement prevention, replacement behavior, and consequence management strategies) as well as continue to collect data and complete progress reports and report back the next week.

Examples of individual participant's operationally defined behaviors, hypothesis statement, and strategies developed during sessions are presented in Table 4. See Appendices F, G, H, and I for completed behavior plans for all participants.

Table 4. Skills/Procedures Taught during Sessions for Individual Participants				
Participant	Problematic Behaviors	Data Collection	Hypothesis Statements	Examples of Intervention Strategies
Bobby	Tantrum Hurting himself Stripping Picking fuzz	Frequency graph; ABC observation; MAS	- When Bobby is left to entertain himself for extended periods of time he will remove his clothes or pick at fuzz for comfort/amusement. - In the afternoon when Bobby is hungry and tired, he grunts, screams, and hurts himself while his mother offers him various snacks. This occurs until his needs are met (e.g., dinner). - When Bobby is prevented from going outside, he drops to the floor, kicks, and sometimes urinates which ensures he can go outside. - When Bobby is guided to get in the car, he cries and resists, which delays the transition and having to leave home. This escalates when he is rushed.	- Prevention: anticipate needs for food and rest (e.g., provide a full meal in the afternoon and a snack at dinner time) - Teaching: request food when provided with picture choices - Management: give him the items he requests from his choice menu quickly when possible and praise him for waiting patiently and accepting other options
Lilly	Not following directions Hurting self Throwing things	Frequency count; scatter plot; behavior logs; MAS; interviews	- When Lilly is given an instruction to transition/change/end an activity she will not follow directions and sometimes escalates into her throwing things, as a result Lilly gets to delay or avoid the instruction and she will sometimes get attention from Mom in he form of physical guidance to change activities or complete the demand. - When Lilly sees a preferred item or activity and is told she can't have it she will not following directions which sometimes escalates into her throwing things, as a result she will sometimes gain access to the item/activity or Mom will distract her with another preferred item or activity.	- Prevention: provide verbal cues, explaining what is coming next and preparing her for next steps of activity or expectation - Teaching: use social stories to learn steps of new routines (e.g., getting ready for pool, going out to eat) - Management: reduce the amount of attention she receives (e.g., eye contact, don't be in close proximity if possible and follow through with the demand if problem behavior occurs
Cam	Tantrum Head banging	Behavior logs (ABCS); duration of tantrums; MAS	- When Cam sees or becomes aware of the availability of an object (e.g., ball, cookie, video) he will scream, cry, fall to the floor, and kick his feet, as a result he sometimes gains access to the desired object. - When Cam is instructed to end a preferred activity he will cry, scream, fall to the floor, and kick his feet, as a result he will delay ending the activity or he will sometimes avoid ending the activity all together. - When Cam is instructed to engage in a non-preferred self care skill (e.g., go to the potty) he will tantrum and will sometimes avoid having to engage in the self care skill.	- Prevention: provide specific verbal instruction of what he is suppose to do and the steps he is expected to complete when giving him a direction to engage in a non-preferred self care skill - Teaching: say "no" or "wait" to a non-preferred self care skill -Management: allow him to delay non-preferred activities if he asks appropriately

| Amanda | Not following directions Snatching and grabbing items Property destruction | Frequency count; Duration of morning and evening routines, Teacher Reports, MAS | - When Amanda is given an instruction or demand she does not follow directions, as a result she will delay or avoid the demand or transition.
- If Amanda is not engaged in an activity and her parents are not interacting with her she will snatch or grab items and as a result she will get attention from her parents in the form of reprimands.
- When Amanda sees a preferred item and can't have it she will snatch and grab items and will sometimes gain access to the item.
- When Amanda is asked to transition from a preferred activity she will consume, destroy, break, or throw objects and as a result will delay the transition and receive attention from parents in the form of reprimands or assurances. | - Prevention: provide a timer to let her know how long she has access to preferred item/activity, use as a countdown for when she will obtain time with parent (use during waiting times)
- Teaching: request attention in an appropriate way (i.e., using verbal or gestural cues) to indicate she wants to play or wants a hug
- Management: allow her to have one on one attention when she requests it and reduce "chats" she receives for problem behavior |

Procedural Fidelity of Intervention Sessions

All intervention sessions were videotaped and the fidelity of the sessions were scored. Procedural fidelity was scored to determine the extent to which the parent educators adhered to the training protocol during the sessions. A yes/no checklist based on the objectives of each session (for an example see Appendix J) was scored while watching the videotaped session, making notes as needed to clarify the rating or to draw attention to particular strengths of the session or concerns that may need to be addressed.

Fidelity was scored by dividing the number of items covered by the total number of items on the checklist. Mean level of therapist fidelity was 99% (Range = 93% to 100%) for Karen's intervention sessions, 100% for Sandy's intervention sessions, 100% for Michelle's intervention sessions, and 100% for Susan's intervention sessions (only 3 of Susan's sessions were scored for fidelity due to tape malfunction).

Inter-rater reliability was conducted on a minimum 3 out of 8 sessions. Inter-rater reliability was be scored by comparing the secondary rater's checklist item by item with the primary rater's checklist. Reliability was be calculated by dividing the number of items agreed upon by both raters by the total number of items. Mean level of reliability across all sessions was 99% (Range=98%-100%) for Karen's sessions reliability was 98% (Range=93%-100%), for Sandy's sessions 100%, for Michelle's sessions was 100%, and for Susan's sessions 100%.

Data Analysis

The percentage of intervals with problematic and adaptive behavior were analyzed graphically and the visual analysis of the graphs was used to interpret data. The

structured criteria presented were adapted from the work of Hagopian and colleagues (1997). The data were analyzed to ensure there were no decreasing trends in baseline behavior and no increasing trends in data following treatment.

General procedure.

An upper criterion line (CL) and a lower CL for adaptive and problematic behaviors were drawn approximately 1 SD above and below the mean of the baseline condition. Criterion for differentiation between baseline and follow-up was based on the number of data points for each condition that fall beyond the CLs. Differentiation was said to occur if at least two data points fall below the lower CL for problematic behavior and above the upper CL for adaptive behavior. If the lower CL is zero, each zero point will be counted as below the lower CL.

Downward trends.

A downward trend was suggested by a 2 or more data point being below the mean level.

Upward trends.

An upward trend was suggested by 2 or more data points being above the previous data point.

The SIB-R was used to determine if there was a change in the severity of the problematic behavior. A substantial change in severity was said to occur if there was a change of at least one category (e.g., 10 points) towards a less severe category.

Results

Child Behavior

The participants' children's behavior data at baseline and follow-up are presented in Table 5. The data are presented as the average percentage of intervals in which problematic and adaptive behaviors occurred.

Table 5. Average Percentage of Problematic and Adaptive Behaviors for Baseline and Follow-Up				
	Problematic		Adaptive	
Participant	Baseline	Follow-Up	Baseline	Follow-Up
Bobby	76	5	10	45
Lilly	23	10	54	57
Cam	46	16	41	28
Amanda	45	18	43	73
Average (Group)	48	12	37	51

For Bobby problematic behavior decreased from baseline to follow-up and adaptive behavior increased from baseline to follow-up. During baseline problematic behavior was 76% (only one video probe due to the severity of problematic behavior) during baseline while adaptive behavior was 10%. During follow-up problematic behavior was scored during 1%, 8%, and 6% (M=5%) of the intervals during 3 video probes and adaptive behavior was scored during 51%, 38%, and 46% (M=45%) of the intervals during the 3 video probes. Although criteria outlined in the data analysis section cannot said to be met since there is only one data point in baseline there was an average

of 93.42% decrease in problematic behavior and an average of 350% increase in adaptive behavior from baseline to follow-up.

For Lilly problematic behavior decreased from baseline to follow-up while adaptive behavior remained stable throughout. During 3 baseline probes problematic behavior was scored as occurring during 21%, 19%, and 28% (M=23%) of the intervals and adaptive behavior was scored as occurring on 46%, 59%, and 56% (M=54%) of the intervals. At follow-up problematic behavior was scored as occurring during 0%, 20%, and 11% (M=10%) of the intervals and adaptive behavior was scored as occurring during 63%, 52%, and 57% (M=57%) of the intervals. There was an average of 56% decrease in problematic behavior and an average of 5.6% increase in adaptive behavior from baseline to follow-up. For problematic behavior the standard deviation was 4.75 making the lower criterion line (CL) 18.25. For adaptive behavior the standard deviation was 6.82 making the upper CL 60.82. According to the criteria described in the data analysis section problematic behavior shows differentiation between baseline and follow-up with 2 data points falling below the lower CL. However, adaptive behavior does not meet criteria to show differentiation.

For Cam problematic behavior decreased while adaptive behavior also decreased and was highly variable from baseline to follow-up. During 3 baseline probes problematic behavior occurred during 51%, 48%, and 40% (M=46%) of the intervals and adaptive behavior occurred during 48%, 36%, and 39% (M=41%) of the intervals. At follow-up problematic behavior occurred during 16%, 17%, and 14% (M=16%) of the intervals and adaptive behavior occurred during 25%, 52%, and 6% (M=28%). There was

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an average of 65% decrease in problematic behavior and an average of 31% decrease in

adaptive behavior from baseline to follow-up. For problematic behavior the standard

deviation was 5.7 making the lower CL 40.3 meaning problematic behavior meets criteria

for showing differentiation between conditions with all 3 data points falling below the

lower CL. For adaptive behavior the standard deviation was 6.24 making the upper CL

47.24 meaning adaptive behavior does not meet criteria for showing differentiation.

For Amanda both problematic and adaptive behaviors were highly variable during

baseline. At follow-up problematic behavior decreased and became stable while adaptive

behavior increased and became less variable. During 4 baseline probes problematic

behavior occurred during 49%, 58%, 19%, and 52% (M=45%) of the intervals and

adaptive behavior occurred during 58%, 16%, 71%, and 26% (M=43%) of the intervals.

At follow-up problematic behavior occurred during 22%, 13%, and 20% (M=18%) of the

intervals and adaptive behavior occurred during 79%, 92%, and 77% (M=73%) of the

intervals. There was an average decrease of 60% in problematic behavior and an average

increase of 69.77% in adaptive behavior from baseline to follow-up. For problematic

behavior the standard deviation was 17.4 making the lower CL 27.6. For adaptive

behavior the standard deviation was 26 making the upper CL 69. According to the criteria

described in the data analysis section both problematic and adaptive behaviors can be

said to show differentiation between baseline and follow-up with all 3 problematic data

points falling below the lower CL and 2 adaptive data points falling above the upper CL.

Figure 1 shows results for all participants'. Overall, participants' children

displayed a greater percentage of problematic behaviors during baseline compared to

follow-up and 3 of the 4 participants' children displayed a lesser percentage of adaptive behaviors during baseline as compared to follow-up. For problematic behaviors, the average percentage of intervals in which behavior occurred for all participants' children was 47.5% at baseline and 12.25% at follow-up. For adaptive behaviors, the average percentage of intervals in which behavior occurred was 37% at baseline and 50.75% at follow-up. This led to an average decrease of 68.6% in problematic behavior and an average increase of 97.6% in adaptive behaviors from baseline to follow-up for all participants. Based on the criteria outlined in the data analysis section 1participant met criteria for differentiation between baseline and follow-up with both problematic and adaptive behaviors having at least 2 data points following below the lower CL and above the upper CL, respectively. Two families met criteria for differentiation with only problematic behavior have the required 2 data points following below the lower CL and 1 family could not be said to meet or not meet criteria for differentiation due to having only 1 video probe during baseline.
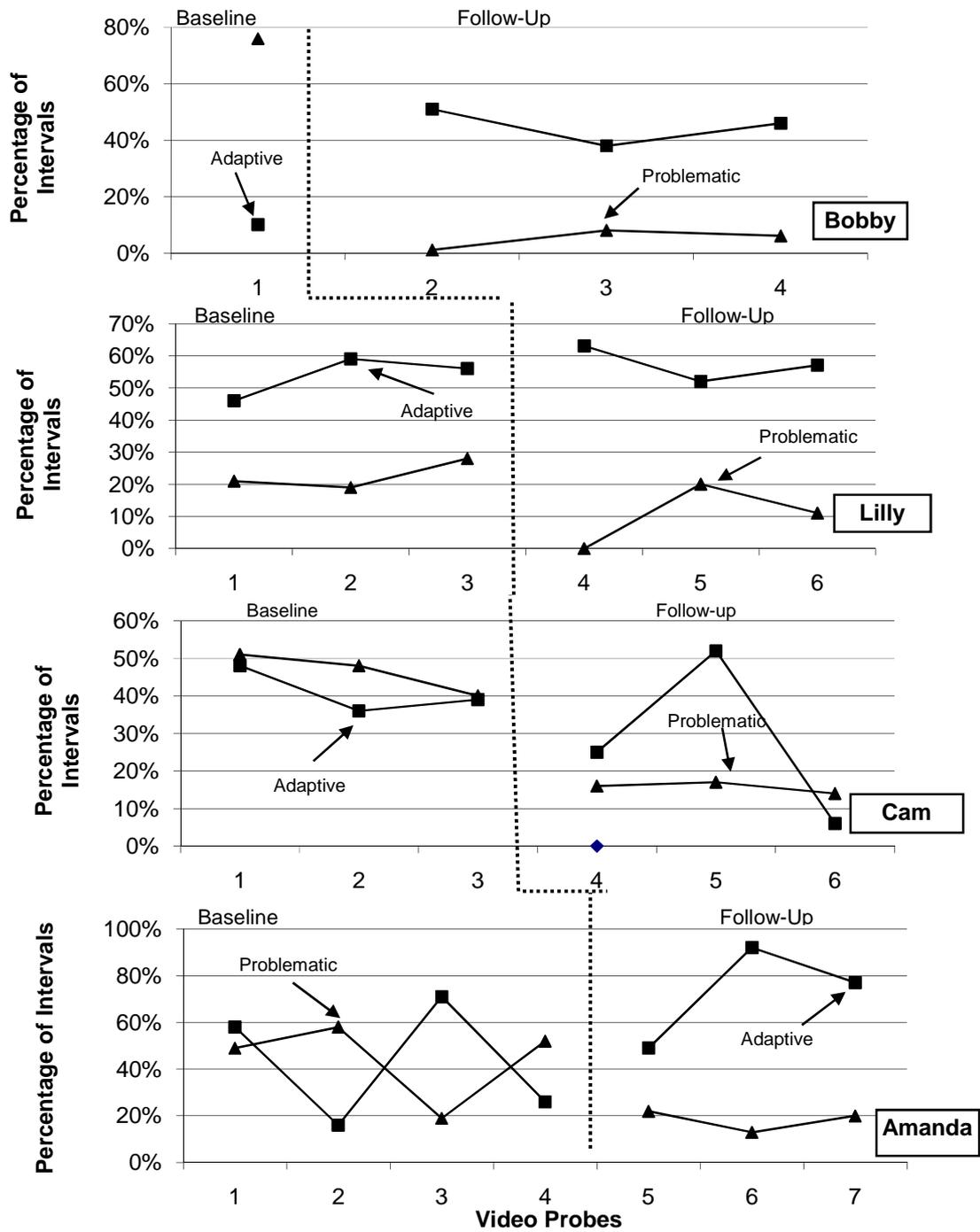
Figure 1 Child data for baseline and follow-up. Graphs indicate the percentage of intervals in which problematic and adaptive behaviors occur.

Scales of Independent Behavior Revised (SIB-R)

SIB-R results for baseline and follow-up are shown in Table 6.

Table 6. SIB-R Results for Baseline and Follow-Up				
	Baseline		Follow-Up	
Participant	GMI Score	Category	GMI Score	Category
Bobby	-43	Very Serious	-25	Moderately Serious
Lilly	-40	Serious	-17	Marginally Serious
Cam	-33	Serious	-17	Marginally Serious
Amanda	-55	Very Serious	-46	Very Serious
Average (group)	-42.75	Very Serious	-26.25	Moderately Serious

Figure 2 shows SIB-R results for Bobby as reported by Karen. During baseline Karen scored Bobby's behavior as very serious with a score of -43 on the GMI. At follow-up Karen scored Bobby's behavior as moderately serious with a score of -25. This improvement met criteria to be considered a differentiation between baseline and follow-up with problem behavior by improving by 18 points and 2 categories. These scores also correspond with the improvement of problematic behavior shown in the data from the video probes.
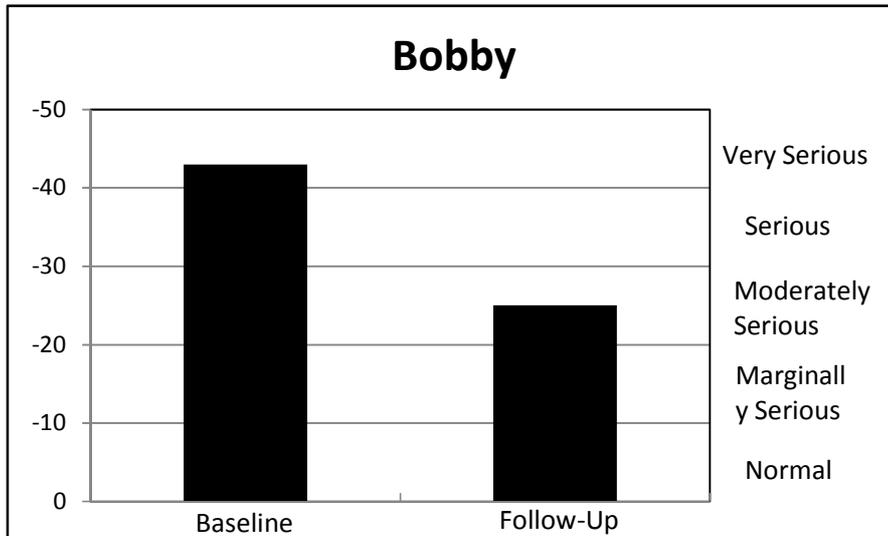
Figure 2 SIB-R results for Bobby as reported by Karen at baseline and follow-up.

Figure 3 shows SIB-R results for Lilly as reported by Sandy. During baseline Sandy scored Lilly's behavior as serious with a score of -40. At follow-up Sandy scored Lilly's behavior as marginally serious with a score of -17. As with the previous participant this improvement meets criteria to be said to show differentiation between baseline and follow-up with problem behavior improving by 23 points and 2 categories. Sandy's perception of Lilly's problem behavior corresponds with the decrease in problematic behavior shown in the data from the video probes.
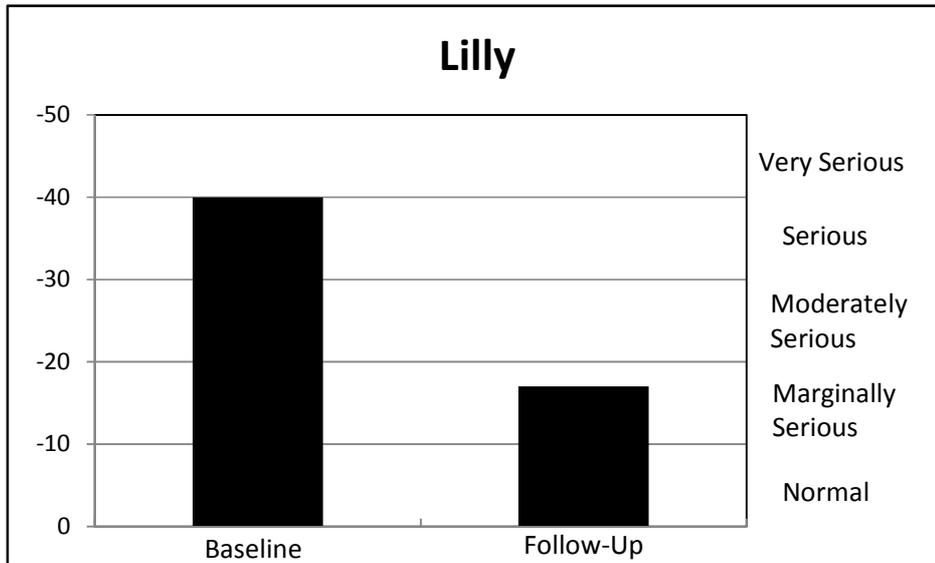
Figure 3 SIB-R results for Lilly as reported by Sandy at baseline and follow-up.

Figure 4 shows SIB-R results for Cam as reported by Michelle. During baseline Michelle scored Cam's behavior as serious with a score of -33. At follow-up she scored Cam's behavior as marginally serious with a score of -17. This improvement of 16 points and 2 categories meets criteria to be said to show differentiation between baseline and follow-up. Improvement in problematic behavior as indicated by the video probes corresponds with Michelle's perception of improvement in problematic behavior.
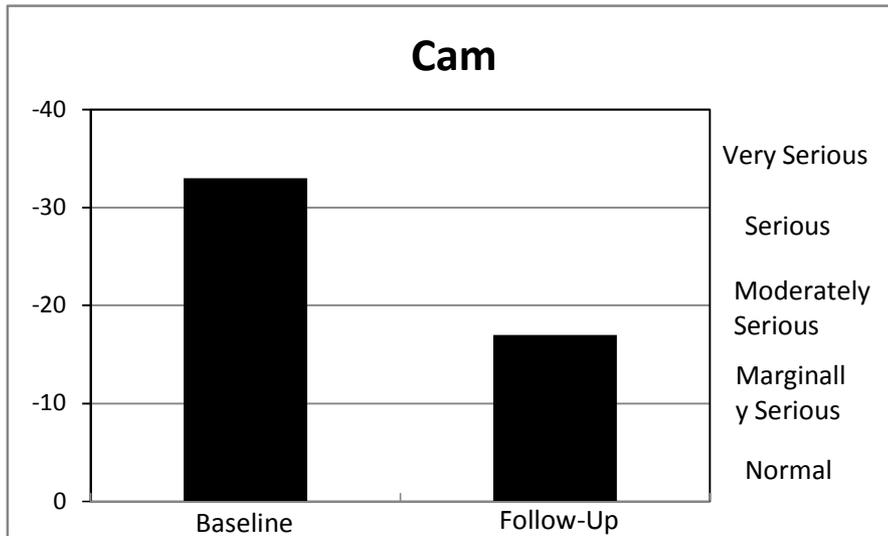
Figure 4 SIB-R results for Cam as reported by Michelle at baseline and follow-up.

Figure 5 shows SIB-R results for Amanda as reported by Susan. During baseline

Susan scored Amanda's behavior as very serious with a score of -55. At follow-up Susan

scored her behavior as very serious with a score of -46. With only a 9 point change and

no change in the level of seriousness this participant failed to meet criteria to say there

was a differentiation between baseline and follow-up in change in the SIB-R score.

However, video probes of child behavior do not correspond with the perception of the

participant with child behavior showing differentiation between baseline and follow-up
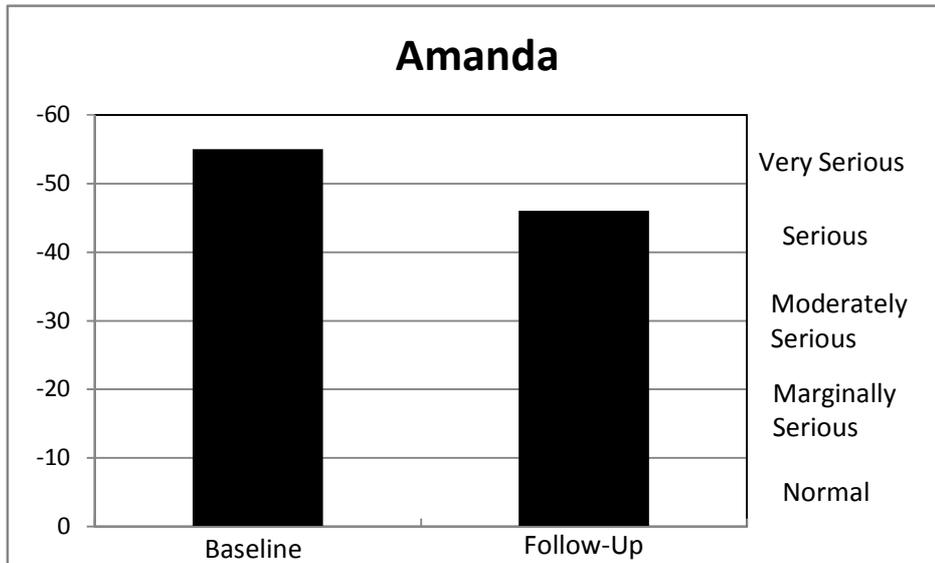
on the video probes.

Figure 5 SIB-R results for Amanda as reported by Susan at baseline and follow-up.

Overall, there was a general trend of participant's scoring their child's problematic behavior as making improvements from baseline to follow-up. Participants' SIB-R scores average -42.75 (very serious) during baseline and an average score of -26.25 (moderately serious) at follow-up. Three participants met the criteria of a decrease of at least 10 points and at least one change in the level of seriousness, all three scored their child's behavior as improving by 2 categories. Also, these same participants' SIB-R scores correspond with the changes in problematic behavior as evidenced by the data from the video probes. However, one participant failed to meet criteria to say there was a substantial change in SIB-R score from baseline to follow-up by not move up a category in the level of seriousness. Of note, this participant's score did not correspond with the changes in problematic behavior as indicated by the video probes, a 60% decrease in problematic behavior from baseline to follow-up.

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Discussion

The results of this study showed that after participating in parent education using a standardized protocol, participants' children displayed decreases in problematic behavior and increases in adaptive behavior in general. All four participants' children displayed decreases in problematic behavior that met criteria for differentiation between baseline and follow-up following parental participation. For three of the participants, child adaptive behavior increased, however, not enough to show differentiation between baseline and follow-up and for one participant child adaptive behavior actually decreased.

The standardized measure of the SIB-R generally showed parental perception of a decrease in problematic behavior of their child that was consistent with the decreases in problematic behavior as evidenced by the video probes. These changes in SIB-R scores support and extend the results of the videotaped probes because the SIB-R has the parent evaluate behavior in general and rather than performance within a routine. One participant failed to make a substantial change in perception of child problematic behavior according to the SIB-R. Interestingly, this particular participant's score on the SIB-R was not consistent with the decrease in problematic behavior which was seen on the video probes. One explanation for this is this participant had the single lowest SIB-R score of all participants, -55 (very serious). Given the severity of the problematic behavior at baseline it could have taken longer for the participant to see changes in problematic behavior. Also, even if the participant had scored the SIB-R is increasing by

10 points, the change still would not have met criteria of a change in category of the level of seriousness (i.e., the index value for the very serious category is -41 and below).

Verbal report from participants, given during sessions 7 and 8 of intervention, provide a qualitative description of the impact participation in this parent training study had on not only their child's behavior but greater lifestyle improvements as well. All participants reported progress towards achieving their broader goals they outlined during the first session of the intervention. They also reported being able to go more places and do more things as an entire family (i.e., going out to eat, visiting family, participating in more activities, date nights for the parents) as a result of improvements in their child's behavior and their ability to prepare for and handle new settings and routines.

One participant in general reported several changes from baseline to follow-up that have improved her life and her children's lives greatly. Sandy reported some of her broad goals she identified had already been achieved by the end of intervention. Her goals of more snuggle time with Lilly, the entire family being able to go to special events together, and providing new opportunities for Lilly (i.e., enrolling her in a dance class) had already been achieved. Also, she reported that Lilly's sisters wanted to spend more time with Lilly and they were able to play together for longer periods of time. Sandy also reported that while she did not think that Lilly was ready to attend her older sister's softball games, she did report that she felt confident that she could go home and use the process she had learned during intervention and achieve this goal and had plans to do so at the end of intervention.

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The reasons adaptive behavior did not change to the extent of problematic behavior cannot be said for sure but there are many possible explanations. One possible reason is the targeted routines were associated with problem behavior and not necessarily skills deficits. Both engagement and interaction were defined in such a way that if the routine specified by the parent required the child to sit quietly or the parent was not in the room with the child, he/she would have had little opportunity to be scored as engaging in adaptive behavior. Another possibility that seems to be most probable is adaptive behaviors may take longer to see improvements in because adaptive behaviors generally require skill development. Replacement skills and how to teach them aren't discussed until session 6 in the intervention sessions giving the parents only 3 to 4 weeks to work on skill development with their child. The development of these skills could take longer and that could be why there is not a substantial change in adaptive behavior from baseline to follow-up.

In relation to other studies, results of this study support the literature which shows antecedent strategies (Duda et al., 2004; Dunlap et al., 1991; Kern & Clemens, 2007), the use of functional assessments to determine the function of behavior (Day et al., 1994; McNeill et al, 2002; Newcomer & Lewis, 2004; O'Neill et al., 1997), and function based interventions (Day et al., 1994; Durand & Crimmins, 1988; Iwata et al., 1994; Peterson et al., 2002; Scott & Eber, 2003) to be effective in changing child behavior by integrating these concepts into the standardized protocol. Results also support the concept of using parents as intervention agents and employing key stakeholders through the process (Hieneman & Dunlap, 2000; Hieneman & Dunlap, 2001, Symon, 2005) by providing

participants with knowledge of PBS and allowing the parents to apply and implement the skills/concepts at home on their own with distal support. In addition to supporting the current and past literature this study adds to the literature by using a multiple baseline design across participants and showing parent education to produce consistent results across multiple people instead of across behaviors or settings in a single case. Also, this study looked at the use of a standardized protocol to parent education and was able to consistently teach the process with fidelity across participants. Each participant received the same skills and processes for producing behavior change in their child and follow-up showed that each participant' children had consistent decreases in problematic behavior.

In general, the use of a standardized protocol in parent education was a successful way of teaching parents and can be a factor in producing behavior change in the participants' children. The use of a multiple baseline design across participants showed an individualized protocol to parent education was able to produce consistent outcomes across 4 participants. Consistent outcomes were achieved across all participants, all of whom had varying backgrounds (i.e., single-parent/two parents, educational background, financial resources, problem behaviors). For example, Michelle and Cam were both from Puerto Rico and while Michelle was married, her husband lived out of the country and she was caring for two children while trying to find a job. Cam was non-verbal and engaged in little interactive behavior with his mother. Karen and Bobby on the other hand were Caucasian and both were born in the United States. Karen was also married but her husband was in the home and able to provide some support when he wasn't at work. She was also dealing with problem behavior from her daughter who also had been diagnosed

with autism. Since participants were so diverse and yet consistent outcomes were achieved for all the results can be said to have good generalization across those who completed the intervention sessions.

Despite the positive outcomes it is important to consider some of the limitations of the study. The first limitation is for the participant Karen/Bobby only one video probe was obtained during baseline. With only one video probe it can't be said whether or not the extent of the behavior was representative of typical levels of problematic behavior. However, according to participant self report this level of problem behavior was typical and due to the severity of the problem behavior it was unethical to carry out further video probes simply for the purposes of a baseline measure. The second limitation is the variable baseline data for two of the participants. Baseline should have been carried out until problematic behavior was stable. However, for the purposes of this study it was determined that there was enough evidence of problematic behavior to move to intervention.

Future research could support and build on the outcomes of this study by including a measure of parental implementation. By adding a measure of parental implementation it would be possible to determine if participant behavior changed during follow-up. Future research could look at parental implementation specifically and compare the skills and strategies that are developed during intervention strategies with the skills and strategies that are used during video probes during baseline and follow-up. This is a necessary direction research should take in order to say with greater certainty that it is the intervention that was actually creating changes in problem behavior and not

another variable, for instance simply spending time with a professional outside of the home.

Another component future research would want to take into consideration is maintenance of the outcomes. The larger study of which this is a part of is currently using 1- and 2-year follow-ups to assess maintenance. However, the current study gave follow-up measures no later than 2 weeks following participation in intervention because 1- and 2-year follow-up data was not yet available and therefore has no data on the maintenance of the effects. The outcomes could be strengthened by showing effects to maintain over a longer period of time. Also, if follow-up were extended we would be able to better evaluate changes in adaptive behavior over time as skill development increased. An area of future research that would be interesting would be to look at more than baseline and follow-up measures. One option is to conduct video probes before, during, and after intervention sessions. This would provide data on how child behavior is changing after each session as well as making it possible to collect data on parental behavior and if they are implementing the specific skills and strategies learned during each session.

In conclusion, this study showed that a standardized parent training protocol could be used successfully to teach parents the skills they need in order to track behavior, create hypotheses and intervention strategies, and implement these strategies at home in order to change their child's behavior. The use of a multiple baseline design across participants provides strong results since consistent outcomes were achieved across all participants. These results are further strengthened by having those participants who completed intervention being so diverse. Participants were from varying cultures and backgrounds

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and had differences in marital status, employment, number of children, economic status. Also participants were also dealing with varying behaviors and functions from their children. Further research needs to look at parental implementation and long-term effects on behavior so we can truly say the use of a standardized protocol can be successful.

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Appendices

Appendix A: Questionnaire on Resources and Stress (QRS)

This questionnaire deals with your feelings about a child in your family. Imagine that your child's name is filled in on each blank on the questionnaire. Please give your honest feelings and opinions. Answer all of the questions, even if they do not seem to apply to your family. If it is difficult to decide true (T) or false (F), answer in terms of what you or your family feel or do most of the time.

1. _____ doesn't communicate with others of his/her age group.   T   F

2. Other members of the family have to do without things because of _____.   T   F

3. Our family agrees on important matters.   T   F

4. I worry about what will happen to _____ when I can no longer take care of him or her.   T   F

5. The constant demands for care of _____ limit the growth and development of someone else in our family.   T   F

6. _____ will be limited in the kind of work he/she can do to make a living.   T   F

7. I have accepted the fact that _____ might have to live out his or her life in some special setting (e.g., residential program, group home).   T   F

8. _____ can feed himself/herself.   T   F

9. I have given up things I have really wanted to do in order to care for _____.   T   F

10. _____ is able to fit into the family social structure.   T   F

11. Sometimes I avoid taking _____ out in public.   T   F

12. In the future, our family's social life will suffer because of increased responsibilities and financial stress.   T   F

13. It bothers me that _____ will always be this way.   T   F

14. I feel tense whenever I take _____ out in public.   T   F

15.	I can go visit with friends whenever I want.	T	F
16.	Taking _____ on a vacation spoils the pleasure for the whole family.	T	F
17.	_____ recognizes his/her own name.	T	F
18.	The family does as many things together now as we ever did.	T	F
19.	_____ is aware of where he/she lives..	T	F
20.	I get upset with the way my life is going.	T	F
21.	Sometimes I feel very embarrassed because of _____.	T	F
22.	_____ doesn't do as much as he/she should be able to do.	T	F
23.	It is difficult to communicate with _____ because he/she has difficulty understanding what is being said to him/her.	T	F
24.	There are many places where we can enjoy ourselves as a family when _____ comes along.	T	F
25.	_____ is overprotected.	T	F
26.	_____ is able to take part in games or sports.	T	F
27.	_____ has too much time on his/her hands.	T	F
28.	I am disappointed that _____ does not lead a normal life.	T	F
29.	Time drags for _____, especially free time.	T	F
30.	_____ can't pay attention very long.	T	F
31.	It is easy for me to relax.	T	F
32.	I worry about what will be done with _____ when he/she gets older.	T	F
33.	I get almost too tired to enjoy myself.	T	F
34.	One of the things I appreciate about _____ is his/her confidence.	T	F

35.	There is a lot of anger and resentment in our family.	T	F
36	_____ is able to go to the bathroom alone.	T	F
37.	_____ cannot remember what he/she is doing from one moment to the next.	T	F
38.	_____ can ride a tricycle.	T	F
39.	It is easy to communicate with _____.	T	F
40	The constant demands to care for _____ limit my growth and development.	T	F
41.	_____ accepts himself/herself as a person.	T	F
42.	I feel sad when I think of _____.	T	F
43.	I often worry about what will happen to _____ when I no longer can take care of him/her.	T	F
44.	People can't understand what _____ tries to say.	T	F
45	Caring for _____ puts a strain on me.	T	F
46.	Members of our family get to do the same kinds of things other families do.	T	F
47.	_____ will always be a problem to us.	T	F
48.	_____ is able to express his/her feelings to others.	T	F
49.	_____ is still in a diaper.	T	F
50.	I rarely feel blue.	T	F
51.	I am worried much of the time.	T	F
52.	_____ can dress himself/herself without help.	T	F

Appendix B: Informed Consent Agreement

Positive Family Intervention
Consent Agreement

The purpose of the Positive Family Intervention study is to compare different approaches to parent education for families of children with disabilities and challenging behavior. The study is being conducted as a collaborative effort involving the College of Arts and Sciences at the University of South Florida, St. Petersburg and Center for Autism and Related Disabilities in Tampa, Florida/Albany, New York. Participants in this study will be randomly assigned to one of two groups, however each group will receive a treatment proven to be very effective

This study will require you to attend 8 sessions with trained therapists, and will focus on helping you deal with your children's behavior problems. Each of the sessions will last a maximum of 1 ½ hours and will be arranged to accommodate your schedule and that of the therapist conducting the training. With your permission, these sessions will be videotaped so that the integrity of the intervention can be verified by the research staff at USF St. Petersburg.

In addition to attending training sessions, you will be asked to complete certain assessments that will allow the researchers to evaluate the impact of the training on your children's behavior and how you are addressing them. These assessments will include questionnaires on parenting and your child's behavior and observations, and videotaping of your child at home. They will be conducted prior to initiating the training sessions and following their completion.

There are no known risks associated with participating in this study, and the possible benefits include improvements in your parenting skills and child's behavior at home and school. Your privacy and the research records will be kept confidential to the extent of the law. In accordance with USF policy, authorized research personnel, employees of the Department of Health and Human Services, the USF Institutional Review Board and its staff, and other individuals, acting on behalf of USF may inspect the records from this research project. The confidentiality of your records will be maintained unless: 1) you express intent to harm yourself or others or 2) you report that you have abused a child.

If you have any questions about this research study, contact Dr. Meme Hieneman or Dr. Mark Durand at USF St. Petersburg (727-553-4814). If you have questions about your rights as a person who is taking part in a research study, you may contact the Division of Research Compliance at the University of South Florida at 813-974-5638.

If you wish to be considered for participation in the Positive Family Intervention study, please read and sign the following statement:

I understand that my participation in this study is voluntary and that I may change my mind at any time and withdraw my consent. My agreement or lack of agreement to participate will in no way affect my ability to seek future services from the Center for Autism and Related Disabilities or USF. I understand that only the Center for Autism and Related Disabilities staff and research site at USF St. Petersburg will have access to any records kept during the study and that my name and my child's name will not be used in record keeping or dissemination. I understand that I can contact the Center for Autism and Related Disabilities for referrals to alternative services.

I understand that participation in this study will require weekly attendance at individual meetings with Center therapists for 8 weeks. I agree to complete the required assessments prior to and following the training sessions and understand that I may refuse to answer any or all of the questions. I provide consent for my child to be observed and data recorded on his or her behavior at previously scheduled times. I also provide my permission for my 8 sessions with the therapists to be videotaped.

Signed _____Date _____
                    Signature of Subject

Signed _____Date _____
                    Signature of Investigator

Appendix B: (Continued)

Confirmation of Videotaping

I_____ agree to be
videotaped as part of the research study on Positive Family Intervention.

I understand that the researcher(s) in this study will videotape 1) my child's behavior in our home during difficult routines and 2) my sessions with the therapist. The reason for videotaping my child is to document the frequency and severity of his or her behaviors of concern and to provide a starting point for comparison during follow-up. The reasons for videotaping the sessions are to ensure that the therapist adheres to the study protocol and observe our interactions (e.g., to evaluate my responsiveness to the sessions). Care will be taken to avoid videotaping other children and family members not participating in the study. If such individuals are inadvertently taped, either those tapes will not be used or consents will be obtained from those individuals prior to using the tapes. I have been informed that the videotape may be shown to other professionals at research meetings.

_____

Signature of Subject   Date

_____

Signature of Investigator   Date

Appendix C: Example of Specific Child Behaviors

DATE: 8/28/08 **TIME:** 5:30 pm **PARTICIPANT:** Tommy   **PRE POST**

SETTING: Dinner time   **DATA COLLECTOR:**_____

CHILD BEHAVIOR	DEFINITION	DESCRIPTION FROM VIDEO
Aggression	Striking or attempting to strike or injure another person with any part of their body or an object (e.g., hitting kicking, biting, pushing, throwing object at a person).	Hitting and kicking directed at mom or dad
Vocalization	Crying or screaming involving high-pitched sounds which exceed normal conversational volume.	
Destruction	Slamming, striking, or throwing with risk of damage to those items (i.e., versus tossing a ball during play).	Throws plate of food and other dishes at the walls or on the floor
Opposition	Refusing to follow a direct request by saying or shaking head "no," turning or pulling away from the adult, actively resisting physical guidance (e.g., dropping to the ground, running away, struggling to retain an item), or engaging in behavior again immediately after being told no.	Falling to the ground, going limp with entire body, and saying "no" repeatedly
Self-Stimulation	Repetitive movements or manipulation of items that serves no functional use (i.e. flapping, rocking, manipulating fingers, flipping items or opening and shutting door repetitively).	
Other	Behaviors of concern specific to child.	
Engagement	Participating in a physical activity through the manipulation of items or objects independently to complete a functional task (even if accompanied by problem behavior).	Eating food from his plate with his fork or spoon.
Interaction	Initiating or responding to another person verbally (words, sounds) or non-verbally (gestures, movement, contact);	

Appendix D: Sample Videotaping Protocol

Videotaping Protocol

Name of Child: Tanner____ Name of Parent(s):_John and Sarah___

Phone Number(s): __727-777-7777_____

Address: _____771 South Street, Clearwater, FL 77777 _____

_____
(Staple map/directions to this form, if available)

Description of Routine: __transition from playing with play-doh to dinner _____

Time of Day: _5:30pm____ Location: ___living room to dinner table _____

Sequence of Activities/Steps:
1) Tanner will have been playing with play-doh for 10 minutes before the project staff arrives
2) Five minutes after the project staff arrive Mom will ask Tanner to stop playing and come to dinner.
3) Once Tanner is seated at the table Mom will put her plate in front of her consisting of two favorable foods (i.e., meat, fruit) and one unfavorable food (i.e., vegetables).
4) Mom will sit next to Tanner and ask her to eat her entire meal (including her vegetables)
5) If Tanner gets up to leave the table Mom will get up and bring her back to the table where she will continue to ask Tanner to eat her vegetables
6) The routine ends after 30 minutes, if Tanner becomes too aggressive (starts to hurt her little sister), or Tanner eats her dinner including vegetables.

Expectations for Child Behavior:
1) Tanner is expected to stop playing with play-doh when mom asks and come to the table for dinner.
2) She is expected to sit at the table with her butt in the chair.
3) When mom puts her plate in front of her she is expected to eat the foods mom has put on her plate.
4) Tanner is expected to sit in her chair until she is finished eating her meal.

Expectations for Parent Behavior:
1) Mom will ask Tanner to come to dinner a maximum of 3 times, if Tanner doesn't come to the table she will be walked over hand over hand by mom.

2) Once at the table mom will sit in the seat next to Tanner and try and prevent her from leaving the table when asked to eat her vegetables.
3) Mom will not let Tanner go back to playing or leave the table until she has eaten a specified amount (i.e., half of the amount on her plate) of vegetables

Other Notes (e.g., camera set up): __The living room is right next to the dining room; the camera can be set up in the far corner of the dining room in order to see both rooms _____

_____

\Video 1: __7/7/08_____   Video 2: __7/9/08_____   Video 3: __7/10/08_____
                    (date, initial)

Reminders: Call ahead prior to going to the family home to ensure the parent and child's availability and readiness for videotaping. Review the routine you will be videotaping on the phone. If the parent cancels, ask them for possible dates to reschedule. Have parent suggest where you should position yourself during videotaping and minimize interaction with the child and parent during the taping. After the videotaping, email Viviana to let her know that the taping has been completed (or if it was cancelled) and how it went. Return the camera and tape to the office within 48 hours.

Appendix E: Sample Data Collection Sheet

DATE: _____   TIME: _____   PARTICIPAN_____   PRE   POST   1
2

SETTING/ACTIVITY: _____   DATA COLLECTOR:
_____

1. AGG VOC DES OPP ENG INT SS	2. AGG VOC DES OPP ENG INT SS	3. AGG VOC DES OPP ENG INT SS	4. AGG VOC DES OPP ENG INT SS	5. AGG VOC DES OPP ENG INT SS	6. AGG VOC DES OPP ENG INT SS
7. AGG VOC DES OPP ENG INT SS	8. AGG VOC DES OPP ENG INT SS	9. AGG VOC DES OPP ENG INT SS	10 AGG VOC DES OPP ENG INT SS	11. AGG VOC DES OPP ENG INT SS	12. AGG VOC DES OPP ENG INT SS
13. AGG VOC DES OPP ENG INT SS	14. AGG VOC DES OPP ENG INT SS	15. AGG VOC DES OPP ENG INT SS	16. AGG VOC DES OPP ENG INT SS	17. AGG VOC DES OPP ENG INT SS	18. AGG VOC DES OPP ENG INT SS
19. AGG VOC DES OPP ENG INT SS	20. AGG VOC DES OPP ENG INT SS	21. AGG VOC DES OPP ENG INT SS	22. AGG VOC DES OPP ENG INT SS	23. AGG VOC DES OPP ENG INT SS	24. AGG VOC DES OPP ENG INT SS
25. AGG VOC DES OPP ENG INT SS	26. AGG VOC DES OPP ENG INT SS	27. AGG VOC DES OPP ENG INT SS	28. AGG VOC DES OPP ENG INT SS	29. AGG VOC DES OPP ENG INT SS	30. AGG VOC DES OPP ENG INT SS

NOTES: _____
_____
_____

Appendix F: Behavior Plan for Bobby (Karen)

Behavior Support Plan
Child's Name: Bobby
Team Members: Mom, Dad, Cecelia (little sister), Grandma, Grandpa Larry, OT, PT, Speech, Teacher

Goals
Description of behavior: Tantrum - crying, kicking, red face, guttural throat noises, kicking others, scratching others, dropping to the floor; 3-30 minutes in length; 1-2 x daily   Hurting himself – smacking hand over mouth, banging head   Stripping – removing all clothing and walking around naked   Fuzz picking – removing all lint/fuzz from cloth items with his fingers
Broad Goals: 1) Bobby will enjoy parties and outings in the community (e.g., restaurants).   2) Bobby will go to Sunday school on his own.   3) Bobby will join his family for dinner.   4) Bobby will communicate appropriately.   5) Bobby will interact nicely with peers.   6) Bobby will follow daily routines.

Summary Statements
When this occurs..   my child does...   to get or avoid...   1) When Bobby is left to entertain himself for extended periods of time he will remove his clothes or pick at fuzz for comfort/amusement.   2) In the afternoon when Bobby is hungry and tired, he grunts, screams, and hurts himself while his mother offers him various snacks. This occurs until his needs are met (e.g., dinner).   3) When Bobby is prevented from going outside, he drops to the floor, kicks, and sometimes urinates – which ensures he can go outside.   4) When Bobby is guided to get in the car, he cries and resists, which delays the transition and having to leave home. This escalates when rushed.

Strategies		
Prevention:	Teaching:	Management:
- provide an earlier dinner time - simplify the menu - respond to requests in a timely fashion - update tech talk - provide two or three choices of activities he can engage in during free time - remove as many sources of fuzz as possible - create a daily schedule of activities and warn him prior to transitions, explaining what is expected - engage him in appropriate activities such as playing with toys/puzzles - provide him with limited choices between clothing items when getting dressed and snack options - anticipate needs for food and rest (i.e., provide a full meal in the afternoon and a snack at dinner time) - allow him to take toys and snacks with him in the car	- ask for appropriate activities in which he can take his clothes off (i.e., take a bath) - engage himself in activities independently - remove clothing only in his bedroom or bathroom - remain at the dinner table and eat during meals - request food when provided with picture choices - play with hand held toys and puzzles - use Tech Talk to communicate basic needs - say or gesture "no" and request delays - use the potty and dress himself	When positive behavior occurs: - allow him to take his clothes off if he requests an activity in which this is appropriate - praise him for keeping clothes on at the appropriate time and place - give him the items he requests from his choice menu quickly when possible an praise him for waiting patiently and accepting other options When problem behavior occurs: - prompt him to go to his room or bathroom if he begins to remove his clothes - redirect him to a more appropriate activity if he engages in fuzz picking with minimal attention or reaction - guide him to complete tasks and transitions - do not allow him to go outside following tantrums or urination away from the toilet - remove him to a safe place if he engages in tantrum behavior that could be harmful to himself or others

Action Plan		
What will be done?	By Whom?	By When?
Provide Bobby with many options	Mom & Dad	Start today
Update Tech Talk list	Mom	before start of school
Create picture schedules	Mom	end of weekend
Prepare snacks in advance	Mom	
New puppet game	Mom	end of the week
New toys/activities	"Santa"	
Extra help hired	Mom	as soon as one accepts

How often will the plan be monitored? _X_ daily   __ weekly   __ monthly_ other
How will implementation and outcomes be evaluated?
Behavior logs including antecedents, behavior, and consequences

Appendix G: Behavior Plan for Lilly (Sandy)

Behavior Support Plane
Child's Name: Lilly
Team Members: Mom, Dad, sisters, Grandmother, staff at new school

Goals
Description of behavior: Not following directions – not completing a request or instruction (to do something, stop or change activity), leaving area without permission, falling to the ground, not moving, folding arms and saying "no" Hurting self – hitting head or part of face with a closed fist, hitting head on an object Throwing things – picking up items in her immediate area and throwing them either at a person or a wall
Broad Goals: 1) Lilly will be out of pull-ups 2) Lilly will become more independent (i.e., getting dressed in the morning) 3) Lilly will improve and have consistent safety skills 4) Lilly and the family will be able to go out to special events together 5) Lilly will make smooth transition to new class 6) Lilly will be provided new opportunities for choices with mom and sisters 7) Lilly will get more snuggle and hang out time with mom

Summary Statements
When this occurs...   my child does...   to get or avoid... 1) When Lilly is given an instruction to transition/change/end an activity she will not follow directions escalates into her throwing things as a result Lilly gets to delay or avoid the instruction and she will sometimes get attention from Mom in the form of physical guidance to change activities or complete the demand. 2) When Lilly sees a preferred item or activity and is told she can't have it she will not follow directions which sometimes escalates into her throwing things as a result she will sometimes gain access to the item or activity or Mom will distract her with another preferred item or activity.

Strategies		
Prevention: - provide verbal cues, explaining what is coming next and preparing her for next steps of activity or expectation - remind her how long an activity will last or when it will be over - provide choice of activities or order in which to complete required demands/routines - shorten length required for an activity if the routine is new to her - hide preferred items/activities so she doesn't see them if she can't have them - incorporate a fun activity (i.e., play "mommy monster" game) when getting ready to transition from a preferred activity to an non-preferred activity - provide a lot of one-to-one unconditional play time with mom - provide first/then statements to help with predictability and help her with transitions	Teaching: - use social stories to learn steps of new routines (i.e., getting ready for pool, going out to a restaurant) - participate in transition activities (i.e., putting away beach ball and/or other pool toys) - take turns with her sisters when playing with preferred toys - request items/alternatives when she is told she can't have a preferred item/activity - request a delay in a transition or end of activity	Management: When positive behavior occurs: - provide specific praise when she is behaving appropriately telling her exactly what she is doing that you like - provide physical affection (hugs and kisses) when behaving appropriately - verbally acknowledge a change or transition is hard (i.e., "you must be sad that we can't swim today"). Follow-up with hugs for accepting without problem behavior - allow her to delay a transition when she asks appropriately When problem behavior occurs: - verbally redirect her to what she should be doing - follow through with demand, don't withdraw the demand if she continues to have problem behavior - instruct and redirect her by using a normal, calm tone of voice. By raising voice, attention is inadvertently given to her - reduce the amount of attention she receives (i.e., eye contact, don't be in close proximity if possible) if problem behavior appears when asked to complete demand, task, or transition

Action Plan		
What will be done?	By Whom?	By When?
Create social stories for routines	Lilly and her sisters	over the next weekend, as new routines come up
How often will the plan be monitored? _X_ daily __ weekly __ monthly __ other		
How will implementation and outcomes be evaluated? Talk with teacher, family meetings, if problem behavior reemerges begin keeping behavior logs		

Appendix H: Behavior Plan for Cam (Michelle)

Behavior Support Plan
Child's Name: Cam
Team Members: Mom, dad, sister, grandma, grandpa, teacher, speech therapist

Goals
Description of behavior Tantrum - screaming, crying, falling to the floor, kicking feet; lasting 5-10 minutes Head banging – lying on bed and throwing his head into a pillow near a wall
Broad Goals: 1) Cam will increase communication and interaction skills 2) Cam will be able to go out in public places (grocery store, mall) 3) Cam will be quiet at times and control his sounds (no babbling, squeaks, high pitched scream) 4) Cam will be able to recognize dangerous situations 5) Cam will increase daily living skills (tooth brushing, bathing, dressing)

Summary Statements
When this occurs...   my child does...   to get or avoid...
1) When Cam sees or becomes aware of availability of an object (i.e., ball, cookie, video) he will scream, cry, fall to the floor, and kick his feet as a result he sometimes gains access to the desired object. 2) When Cam is instructed to end a preferred activity he will cry, scream, fall to the floor, and kick his feet as a result he will delay ending the activity or he will sometimes avoid ending the activity all together. 3) When Cam is instructed to engage in a non-preferred self care skill (i.e., go to the potty) he will tantrum and will sometimes avoid having to engage in the self care skill.

Strategies		
Prevention: - allow him to play longer, or remove demands when tired or sick - give him a verbal countdown when ending a preferred activity (i.e., "Five minutes until we leave the park") and let him know what he can get after he ends the activity without problem behavior - provide specific verbal instruction of what he is suppose to do and the steps he is expected to complete when giving him a direction to engage in a non-preferred self care skill - allow him help by walking and carrying his own toys when ending a preferred activity - provide choice of food item or other fun activity when he cannot have access to a desired item/activity - keep off limits toys out of sight and let him know what he can have	Teaching: - use pictures or PECS to communicate his needs and preferences - express choice of items, activities, materials through the use of pictures - walk quietly to the next activity when ending a preferred activity - say "no" or "wait" to a non-preferred self care skill (i.e., potty)	Management: When positive behavior occurs: - allow him to earn preferred items after he engages in a non-preferred self care skill without problem behavior - allow him to delay non-preferred activities if he asks appropriately - give him alternative choices if he cannot have access to a request item/activity - show physical affection only when he is displaying positive behavior - provide specific praise by describing what he is doing appropriately When problem behavior occurs: - withhold items/activities when he engages in problem behavior -withdraw extra attention - use normal tone of voice (limit reaction to problem behavior) - follow through with the demand or transition, don't let him delay or avoid

Action Plan		
What will be done?	By Whom?	By When?
Daily schedule	school staff, mom	2 weeks
Visual pictures	school staff, mom	2 weeks
Fun passes for Sea World to use for a reward	mom	next week

How often will the plan be monitored?   _ daily   _X_ weekly   __ monthly   __ other

How will implementation and outcomes be evaluated?
Daily talks with teachers (before and after school), journal of problem behaviors paying close attention to antecedents and setting events, family meetings to go over journal on the weekends

Appendix I: Behavior Plan for Amanda (Susan)

Behavior Support Plan
Child's Name: Amanda
Team Members: Mom. Dad, Grandma (maternal), Granny (paternal), Teachers, Babysitter

Goals
<u>Description of behavior</u> Not following directions – not responding, either verbally or gesturally, to a demand or instruction, physically resistant (i.e., pulling away, dropping to the floor), not completing steps of daily routines, may be followed by property destruction Snatching and grabbing items - taking items with hands or using another object to retrieve an item from table, dresser, or wall Property destruction – consuming, destroying, breaking, or throwing objects taken without permission
Broad Goals: 1) Amanda will increase her ability to be successful in completing routine steps appropriately and following directions. 2) Amanda will be able to complete routines without constant supervision (i.e., potty, morning and bedtime routines) 3) Amanda will increase her independence and have her be safe without implementing extra safety precautions. 4) Amanda and the family will spend quality time together without concern for addressing challenging behavior. 5) Amanda will be able to participate in age appropriate activities. 6) The family will be able to have a "typical" living room, home environment.

Summary Statements
<u>When this occurs</u>...   <u>my child does</u>...   <u>to get or avoid</u>...
1) When Amanda is given an instruction or demand she not follow directions and as a result she will delay or avoid the demand or transition. 2) If Amanda is not engaged in an activity and her parents are not interacting with her she will snatch or grab items and as a result she will get attention from her parents in the form of reprimands. 3) When Amanda sees a preferred item and can't have it she will snatch and grab items and will sometimes gain access to the item. 4) When Amanda is asked to transition from a preferred activity to a non-preferred activity she will consume, destroy, break, or throw objects and as a result will delay the transition and receive attention from parents in the form of reprimands or assurances.

Strategies		
Prevent Behavior:	Replacement Behaviors:	Manage Consequences:
- allow her participate and help in daily routines (example: putting silverware on table) - stay in close proximity when she is engaging in a task that may be difficult for her - provide predictability of expectations, visual cues when activities occur during the day, a way to char her appropriate behavior - provide a timer to let her know how long she has access to preferred item or activity, use as a countdown for when she will obtain time with parent (use during waiting times) -give her warnings if parent will be leaving area, or will be busy with another activity - provide preferred item if she has to wait without adult attention - include "mommy time" routine in daily schedule, after she gets home from school Mom will incorporate 5 minutes of 1 to 1time. - add breaks within activities that are non-preferred or difficult - establish structured routine for going to bed, broken down into predictable steps	- taking turns when playing with other people - request attention in an appropriate way (i.e., using verbal or gestural cues) to indicate she wants to play or wants a hug - request a delay from a non-preferred activity or task - wait for activity, attention or item after she requests it	When positive behavior occurs: - provide specific praise for appropriate behavior so she knows exactly what behaviors you like - honor requests from her when possible - give her a delay from a non-preferred activity if she requests it appropriately - allow her to have one on one attention when she requests it - provide physical affection when she is engaging in appropriate behaviors - use stickers to reinforce appropriate behavior - allow her to pick a toy from the treasure box after appropriate behaviors When problem behavior occurs: - ignore problem behavior when possible so as not to reinforce - redirect her with calm/neutral voice - don't engage in verbal debates with her once she is already told "no" - reduce "chats" she receives for problem behavior - don't provide physical affection when she is displaying problem behavior

Action Plan		
What will be done?	By Whom?	By When?
How often will the plan be monitored? __ daily _X_ weekly __ monthly __ other How will implementation and outcomes be evaluated?		

Appendix J: Sample Procedural Fidelity Checklist

Session 2: Gathering Information

Therapist: _____   Code: _____   Participant(s): _____

		Criterion	Notes
Yes	No	I. A. Reviewed and provided feedback on homework (i.e., definition of behavior, broad goals, initial data collection) and collected weekly progress report	
Yes	No	II. A. Provided a rationale for gathering information (i.e., determining what predictably occurs before and after behavior)	
Yes	No	II. B. Explained the purpose and content of the MAS	
Yes	No	Had participant(s) complete the MAS and provided feedback on results	
Yes	No	III. Explained ways of gathering information about a child's behaviors of concern and provided examples	
Yes	No	A. Watching (observing behavior)	
Yes	No	B. Talking (interviewing other people)	
Yes	No	C. Recording (collecting data via tools such as the scatterplot and behavior log)	
Yes	No	D. Practiced recording information using a behavior log (using videotaped example)	
Yes	No	Helped participant(s) identify strategies for gathering information through watching (when, where), talking (to whom), and recording (how)	
Yes	No	IV. Provided instructions and reviewed forms for completing homework (i.e., work with family and others to complete plan for gathering information, talk to others, watch and record behavior at least once per day)	

Session Date: _____   Total Time: _____:_____
                                                    (rounded to minute)

Rater's Initials: _____   primary   secondary

Appendix J: (Continued)

Session 3: Analysis and Plan Design

Therapist: _____ Code: _____ Participant(s): _____

		Criterion	Notes
Yes	No	I. A. Reviewed and provided feedback on homework (i.e., information gathered, MAS, current hypotheses) and collected weekly progress report	
Yes	No	II. A. Explained the purpose of analyzing information to figure out the patterns affecting behavior (i.e., 4 Ws, outcomes/reactions, broader issues) and provided examples	
Yes	No	II. B. Practiced analyzing patterns using videotaped examples and/or interviews and observations (identified at least one antecedent/one consequence)	
Yes	No	III. Explained and provided examples of hypothesis statements	
Yes	No	Guided participant to review the information they have collected and develop at least one hypothesis statement	
Yes	No	IV. Described how summary statements provide the foundation for intervention and shared examples; introduced 3 categories of intervention: preventing problems, replacing behaviors, and managing consequences	
Yes	No	Practiced identifying intervention strategies to prevent problems, teach skills, and manage consequences based on an example of a summary statement	
Yes	No	Helped participant brainstorm ideas for intervention for their child based on one of the hypotheses they generated (at least one to prevent problems, teach skills, and manage consequences)	
Yes	No	V. Provided instructions and reviewed forms for completing homework (i.e., work with family and others to develop summary statements and continue gathering data)	

Session Date: _____ Total Time: _____:_____
                                                                    (rounded to minute)

Rater's Initials: _____   primary   secondary