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An Evaluation of the Family-Centered Prevent-Teach-Reinforce Model with Families of Young Children with Developmental Disabilities

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An Evaluation of the Family-Centered Prevent-Teach-Reinforce Model with Families of Young Children with Developmental Disabilities

by

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A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts
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Abstract

Daily routines in the home are typically the most common interactions for children with their siblings and parents. When a child exhibits challenging behavior in these routines, it can cause a strain on the family as well as the child’s ability to learn a more appropriate behavior. This study examined the feasibility and potential efficacy of an adapted version of the Prevent-Teach-Reinforce (PTR) intervention with three families of young children with developmental disabilities. The school-based PTR manual was adapted for treatment use in a family context. The study assessed the family adherence to the collaboratively developed PTR intervention, family use of the behavior rating scale, social validity, procedural integrity, and child behavior behaviors during the routines. A multiple-baseline design across children was used to examine the impact of the PTR intervention on child behavior within the routine. Results indicated that the PTR interventions were successful in demonstrating an increase in appropriate behaviors and a decrease in challenging behaviors across children. The results also indicated that parents were able to successfully use the behavior rating scale to measure each child’s behavior.


Chapter One: Introduction

With the prevalence of children with developmental disabilities on the rise, it is important to address the challenges a child with a developmental disability may face. It is estimated that one out of every six children in the United States is diagnosed with a developmental disability, and specifically 1 out of 88 children is diagnosed with autism spectrum disorder (ASD) every year (Boyle et al., 2011). Behavioral challenges are a significant concern for parents and guardians of children with ASD and other developmental disabilities. The presence of problem behaviors or lack of appropriate behaviors can often cause significant interference in daily life and routines. The earlier these challenges and deficits are identified and targeted the better due to the long term effects they can have (Campbell, 1995). Several studies have demonstrated the prevalence of young children with developmental disabilities exhibiting problem behaviors (Roberts, Mazzucchelli, Taylor, & Reid, 2003). Research has suggested that approximately one third of young children with the diagnosis of ASD have behavioral challenges that are deemed clinically significant (Hartley, Sikora, & McCoy, 2008).

Evidence indicates that family-centered interventions that involve parents as the intervention agents have positive outcomes for families and children (Crockett, Fleming, Doekpe, & Stevens, 2007; Dunst & Trivette, 2005; Symon, 2005). Family routines are the most common and most influential interactions for children with and without disabilities (Clarke, Dunlap & Vaughn, 1999; Lucyshyn et al., 2004; Vaughn & Dunlap, 1997). Because children spend the majority of their time in their home with their caregivers, it is important to address this
environment when considering behavior interventions. However, family-centered interventions with contextual fit must to be developed and implemented for the success of behavior change in children (Duda, Clarke, Fox, & Dunlap, 2008; Moes & Frey, 2000; Moes & Frey, 2002; Vaughn & Dunlap, 1997).

There is growing empirical evidence for the efficacy of the application of positive behavior support (PBS) with families of children with developmental disabilities (Buschbacher, Fox, & Clarke, 2004; Lohrmann-O’Rourke & Yurman, 2001; Lucyshyn et al., 2007; Cheremshynski, Lucyshyn, & Olson, 2013; Vaughn et al., 2002). PBS is an ecological intervention model derived from the fundamental concept of operant learning theories to improve the quality of life of individuals who have behavioral challenges (Bradshaw, Mitchell & Leaf, 2010; Carr et al., 2002; Shipley- Benamou, 2002; Von Mizener & Williams, 2009). PBS seeks to reduce problem behaviors without the use of punishment and instead focuses on instruction, reinforcement of appropriate behavior and environmental adaptations and supports (Dunlap et al., 2009).

Prevent-Teach-Reinforce (PTR) is a model of PBS for use by natural change agents to support children with severe problem behavior. The model was originally developed as a systematic process to assist typical students or students with disabilities in school settings, whose persistent problem behaviors have not yet been resolved through classroom systems of behavior management (Iovannone et al., 2009). PTR is a model that also follows the principles of applied behavior analysis (ABA) such as functional assessments, differential reinforcement of alternate behavior, prompting, shaping, fading and contingency management (Dunlap et al., 2009).

There are five steps within the PTR model: teaming, goal setting, assessment, intervention, and evaluation. The steps are the same for each child; however the content in each
step is individualized for each child’s needs. There are also three components within the intervention, Prevent, Teach and Reinforce (Dunlap et al., 2009; Iovannone et al., 2009).

According to the PTR model, teachers and families should have access to training and coaching during implementation of the PTR process to achieve and sustain high levels of fidelity.

Several studies have investigated the feasibility and preliminary efficacy of the PTR model using single subject research designs. Dunlap, Iovannone, Wilson, Kincaid and Strain (2010) provided two case studies that involved two male children ages eight and nine. Both children had no diagnosis, but showed some combination of delays in academic and social behavior displayed problem behavior. In both cases, the teams consisted of the classroom teacher and a university-based consultant. Each team chose one problem behavior and two appropriate behaviors per child to target and developed a 5-point Likert-type behavior rating scale to record the behaviors for the entire school day. Based on the functional assessment conducted in Step 3, one or two strategies in each prevent, teach and reinforce component of the intervention were developed and implemented by the classroom teacher who received training and coaching from the consultant. The results indicated that the PTR intervention was effective in decreasing the problem behavior and increasing the appropriate behaviors. All teachers scored high acceptability of the interventions and the PTR model on a social validity rating scale.

Kulikowski, Blair, Crosland, and Iovannone (in review) conducted a study on the PTR model with two 4-year old children in a community preschool. Each child was typically developing with no diagnosis but engaged in problem behaviors in the classroom. The children’s teacher and assistant teacher implemented the PTR intervention. A multiple baseline design across activities was used. Results showed that the children’s problem behavior decreased and appropriate engagement increased. The results indicated that the PTR intervention was
implemented with fidelity, and the PTR process and outcome were socially acceptable to the teachers.

Strain, Wilson and Dunlap (2011) implemented the PTR model to show it could have an effect on the academic engagement and problem behaviors of three children with autism in three general classrooms. All staff had no prior experience with the PTR model but were familiar with their school wide PBS. The study was conducted in a multiple baseline design across participants. Results showed that the PTR process was effective in quickly decreasing the problem behavior and increasing task engagement of all participants. The follow up data showed that results were sustained after the PTR consultant no longer provided on-site assistance. The study was successful in providing the first empirical support that the PTR model could be effective with children with autism.

Sears, Blair, Crosland, and Iovannone (2013) expanded the research on the PTR model by implementing PTR in two home environments with two children with ASD, ages 4 and 6. The researchers modified specific components of the manual’s worksheets, which were previously tailored to the school setting to make it appropriate for home-based options. Other changes were made for practicality in the home setting such as combining Steps 1 and 2 into one meeting as well as Steps 3 and 4 into a second meeting. A multiple baseline design across routines was used to examine the effectiveness of the PTR intervention implemented by the parents with the researcher’s assistance and to test generalization of the model with a novel routine. Results indicated that the adapted, family-centered PTR model was associated with reductions in the children’s problem behaviors and increases in alternative behaviors. The interventions were also conducted with high levels of fidelity and demonstrated high social validity.
The studies described above have limitations leading to possible research in the future. The time series data reported by Dunlap et al. (2010) were based on teacher perceptions and not reliable direct observations. Further, the coaching sessions described in the article were very brief; it was not clear what the requirement was during implementation for a coaching session, how long the additional coaching sessions were or how often they were conducted. The levels of support needed for the teachers during the intervention phase were not clearly defined. A limitation of the Strain et al. (2011) study was similar, as the levels of consultation support needed for the teachers were not clearly described in enough detail for future research to replicate.

The Kulikowski et al. (in review) study also faced limitations. First, parents were not involved in the process. Second, due to time constraints and student absences, maintenance data were not taken across all routines for one of the participants. Limitations of the Sears et al. (2013) study included limited data collected during intervention due to families’ inconsistent data collection using the video cameras and a small number of participants. These studies did not report the extent to which parents or teachers used the behavior rating scale developed in the Goal Setting of Step 2. Data on the usability or feasibility of the individualized behavior rating scale are currently not available in the current literature. So far the majority of research on the PTR model was conducted in the school setting with only one study conducted in the home environment (Sears et al., 2013).

Another limitation of the research on the PTR model includes the need for more specific recommendations and guidance for families to develop intervention strategies. Although the model process should be implemented with the support of consultants, families who are not familiar with behavioral interventions may not be able to be involved in the process of developing the behavior intervention plan unless specific guidance for identifying intervention
strategies is provided. The original PTR manual provides a list of possible strategies for each PTR component, but does not provide the same guiding questions for identifying such strategies as it does during goal setting. For example, guiding questions on identifying types of choices, specific situations when to provide choices and how to provide them would help the families and team members develop a specific context- or routine-based choice strategy.

The purpose of the current research was to further examine the feasibility and potential outcomes of implementing the family-centered PTR model with families of young children with developmental disabilities by replicating the study by Sears et al. (2013) with a new sample. The current study differs from Sears et al.’s study in four ways, thus extends the current literature on family-centered PTR intervention. First, a guiding questions template for identifying possible strategies for each PTR component was created by the researcher and used by each family. Second, the feasibility and accuracy of parent use of the individualized behavior rating scale was examined. Third, the study included children with ASD or ASD symptoms, who had different age levels, and one of whom was considered high functioning. Fourth, different family routines and behaviors were targeted thus expanding the possible family-based situations in which the PTR model was successful. The research addressed the following questions: a) could family members implement the intervention steps as planned?; b) would the child’s problem behaviors decrease and replacement behaviors increase as results of the PTR intervention?; c) to what extent can families accurately use the behavior rating scale to monitor their child’s progress?; and d) to what extent are families satisfied with their involvement of the PTR process and outcome?
Chapter Two: Method

Participants

Participants in this study were three male children with developmental disabilities ages 5 and 7 and their families, who were Caucasian middle class. The participants were recruited by referrals from behavior analysts in community agencies where they were formerly or currently receiving behavioral services. Information was sent to local behavior analysts working with families of children with developmental disabilities who might benefit from participating in the study. Inclusion of a child was based on the following criteria: children who (a) exhibited problem behavior over a period of 6 months that interfered with at least one family routine occurring at least three times per week, (b) had a diagnosis of ASD or ASD symptoms, and (c) lived at home with at least one parent. As part of the requirements of the study, the parents who were willing to proactively participate in the team meetings, implement the interventions, and video-record the sessions participated in the study.

David. David was 7 years old diagnosed with Autism Spectrum Disorder, Attention Hyperactivity Disorder and Expressive Language Disorder at the age of 4 by a local psychiatrist. He communicated his needs using three to five word sentences when prompted but had poor articulation and often spoke in a low voice tone. He was receiving 15 hrs of applied behavior analysis (ABA) therapy per week targeting verbal behavior. He was also receiving 1 hr of speech therapy per week. At the time of the study David attended a public elementary school where he received special education services. He lived at home with his mother, father and younger
brother. David engaged in problem behavior such as noncompliance, walking away, or engaging in an activity that was not allowed during daily routines when prompted to complete tasks.

Leonard. Leonard was a 6 year old diagnosed with ASD at 5 years old by a Developmental Pediatric Specialist. Leonard was able to communicate using 3-5 word sentences and could follow up to three step directions. He was able to use the toilet independently; however, he sometimes required adult verbal prompting to complete the bathroom routine. His standard scores on the Clinical Evaluation of Language Fundamentals: Preschool-Second Edition (CELF:P-2; Wiig, Secord, & Semel, 2004) were 61 in Receptive Language Index and 57 in Expressive Language Index. On the Adaptive Behavior Assessment System-Second Edition (ABAS-II; Harrison & Oakland, 2003), his standard score in the General Adaptive Composite was 60, indicating that his adaptive behavior was characterized as lower functioning than that of most other children his age. At the time of the study Leonard was receiving 30 hours of direct ABA therapy per week and was attending a local private elementary school where he was in an inclusion classroom. He lived at home with his mother and father. At home, he would engage in problem behavior (e.g., screaming, physical aggression toward others, throwing objects at others and flopping to the ground) when presented with non-preferred tasks, when terminating a preferred activity, during transitions and while riding in a car.

Brian. Brian was a five year old at the time the study began, diagnosed at the age of three as having a language delay and sensory processing problems by the local school district multidiscipline evaluation team. Brian passed all areas of the developmental domains on the Battelle Developmental Inventory II Screening (BDI-2; Newborg, 2005). However, on the Preschool Language Scale, Fourth Edition (PLS-4; Zimmerman, Steiner, & Pond, 2002), he obtained a standard score of 88 for Auditory Comprehension, 83 for Expressive Communication,
and 84 for a total Language Score. Although he used 3-4 work utterances, he had difficulty answering questions and staying on topics. He engaged in motor stereotypic behavior, had difficulty with auditory noises, and engaged in parallel play with peers. He rarely engaged in social interaction with peers at school. Brian was dually enrolled at a private preschool and a public elementary school to receive language and occupational therapies. Due to his difficulty with adjusting to new environments and limited pre-academic skills, he was enrolled at the preschool for 2 years in a row. He received 2 hrs of occupational therapy and 30 min of language therapy per week at the public school. Brian lived at home with his mother, father and younger brother. Brian communicated his needs in full sentences with his family members, but had a difficult time attending to a task for an extended period of time. He also engaged in problem behavior such as hitting his parents or brother, throwing objects at others, noncompliance, crying, yelling or environmental destruction when presented with a non-preferred task, to obtain a preferred item or activity, or to gain attention from his parents or brother.

**Setting**

The specific PTR interventions took place where the target problem behaviors were most likely to occur within each child’s family routines. David’s target routine was getting dressed, which took place in his bedroom. For Leonard, the target routine was car riding with his mother from school to home. For Brian, playing with his brother was targeted, which took place in his playroom within his home. Meetings with parents took place in their respective homes at a time and specific location convenient for them such as the dining room table or living room.

**Measures**

Family adherence to collaboratively developed PTR intervention, family use of the behavior rating scale, social validity, and procedural integrity data were collected to assess the
feasibility of the family-centered PTR model with families of young children with developmental disabilities. Each child’s problem behavior and appropriate or replacement behavior were also measured to assess the child outcome of the family-centered PTR intervention.

**Fidelity.** To assess fidelity of PTR intervention implementation, family adherence to intervention was measured. It focused on assessing the extent to which the parents implemented the steps in the behavior intervention plan as designed by the team. Steps were specified and taught to the parents prior to intervention. Parents were scored using the PTR Fidelity Checklist (see Appendix 1). The adherence was represented as a percentage based on the number of steps implemented by the parent correctly divided by the number of steps that were applicable for each routine. Steps implemented incorrectly or not at all received a “no” on the checklist. This adherence was also measured in baseline to compare how many steps the caregiver already had in their repertoire. Behavior plans for David included 15 steps for the dressing routine during the intervention phase, and the steps were faded to 10 steps during the maintenance phase. The plan for Leonard’s car routine included 10 steps during the intervention phase and six during the maintenance phase. The plan for Brian’s play routine had 13 applicable steps during the intervention phase and eight steps during the maintenance phase. For all children, the children’s mothers were responsible for implementing the intervention due to their availability and involvement in the daily routine.

**Parental accurate use of behavior rating scale.** Each family was asked to monitor child progress using the behavior rating scale(s) developed in Step 2 of the PTR process during baseline, intervention, and follow-up. The scale was a 5-point measure that rated the child’s behavior based on the perception of the intervention agent, the parent (see Appendix 2). Anchor 5 represented a day that was worse than a typical day by engaging in the problem behavior more
often or for longer duration than usual, whereas Anchor point 1 represented the best day (least problem day). For appropriate or replacement behavior, the scale was reversed. That is, the best day was set at Anchor point 5 and the most undesirable day was set at Anchor point 1. The team members developed the definitions of behaviors, method of measurement, and the anchor points on which the behaviors were rated. For Leonard and Brian, the occurrence of problem behaviors and appropriate behaviors during the routine was measured using percentage of time the child engaged in target problem behavior, 0-20% was set at Anchor point 1, 21-40% at Anchor 2, 41-60% at Anchor 3, 61-80% at Anchor 4, and 81-100% at Anchor 5. For David’s noncompliant behavior in the form of latency was measured, 0-2 min was set at Anchor 1, 2-4 min at Anchor 2, 4-6 min at Anchor 3, 6-8 min at Anchor 4, and 8-10 min at Anchor 5. The number of tasks completed independently was also rated, 0 tasks set at Anchor 1, 1-2 tasks at Anchor 2, 3-4 tasks at Anchor 3, 4-5 tasks at Anchor 4 and 6-7 tasks at Anchor 5.

The parents were asked to complete the rating scale at the end of each day or routine. The researcher collected the completed scales to compare them to the research staff’s direct observation data to evaluate the accuracy of the rating scale measure and the effectiveness of the intervention from multiple sides. If a participant was missing a rating for a previous session, the researcher’s video of that session was reviewed at the next possible opportunity by the family and back scored. The researcher did not provide any input or feedback at that time until all current sessions were scored to ensure the rating was based solely on participant judgment. To measure parental accurate use of the individualized behavior rating scale, the parental rating scale data were compared with the direct observation data. The percentage of intervals or latency of problem and appropriate behaviors recorded during direct observation were converted to
rating scales using the same Anchor systems as used specific to each participants’ behavior. For example, 0-20% of intervals was converted to Anchor point 1.

**Child behavior.** Problem behavior and replacement behavior were measured to evaluate the outcome for the child. The target behaviors within a routine for each child were determined after teams had been assembled.

**Problem behavior.** The problem behavior for David was noncompliance which was defined as engaging in behaviors that delayed or prolonged the task he was prompted to do, such as lying on his bed, sitting in a chair, or staring at the ceiling or wall. For dressing routine, latency in min to successful completion of a routine was measured in relation to the target noncompliance, which was defined as the number of min that elapsed from the start of the routine (when his mother prompted him to get dressed) to the completion of all task steps in dressing (when he was fully clothed in the correct clothing, including buttons and tied shoes) without engaging in problem behavior.

Leonard’s problem behavior was defined as any behavior that was considered unsafe while in a moving vehicle. Examples of Leonard’s behavior included hitting or kicking any part of the car’s interior or any occupant in the car such as his mother while she was driving, throwing objects in the direction of an occupant in the car, not being buckled upon wearing his seatbelt appropriately on top of his shoulder or engaging in vocal behavior in a volume above conversational level. The problem behavior for Brian included non-engagement, aggression, and verbal refusal. Non-engagement was defined as any motor and/or verbal behavior activity not related to the activity specified by his mother or brother such as playing with another toy, turning away from the activity or walking away. Aggression was defined as hitting his brother with an open or closed hand or with any object in his hand on any part of his brother’s body. Verbal
refusal was defined as any vocal statement made by Brian stating he would not play with his brother or his brother’s choice of toy. All three behaviors were combined into the overall problem behavior label.

Both Leonard’s and Brian’s problem behaviors were measured as percentage of interval using a 10-s partial interval system. Total number of intervals varied depending on the routine duration. The routine duration was 20 min for Leonard and ten minutes for Brian across all phases.

*Appropriate or replacement behavior.* The replacement behavior measured for David’s dressing routine was dressing independently. This behavior was defined as completing seven tasks that included putting on each article of clothing correctly (shirt, shorts, left and right socks and left and right shoes) and closing his short’s zipper/button by himself. He could receive help for any of these tasks after putting his fingers to the item in an attempt to complete it himself then asking for help from his mother if unsuccessful, however this was not scored as independent. This behavior was measured as percentage of the steps completed independently by dividing the number of steps David completed independently by the number of steps it took to get dressed, seven. The appropriate behavior for Leonard was wearing his seat belt, which was defined as wearing his buckled seat belt across his lap with the strap sitting on the top of his shoulder. This was scored as percentage of intervals using a 10-s partial interval system.

The appropriate behavior measured for Brian was appropriate vocalizations which were defined as vocalizations directed toward his younger brother that were appropriate in context of the activity they were engaged in at the time, such as complementing him on the game he chose, asking him a question about the activity or commenting on the activity without including a complaint. This was scored as percentage of intervals using a 10-s partial interval system.
Social validity. Three types of social validity were assessed in this study: a self-rating by family members, a rating by naïve observers, and a semi-structured interview with families. Self-rated social validity was assessed following the intervention phase of the study. The caregiver(s) were asked to fill out a modified version of the PTR Self Evaluation: Social Validity form which was adapted from the TARF-R (Reimers & Wacker, 1988). This scale was designed to measure perceived effectiveness and acceptability of the behavior plans using 15 items, which were scored on a 5 point Likert-type scale (see Appendix 3).

Two naïve observers uninformed about the intervention also rated the acceptability of the plan and the child behavior. The observers were graduates or current students in an Applied Behavior Analysis (ABA) master’s program. They had some knowledge of the techniques used during intervention but not specifically to this study. They were chosen based on availability and willingness to participate. Observers reviewed the behavior intervention plans and viewed three random videos of the baseline and intervention phases each using 5-item rating scales (see Appendix 4). The scale items were adapted from the social validity measure by Buschbacher, Fox & Clarke (2004). Videos were viewed for the full duration of each routine. Specific durations varied depending on the routine. In addition, during follow-up, the researcher conducted semi-structured interviews with each family using a questionnaire (See Appendix 5) for an average of 20 min to collect additional social validity data regarding the satisfaction with the PTR process and outcome and the satisfaction with the coaching and feedback procedures used in the study. The researcher read each question to the family and wrote their responses on the questionnaire. If the response was too vague, the researcher requested clarification.

Procedural integrity. The researcher’s procedural integrity of the PTR process delivery was measured throughout the study. Each session or meeting with team members was audio or
video taped and scored by an independent observer using an integrity checklist. The observer scored yes or no if the researcher addressed all steps necessary during each of the team meetings using a 15-step checklist adapted from the PTR manual (see Appendix 6). Percentage of procedural integrity was calculated by dividing the number of steps the researcher completed by the number of steps in each session. The procedural integrity was scored at 100% across families indicating that all PTR steps were correctly delivered in each session or meeting. Inter-observer agreement (IOA) for procedural integrity, which was measured using a point-by-point method (item by item), was 100% for families across sessions.

**Data Collection and Inter-observer Agreement**

Each family was provided with a digital video camera, memory card, and tri-pod to record each routine. Families were asked to record at least three times per week. During the study, the researcher visited the home once or twice a week to collect the memory card the videos were stored on and put in a new memory card for the family. This process ensured that the videos went directly from the parents to the researcher. With all participants and routines, 100% of sessions were videotaped by family members and later scored by the researcher and an independent data collector. A student in an ABA master’s program served as the independent data collector. The data collector was trained to measure child target behaviors, family adherence, procedural fidelity, and IOA.

At least 30% of the sessions were assessed for IOA. It was measured by having the researcher and an independent data collector independently watch the video-recorded sessions. An agreement of the occurrence of an intervention step was defined as both observers recording that the step was either not completed (no) or completed (yes) during the activity. IOA was calculated by dividing the number of agreements by the number of agreements plus
disagreements and multiplying by 100. Results for family adherence was 100% across all participants and sessions. Results for child behavior across all phases ranged from 82-100% for Brian, 96-100% for Leonard, and 100% for David. IOA for Brian’s problem behavior averaged 94% (82-100%) in baseline and 99% (98-100%) in intervention. Scores for Brian’s appropriate verbal behavior averaged 97% (90-100%) in baseline and 98% (95-100%) in intervention. Results for Leonard’s problem behavior averaged 100% in baseline and 98% (96-100%) in intervention. IOA for Leonard’s appropriate seat belt use averaged 100% in baseline and 98% in (97-100%) intervention.

Session duration varied per routine. For David’s dressing routine, baseline data were recorded for 15 min. His family chose this time since it was at this duration his mother would typically step in and finish dressing him herself. During intervention and maintenance sessions, data were recorded for shorter durations (5-11 min) due to the routine being completed by David in shorter amounts of time. Brian’s play routine data were recorded in 10 min sessions across all phases. His mother chose this time as the desired duration that Brian engage in interactive play with his brother. Leonard’s car routine was recorded and scored in 20 min sessions. This duration was decided upon based on the average length of time Leonard spent in his mother’s car on his way home from school.

Design

This study used a non-concurrent multiple baseline design across families. The introductions of the interventions were staggered systematically across routines and families while data were simultaneously collected on family adherence to the intervention steps and child behavior.
**PTR Procedures**

The researcher adapted the PTR process and worksheets used by Sears et al. (2013). Sears et al. adapted the original school-based PTR process and worksheets to incorporate family routines for young children. As suggested in their study, the number of meetings reduced by combining Steps 1 and 2 into one meeting as well as Steps 3 and 4 into a second meeting. However, two observations during target routines were added to procedures implemented by Sears et al. following the initial meeting for the purpose of refining goals and child target behaviors and teaching the family how to best use the video camera to record the routines. In addition, a guiding questions template was designed to help the teams select routine-based strategies developed and used in Step 4 (see Table 1). The guiding questions were not used in Sears et al.’s study.

**PTR initial meeting.** An initial team meeting was conducted in each family’s home. The initial two hr meeting covered Steps 1 (Teaming) and 2 (Goal Setting) of the PTR process. Step 1 involved creating a team and developing roles and responsibilities for each person within that team such as facilitator and time keeper. All teams across participants consisted of the researcher and the child’s parents. Step 2 consisted of developing short and broad term goals for the child as a team, identifying and operationally defining target behaviors and establishing how behaviors would be recorded and measured. The manual provided questions to consider when developing the target behaviors and goals, which was reviewed during the meeting.

The short term goals developed addressed two topics, the targeted behaviors to decrease and the replacement behaviors. The purpose of developing these short-term goals was to help achieve the broad term goals set by the team members. For example, a broad goal of Leonard’s was to ride in a car safely and a short-term goal was to wear his seat belt correctly on his ride
home from school. Team members used the PTR Goal Setting worksheet to identify short-term and long-term goals for the individual in three areas; social, behavioral, and independent functioning (see Appendix 7). The individualized Behavior Rating Scale, BRS, was also developed at this meeting and was taught to parents using direct instruction by the researcher.

**Family routine observation.** Following the initial meeting and before baseline began for any routine, the researcher visited each home a minimum of two times to directly observe child behavior during target routines for the purpose of refining goals and child target behaviors and teach the family how to best use the video camera to record the routines. However, this was not possible with David’s dressing routine at the family’s request due to the time of morning in which it occurred as well as reactivity to the researcher being present so the observation was done via video tape. The researcher jointly determined the optimal location of the video camera and duration of the videos with the family and demonstrated how to use the equipment itself. During observations, the researcher also took notes on antecedents, behaviors, and consequences that were later reviewed during the functional assessment.

**Baseline data collection.** After the direct observation, baseline data on each child’s target behaviors were obtained until the data showed an appropriate representation of a typical day with minimal variability. Families were asked to interact with their child as they typically would during the targeted routines. The routines usually occurred at least three times per week and the families videotaped each session. In addition, families collected data on child’s target behaviors using the BRS. After the behavior intervention plan (BIP) was developed in the following steps of the process, the researcher reviewed baseline videos to record if parents were using any strategies or steps listed in the BIP.
**Functional behavior assessment and intervention planning.** Following baseline data collection, team members participated in the second meeting. This meeting included PTR Step 3 (Assessment) and Step 4 (Intervention) and was 2-3 hrs in duration. Team members conducted functional behavior assessments (FBA) to determine behavioral functions and possible interventions. Using the *FBA Checklist* and *FBA Summary Table* provided in the manual and adapted by Sears et al. (2013), data-based hypotheses were developed (see Appendix 8 & 9). While developing the hypotheses using the checklist, certain components were considered, such as setting events, antecedents to the behaviors, functions of the challenging behaviors, possible replacement behaviors, and consequences following the behaviors. The checklist was filled out together by all team members. Information gathered using the checklist was then organized using the *FBA Summary Table* that was broken into prevent, teach and reinforce sections. The team also considered the direct observations and ABC data taken prior to baseline by the researcher. The team then developed a hypothesis statement regarding the function of each behavior, problem and replacement, based on the summary table. The prevent section of the table became the “when” portion of the hypothesis, the teach section became the “then” component and the reinforce section became the “as a result” component. Guiding questions provided in the manual may have been used if the team has difficulty coming to a consensus regarding a correct hypothesis.

Step 4 was to develop an individualized behavior support plan for each child. Each routine’s plan contained a minimum of one prevent, teach, and reinforce strategy each. A prevent strategy altered the environmental circumstances associated with the challenging behavior in an effort to prevent the behavior from occurring. Prevent strategies may also have been used to increase the likelihood that a replacement behavior would occur. A teach strategy
was chosen to educate the child on how to engage in a behavior that was functionally equivalent and/or physically incompatible to the challenging behavior. The purpose of a reinforce strategy was to consider consequences delivered when the child engaged in the challenging behavior and the replacement behavior.

The PTR manual provided descriptions of PTR intervention strategies such as providing choices, environmental supports, adult verbal behavior, non-contingent reinforcement, setting event modifications, peer support, and peer modeling. The interventions were chosen as a team using the knowledge of the researcher on appropriate interventions as well as the suggestions within the manual. Possible replacement behaviors and interventions for the Reinforce component were also discussed and considered during the team decision-making. During behavior intervention development the researcher also provided a guiding question template, which was developed by the researcher, to facilitate the parents having an active role in choosing the most effective prevent, teach and reinforce strategies needed. The researcher and parents reviewed the template for all possible interventions either vocally or by filling it out depending on the complexity of the intervention. The template is presented in Table 1.

After reviewing possible interventions, the team used the *PTR Intervention Checklist* provided in the manual to rank the possible choices by most applicable in the home environment as well as matching the hypotheses (see Appendix 10). The team completed the checklist as the researcher facilitated discussion of strategies. After at least one strategy was chosen for each Prevent, Teach and Reinforce component, the meeting ended and the researcher wrote each strategy into step by step instructions for implementers to follow using the blank *PTR Behavior Intervention Plan* provided in the manual (see Appendix 11). A third meeting was held to review
the steps written out by the researcher and edit them according to the other team members’ suggestions.

**Family training.** After the intervention plan was developed, the researcher provided approximately 30 min to an hr of training to each family on the intervention steps for the routine using verbal and written instructions, modeling, rehearsal, and feedback. Training occurred wherever the routine was located. The researcher acted as the target child during the simulated routine as the researcher guided the caregiver through the steps. Using the PTR Family Implementation Fidelity Checklists (see Appendix 1), the researcher scored each team member, who was responsible for implementing the plan, on their percentage of correct implementation of intervention steps. Training continued until all intervention agents implemented the steps correctly with at least 90% accuracy.

**Intervention implementation and evaluation.** Upon completion of training either on the same day or within one week, the family members began implementation of the behavior plan for the target routine(s). The researcher monitored the intervention implementation using the intervention fidelity checklists (see Appendix 1) throughout intervention sessions. During the initial phase of intervention (e.g., for a period of two weeks), the researcher made two home visits, once a week, to provide coaching to each family on their implementation of intervention steps during target routines. The first coaching session was held during the first session if possible. Additional home visits were scheduled if implementation scores of any implementer fell below 80%. One additional coaching session was required for Brian’s family. Each coaching session lasted approximately 20 min and included in-situ instruction, modeling, rehearsal and feedback. The researcher also conducted brief 10-15 min weekly feedback sessions.
with families via Skype, over the phone or in person to review child behavior and family adherence data with them and address any issues.

The intervention phase for each routine varied in length depending on the child’s progress. The intervention phase ended when each interventionist demonstrates implementation fidelity scores above 80% and when stable patterns of child behaviors were seen over three consecutive sessions. Families video recorded their implementation sessions, collected monitoring data on child target behaviors using the BRS, and self-monitored their implementation using the adherence checklist.

If the participant failed to videotape at least three routines a week for two consecutive weeks or did not complete the BRS for at least three routines a week for two consecutive weeks, the researcher met with the family to discuss the difficulty they were facing. One solution offered to them was that on the days routines typically occurred as described by the participant, prompts to videotape routines and fill out BSP were delivered to the participant by the researcher via phone call, text message or email. The participant chose which form of communication was more convenient at the time of intervention development and was required to notify the researcher that they received the reminder via phone call, text message or email. Further, if the participant did not respond within 24 hrs to the initial reminder a follow-up phone call was delivered once every 24 hrs until the participant responded in any form previously listed. Brian’s family decided to take part in these reminders to videotape from the beginning of intervention due to their hectic schedule.

Families were also provided with feedback weekly during the intervention phase on the child’s targeted behaviors, parent implementation fidelity, assistance on any steps completed
incorrectly, and a prompt to continue recording sessions. Any questions parents had concerning the intervention was also discussed. This feedback was given in person or over the phone.

PTR Interventions for Each Family

The following are specifics of the PTR interventions developed for each family in Step 4. Each family team focused on developing strategies that could easily be implemented by family members within family routines to address problem behavior and to teach new appropriate or replacement skills.

**David.** At the first PTR meeting David’s mother identified a routine that was problematic, getting dressed independently in the morning before school. David often did not follow through with his mother’s instruction to get dressed and when he did attempt it, took so long that his mother had to come in his room and do it for him in order to make it to school on time. David would often lie on his bed looking at the ceiling or wall while holding the clothing in his hand until his mother came in to help him. His mother reported that David was physically capable of dressing himself and would often do so quickly before going to a preferred location such as a park. With the assistance of the FBA in the PTR manual as well as baseline observations, it was determined that the function of David’s behavior was escape. It was hypothesized that when David was asked to get dressed independently he engaged in noncompliant behavior such as staring at the ceiling, laying on his bed or leaning against the wall in order to delay or terminate the task.

The team decided on the PTR strategies to include in the intervention. The team chose three Prevent strategies from the manual: *provide choices, environmental supports,* and *adult verbal behavior.* Specifically for *providing choices,* David used a picture choice board to choose which reinforcer he would like to earn once he was dressed. The board also contained a
First/Then section where David placed the picture of the reinforcer in the Then section. In the First section of the board there was a picture schedule of each piece of clothing David had to put on in order to earn his reinforcer. Another *environmental support* was visual prompts such as stickers in the sole of each shoe differentiating left and right as well as placing the shoes on a laminated piece of paper printed with the words left and right and coordinating foot prints on which the shoes were placed. The last *environmental support* was that David was prompted to get dressed at a table on the other side of his room away from his bed in which his mother had laid out each of his clothing pieces prior to prompting him to get dressed. For *adult verbal behavior*, his mother was instructed to keep all prompts short and precise in an even tone and volume.

The team then chose three Teach components, *functionally equivalent replacement behavior* in the form of David being prompted to ask for help from his mother when needed only after touching the specified clothing and attempting to do it himself, *physically incompatible replacement behavior*, in which David was prompted to get dressed at the table in his room to increase the response effort of laying on his bed and *increasing engagement time*, in the form of an interactive component on the visual picture schedule. After David put on each piece of clothing, he had to put the picture of that item in an “all done” pocket located on the board. This was done so David was continuously engaged in the task and also a prompt opportunity for what he had left to put on and what he was working for.

The team also chose 3 Reinforce interventions, *reinforce functionally equivalent replacement behaviors, reinforce physically incompatible replacement behaviors, and discontinue reinforcement of challenging behavior*. Mom was instructed to praise David for his use of the choice board, the all done pocket, asking for help appropriately, dressing at the table
and dressing independently. Mom was also instructed to no longer dress David if he engaged in noncompliance. David’s mother then implemented the interventions by following the task analysis the team had developed.

**Leonard.** Leonard’s family initially identified 2 problematic routines, however, one routine which was sitting at the dinner table, improved before baseline could begin so the only routine that was targeted was riding in the car from school to home. During that transition Leonard would engage in challenging behavior that often compromised the safety of himself and his mother while driving. His mother reported that at times he continued engaging in these behaviors hours after they had arrived home. Leonard engaged in hitting and kicking his mother or the car, throwing objects at his mother, yelling, hanging out the car window and not wearing his seat belt appropriately if at all. He also would repeatedly ask to go to places they passed while driving, most he had never been to, and when his mother said “no” or kept driving without a response he would engage in the same problem behaviors listed above. His mother would respond by yelling at him and physically blocking him or physically putting him back in his seat. The team determined that Leonard’s problem behavior was a function of attention from his mother. It was hypothesized that when riding in the car with his mother who was often on the phone or silent while driving, Leonard would engage in the challenging behavior listed above including asking to go different locations in order to gain attention from his mother.

Four Prevent strategies were chosen by the team, which included *providing choices, environmental supports, adult verbal behavior*, and *increased non-contingent reinforcement*. A choice board with a First/Then section was created that allowed Leonard to choose which activity he wanted to earn when he got home which was then placed on the “then” section of the picture board. His mother placed a picture of their destination on the “first” section prior to
Leonard getting in the car then verbally recited where they were going when he first entered. Above the first/then pictures was a picture of Leonard sitting in his car seat with his seat belt on as a visual example of appropriate behavior. His mother was instructed to keep all prompts short and precise in an even tone and volume. It was also determined that his mother would make a positive statement to Leonard (e.g., “I like how you are sitting; I hope you had fun at school; great job playing with your toy”) when he first got in the car and every five minutes thereafter using a timer to signify when 5 minutes have passed.

The team also chose two Teach interventions with included functionally equivalent and physically incompatible replacement behaviors. At the start of the ride, he was prompted to say “listen to me please” or another similar statement in order to get his mother’s attention appropriately. Also, if he asked to go somewhere else, his mother prompted him to label the location then began a conversation about the location rather than answering if they will go or not (e.g. “yes that is a barbeque restaurant; you’re dad and I love that food; what kind of store is that?”). If needed, his mother would also prompt him to use his seat belt appropriately by pointing to the visual support. Five Reinforce interventions were chosen, which included reinforcing functionally equivalent, and physically incompatible replacement behavior, discontinuing reinforcement of challenging behavior, increasing the ratio of positive to negative comments, and a crisis intervention plan. His mother was instructed to reinforce Leonard’s use of appropriate ways to get her attention as well as engaging in conversation with her and his appropriate use of his seat belt. Using the timer previously mentioned his mother also increased her positive statements and ignored all problem behaviors as long as they were not a safety risk. If Leonard engaged in challenging behaviors that were a danger to himself or others in the car as well as his mother’s ability to drive, she pulled over at the nearest safe location and blocked the
dangerous behaviors if needed while providing as little attention as possible. When the behaviors ended, she resumed the drive. Leonard’s mother was very involved in the decision making of these interventions and implemented them according to the task analysis developed.

**Brian.** Brian’s family identified one routine for the study in which he engaged in challenging behavior, play time with his brother. When asked to play with his brother, Brian was rarely interactive and sometimes engaged in problem behavior such as hitting his brother with toys or calling him names. Even when playing with the same activity, Brian would delegate who played with what then engaged in parallel play. The behavior his mother wanted to target was his interactive play with his brother on games that his brother chose. When the brothers played it was typically something Brian chose and when asked by his brother to play with a different game of his brother’s choosing, he would say “no”, ignore him or engage in the problem behavior listed above. In response to his problem behavior, his mother would come in the room and reprimand him as well as put him in time out or spank him at times. It was hypothesized by the team that when asked to play with his brother, Brian would engage in the problem behavior including non-engagement in order to gain sole access to preferred toys and possible attention from his mother.

Together the team chose three Prevent strategies that involved *providing choices, transition support,* and *environmental support.* Using a choice board with a first/then component under the pictures, his brother chose an activity he wanted to play and placed in on the “first” spot followed by Brian who chose the activity he wanted to play and placed it on the “then” spot. A small picture of a happy face was placed next to the “first” visual then moved to the “then” visual when appropriate to signify the transition. The team then chose three Teach strategies, which included *functional equivalent* and *physically incompatible replacement behaviors* and
teaching specific social skills. All of the strategies just listed were taught using a social story package that included a story about how to gain access to Brian’s chosen toy, how to play appropriately and how to engage in appropriate vocalizations with his brother while playing. As his mother read the story prior to the brothers choosing their activities, she went over the story’s instructions then had them rehearse at each step (e.g., “show me how you talk to your brother; repeat after me, this car drives fast”). The end the story also had an interactive list of playroom rules in which after reading and reciting each rule, the brothers took turns placing them on a sheet with Velcro next to the choice board on the wall of the playroom.

For the Reinforce component, the team decided on three interventions, reinforcing all replacement behaviors such as providing praise for appropriate play and vocalizations, discontinuing reinforcement of challenging behavior in the form of ignoring problem behavior except when his mother needed to block Brian from hitting his brother with a toy while providing as little attention as possible and delayed gratification in the form of a token system. First, Brian had to play with his brother’s choice of toy for ten minutes then he received access to his pick. For every minute that Brian actively participated in his brother’s pick, his mother put a picture of a star on his choice board. If at any time he was not engaged in the activity during that minute, he did not receive a star. At the end of the ten minutes, his mother counted how many stars he had received and he was allowed to play with his pick for that number of minutes. After discussing the feasibility of the interventions Brian’s mother implemented them according to the task analysis developed.

Maintenance. Following the intervention phase, a maintenance phase began that included fading a portion of the intervention components. After a brief discussion with each of the families on what steps they would reliably be able to continue after the study concluded, the
implementation checklist was modified and they were verbally told which steps to continue. For David, the implementation steps were reduced from 15 steps to ten steps in the maintenance phase. David’s mother no longer prompted him to put each item of clothing on individually. The visual schedule remained on his choice board but he was not longer required to put each picture in the “all done” pocket and his mother did not vocally praise his behavior until after he was fully dressed. For Leonard, steps were reduced from ten to eight in the maintenance phase. The first/then board was no longer used and only the picture prompt to wear his seat belt was still shown prior to riding home as well as the positive statement from his mother upon Leonard entering the car. His mother requested that she would still find the timer helpful in prompting her to engage in conversation and praise her son for his seat belt use, however, the duration was expanded to once every ten minutes instead of five. The prompt for Leonard to practice getting his mother’s attention appropriately was also removed since he had exhibited the behavior consistently during the intervention phase and no longer needed the prompt. For Brian, the number of steps reduced from 13 to eight during maintenance. The social story was no longer read but play rules were located on the wall and were reviewed prior to the start of the routine. Instead of his mother having to be present the entire routine presenting star tokens for every minute he engaged appropriately with his brother up to ten minutes, his mother began to only give two stars each worth five minutes at a VR5 minute schedule, totaling ten minutes.

Coaching sessions and prompts in person, over the phone or via Skype were no longer delivered, and feedback, given weekly, only provided information on number of steps or strategies implemented, data on the child behavior and a prompt to continue recording and collecting data the next week. The researcher sent written feedback to the families through email or cell phone text messages. Daily prompts were no longer offered.
Chapter Three: Results

Fidelity

As shown in Figure 1, David’s family’s baseline implementation of intervention steps was 0%. Once the team introduced the PTR interventions the implementation immediately increased to 94% with a range of 87-100%. During maintenance, David’s family consistently scored 100% of intervention steps implemented. Baseline of intervention steps implemented for Leonard’s routine was 0-11% with an average of 6%. During the intervention phase, implementation of steps increased to 88-100% with an average of 95%. During maintenance, Leonard’s family had consistently scored 100% of intervention steps implemented. Brian’s family’s baseline implementation of intervention steps was 0% across sessions. During implementation, scores ranged from 54-100% with an average of 90% across sessions. When maintenance phase was implemented all scores were 100%.

Child Behaviors

As shown in Figure 1, David’s latency in min to successful completion of the dressing routine was 15 min across all baseline sessions. When intervention was implemented, his latency decreased to a range of 5.8-10.9 min with an average of 7.6 min. When maintenance was introduced, his latency decreased further to a range of 3.9-5.3 min with an average of 4.7 min. Also shown in Figure 1, he completed an average of 25% of the steps independently (range 0-57%) involved in the dressing routine during baseline. However, his independent step completion increased to 88% (range 71-100%) during intervention. The intervention resulted in
immediate changes in target behaviors demonstrating stable patterns and there was no overlap in data between baseline and treatment conditions. During maintenance, the percentage of steps completed independently remained stable with an average of 93% (range 86-100%).

Leonard engaged in problem behavior an average of 92% of intervals (range 50-100%) during baseline. During intervention, his problem behavior decreased to an average of 14% of intervals (range 0-42%). His use of his seat belt appropriately averaged 8% of intervals (range 0-50%) during baseline, and increased to an average of 88% of intervals (range 66-100%) during intervention. Except for Session 5, the data showed stability across target behaviors in baseline and a rapid increasing trend during the initial phase of intervention and a stable pattern during the later phase of intervention. There was no overlap in data between baseline and treatment conditions. During maintenance, his problem behavior decreased further to 0% of intervals across all sessions and appropriate use of seat belt increased to 100% across all sessions.

During the baseline phase, Brian’s problem behavior occurred at an average of 83% of intervals across sessions (range 60-100%) and appropriate vocalizations averaged 0.5% (range 0-3%). When the intervention phase began problem behavior decreased to an average of 21% of intervals (range 0-82%) and appropriate vocalizations increased to an average of 27% (range 0-82%). His data were quite variable across behaviors in intervention; however, during the last three sessions in intervention, the data showed an increasing or decreasing trend. During maintenance, problem behavior averaged 21% of intervals (range 13-27%) and appropriate vocalizations continued to increase to an average of 52% (range 25-73%).

**Parental Accurate Use of Behavior Rating Scale**

Figure 2 shows the results of parental use of behavior rating scale across sessions. As indicated in the figure, all of the three children’s mothers completed the behavior rating scales in
every session across phases. When each BRS was compared to data taken by research staff, there were no differences in ratings between the two data sources except for only a few sessions for David and Leonard. For Brian, there were several sessions that were different in ratings between data collected by his parent and research staff; however, the majority of data was either the same as the direct observation data or one anchor point away in either direction. The parental ratings for child inappropriate problem behavior averaged 5.0, 4.3 (range 3-5), and 4.9 (range 3.0-5.0) in baseline while the ratings averaged 2.4 (range 2-3), 1.0, and 1.3 (range 1-2) in intervention for David, Leonard, and Brian, respectively. During maintenance, the ratings averaged 2.0 for David and 1.0 for both Leonard and Brian. The parental ratings for child replacement or appropriate behavior averaged 2.0 (range 1-3), 1.0, and 1.2 (range 1-3) and 4.9 (range 4-5), 4.0 (range 3-5), and 3.0 (range 1-5) in intervention for David, Leonard, and Brian, respectively. During maintenance, their ratings averaged 4.5, 5.0 and 3.7 for David, Leonard and Brian, respectively.

Social Validity

The results of social validity ratings indicated that all three families rated the PTR intervention as having high levels of social validity. Overall ratings for David’s parents were a mean of 4.8 out of 5 for the dressing routine. Leonard’s parents rated a mean of 4.9 for the car routine and Brian’s parents rated a mean of 4.4 for the play routine. All of the following items received ratings of 4 or 5, indicating a high level of acceptability and satisfaction: acceptability of the PTR intervention plan, willingness to carry out the plan, extent to which the intervention was effective in reducing problem behaviors and teaching appropriate behavior, intervention will result in permanent improvement in the child’s appropriate behaviors, degree to which parents liked the intervention procedures, likelihood that the parents will continue the intervention.
following termination of the study, willingness to change the routine in order to carry out the plan, and the extent to which intervention fits within the routines and team’s goal. All of the following items received a score of 1 or 2, which was then reverse scored: the level of disadvantages to following the behavior plan, how disruptive it was to carry out the behavior plan, the level of undesirable side effects observed as a result of the behavior plan and how much discomfort the child experienced as a result of the plan.

During the social validity interview, parents indicated that their children’s behaviors prior to intervention were problematic, however once the intervention was introduced the behaviors improved and new skills were taught. They all indicated the trainings, meetings and coaching sessions throughout the study were helpful and they would not have made any changes to them. Parents also agreed that the behavior rating scale was easy to complete but they all had trouble remembering to do so immediately after the routine and found researcher prompts helpful. Families approved of the PTR process and found the steps to follow were beneficial. Brian’s family reported that the only difficulty they faced was inconsistent implementation of the plan due to their own family events, which decreased the frequency of the routine occurring. They reported that the researcher could not have done anything different to prevent the issue. All families felt the steps in the model prepared them to continue procedures when the researcher was not present, helped them gain knowledge on behavioral principles that they could use for behaviors not targeted in the study and that they would use the model again. They also reported that their own involvement in the development of the interventions might have increased if more training and specifics were provided in the manual concerning the examples of intervention strategies.
The social validity ratings given by novel viewers of baseline and intervention sessions showed low scores at baseline and higher scores at intervention. Overall mean ratings by the naive observers across children and routines were 1.6 in baseline and 4.5 in intervention, indicating the children’s behaviors were more acceptable in target routines during intervention, the children participated appropriately in the routines better in intervention, the strategies used by the family members in intervention were effective in the routines and practical for families to implement, and both the children and family members appeared to be comfortable with how the routines were going during intervention.
Figure 1. Percentage of intervals or latency in minutes with targeted behaviors and fidelity across children.
Figure 2. Behavior rating scale scores by parents and direct observations.
Table 1

*Guiding questions template used to determine possible interventions and implementation strategies.*

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
<th>Example 1</th>
<th>Example 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Would providing this intervention within the targeted routine encourage the child to engage in activity?</td>
<td>___Yes ___ No</td>
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<td></td>
<td>If “Yes,” what are possible ways of implementing the intervention?</td>
<td>1.1</td>
<td>1.2</td>
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<td></td>
<td>1.1 [ ] Example: ___________________________________________________</td>
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<td>1.2 [ ] Example: ___________________________________________________</td>
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<td>2. Would providing this intervention before the targeted routine encourage the child to engage in the activity?</td>
<td>___Yes ___ No</td>
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<td></td>
<td>If “Yes,” what are possible ways of implementing the intervention?</td>
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<td>2.1 [ ] Example: ___________________________________________________</td>
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<td>2.2 [ ] Example: ___________________________________________________</td>
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<td>3. Would allowing the opportunity to “refuse to participate” in any part of this routine motivate the child to engage in the activity?</td>
<td>___Yes ___ No</td>
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<td>If “Yes,” what are possible ways of implementing the intervention?</td>
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<td>3.1 [ ] Example: ___________________________________________________</td>
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<td>3.2 [ ] Example: ___________________________________________________</td>
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<td>4. Would arranging “whom” will participate in the routine with the child encourage the child to engage in the activity?</td>
<td>___Yes ___ No</td>
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<td>If “Yes,” what are possible ways of implementing the intervention?</td>
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<td>4.1 [ ] Example: ___________________________________________________</td>
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<td>4.2 [ ] Example: ___________________________________________________</td>
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<td>5. Would arranging the “where” of the routine encourage the child to engage in the activity?</td>
<td>___Yes ___ No</td>
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<td>If “Yes,” what are possible ways of implementing the intervention?</td>
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<td>5.1 [ ] Example: ___________________________________________________</td>
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<td>5.2 [ ] Example: ___________________________________________________</td>
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<td>6. Would arranging the “when” of the activity encourage the child to complete bath time?</td>
<td>___Yes ___ No</td>
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<td>If “Yes,” what are possible ways of implementing the intervention?</td>
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<td>6.2</td>
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<td>6.1 [ ] Example: ___________________________________________________</td>
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<td>6.2 [ ] Example: ___________________________________________________</td>
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<td>7. Would arranging the ability to “terminate” the activity encourage the child to complete the routine?</td>
<td>___Yes ___ No</td>
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<td></td>
<td>If “Yes,” what are possible ways of implementing the intervention?</td>
<td>7.1</td>
<td>7.2</td>
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Chapter Four: Discussion

The purpose of this research was to examine the feasibility of implementing the adapted PTR model with families of young children with developmental disabilities that exhibited challenging behaviors in the home environment with the children’s parents as the primary intervention agent. Specifically, the researchers sought to answer whether family members could implement the intervention steps as planned and would the child’s problem behaviors decrease and replacement behaviors increase as results of the PTR intervention.

Results across these three families indicated that parents successfully implemented the PTR intervention, which led to altering their child’s behavior. All three children’s problem behaviors reduced and appropriate or replacement behavior increased dramatically when the PTR intervention was implemented. Only one re-coaching session was needed across families when their implementation fidelity score was low, which resulted in immediate increases in fidelity and decreases in problem behavior. All families were successful at decreasing problem behaviors and increasing appropriate or replacement behavior. The forms used in this study were adapted by Sears et al. (2013) and assisted in the transition from a school-based PTR intervention to family-centered intervention. Further adaptations and modifications would be helpful in creating a separate family-centered PTR manual. Results of the interventions and high social validity shown, in both self- and novel-rated validity, in this study provide support for such a manual to be created.
This study also attempted to answer to what extent the families could use the individualized BRS to monitor child progress and to what extent the families were satisfied with their involvement of the PTR process and outcome. Although Sears et al (2013) implemented the PTR model in the home environment, they did not include the BRS component in the process of designing and implementing the intervention. In the current study, all three families recorded their child’s targeted behavior using the BRS. However, of the three families, two had sessions in which the rating scale had to be completed at a later time by viewing the recordings of sessions due to one family accidently disposing of a completed data sheet and the other not filling out sessions completely. When each BRS was compared to data taken by the researcher, it was observed in each family that ratings taken by a parent were similar to direct data taken by the research staff across all phases. The majority of data was either the same as the direct observation data or one anchor point away in either direction (see Figure 2). These results indicate that the BRS may be a reliable data collection method that can be easily used by the parents to monitor their child progress. Iovannone, Greenbaum, Wang, Dunlap, and Kincaid (2013) reported that the individualized BRS had the potential of being a feasible and reliable instrument for use by teachers to monitor student behavior within classroom routines and activities.

Concerning the parents’ involvement in the PTR process including the intervention development and implementation, it was observed that parents with previous training in ABA techniques contributed more to the discussion than parents without training in ABA. Leonard’s mother, who received monthly parent training in ABA techniques such as prompting, environmental supports and verbal behavior through Leonard’s ABA service provider for 24 months before the study began, implemented the intervention with fidelity consistently at high
levels across sessions. With school-based interventions, school-based teams or teachers who are involved in the PTR process have some form of training background concerning classroom management or class-wide prevention intervention although they may not have prior experience with individualized intervention for students with disabilities (Iovannone et al., 2013; Strain et al., 2011). In contrast, families of young children with developmental disabilities, who have experience that varies greatly by family. Future researchers who develop a family-centered PTR manual should consider creating user friendly family resource materials that help families understand the PTR process, the importance of FBA, function-based intervention strategies, and the use of data to monitor child progress. In addition, the development of specific guidance on how to provide training and coaching to families in the process of PTR would be beneficial to families and professionals who provide consultation support to families in implementing the PTR model.

Families participating in this study reported that while the interventions suggested in the manual were helpful, the recommendations and examples of each strategy provided were often broad and without history with the intervention it was often difficult for them to understand all of the examples listed. For example, under the Prevent intervention strategy *environmental supports*, the manual provides a brief description, a list of uses and examples of implementation. Included in the examples were schedules and choice boards along with one sentence description of what each were. Therefore, the use of the guiding question template and provision of prompts and feedback provided by the researcher on a weekly basis were essential for the families to design and implement the PTR interventions. Future research could explore whether breaking those examples down further with greater explanations and visuals of what each would look like would assist families in being a greater part of the decision making process.
One aspect of this study that should be considered for future research was the importance of including a sibling in the intervention when targeting a routine that includes the target child and their sibling, particularly when targeting social skills (Tsao & Odom, 2006; Bass & Mulick, 2007). Brian’s play routine targeted non-engagement and appropriate vocalizations and could not be completed if Brian’s younger brother did not also engage with him or rejected his attempts to engage. Brian and his brother were both included in the Social Story. They took turns rehearsing the skills and placing the playroom rules on the wall. By doing this, they rehearsed interacting and engaging with each other prior to their official playtime.

Another important observation during Brian’s play routine was that there was variability in behavior depending on which toy each child chose to play with. Activities such as playing on an iPad or coloring on the same paper had a higher average percentage of social engagement than activities that were not as centralized such as playing with cars or playing dress up. As indicated in the literature, limiting the type of activities offered when targeting engagement or non-engagement or structuring activities may be necessary to promote social interaction between the child with disabilities and their siblings at home.

One limitation of this study was the video cameras used for data collection. The cameras frequently malfunctioned and delayed recording until the researcher could visit the family and fix the issue. Other things that delayed data collection included family vacations, family schedules and lack of availability and errors while recording such as the camera falling or battery dying mid-session. However, issues with video cameras were resolved quicker for participants with more availability and closer proximity to the researcher and did not seem to affect results. Families reported that they liked the ease of the video camera despite minor setbacks and would be open to using them in the future rather than have the researcher present for every session.
Despite its limitations, this study offers a significant contribution to the body of research on PTR and family-centered interventions for children with disabilities. This study is one of the first two studies that evaluated the feasibility of the family-centered PTR and its potential efficacy for improving the outcome for young children with ASD and other developmental disabilities. The guiding question template and prompting and feedback procedures used in the study could be promising options for the family-centered PTR. This study is also one of the few studies that employed novel raters and interviews to assess the social validity of the application of PTR to address problem behavior within family routines. Although social validity and fidelity of PTR have been found to be high to date, more studies on the assessment of social validity report that using in-depth interviews are needed to identify family view and feedback on their experience with implementing the family-centered PTR interventions. This study was also able to demonstrate that not only were families able to successfully use the BRS, but families also found it to be helpful in reviewing behavior change and being an active team member.
References


Appendices
Appendix A

PTR Implementation Fidelity Checklist

Routine: ___________________________  Child: ___________________________
Team member: ______________________  Consultant: ______________________

Instructions: Enter each detailed step that will need to be completed in order to correctly implement the behavior plan, then score yourself or another caregiver as they implement the behavior plan. Add the number of correct steps and divide by the total number of steps in the plan to find out what percentage of time the plan was implemented correctly.

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Total Correct Steps
Percentage of Correct Steps
### Appendix B

**Behavior Rating Scale**

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Appendix C

PTR Self-Evaluation Social Validity

Directions: Please score each item by circling the number that best indicates how you feel about the PTR intervention(s).

1. Given the child’s behavior problems, how acceptable did you find the PTR behavior plan?
   
   ________ 1 __________ 2 __________ 3 __________ 4 __________ 5 ________
   Not acceptable                             Neutral                             Very acceptable

2. How willing were you to carry out this behavior plan?
   
   ________ 1 __________ 2 __________ 3 __________ 4 __________ 5 ________
   Not willing                             Neutral                             Very willing

3. To what extent were there disadvantages to following the behavior plan?
   
   ________ 1 __________ 2 __________ 3 __________ 4 __________ 5 ________
   No disadvantages                             Neutral                             Many disadvantages

4. How much time was needed each day for you to carry out the behavior plan?
   
   ________ 1 __________ 2 __________ 3 __________ 4 __________ 5 ________
   Little time                             Some time                             Much time

5. To what extent do you think the behavior plan was effective in reducing problem behaviors?
   
   ________ 1 __________ 2 __________ 3 __________ 4 __________ 5 ________
   Not effective                             Somewhat effective                             Very effective

6. Do you feel that following this plan will result in permanent improvements in the child’s behavior?
   
   ________ 1 __________ 2 __________ 3 __________ 4 __________ 5 ________
   Unlikely                             Possibly                             Very likely

7. How disruptive was it to carry out the behavior plan?
   
   ________ 1 __________ 2 __________ 3 __________ 4 __________ 5 ________
   Not at all disruptive                             Slightly disruptive                             Very disruptive

8. How much did/do you like the procedures used in the behavior plan?
   
   ________ 1 __________ 2 __________ 3 __________ 4 __________ 5 ________
   Not at all                             Somewhat                             Very much
Appendix C (continued)

9. How likely is it that you will continue to implement the procedures in the plan after this research is terminated?

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<tbody>
<tr>
<td>Unlikely</td>
<td>Somewhat likely</td>
<td>Very likely</td>
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10. To what extent did you observe undesirable side effects as a result of the behavior plan?

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<tbody>
<tr>
<td>No side effects</td>
<td>Neutral</td>
<td>Definite side effects</td>
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11. How much discomfort did the child experience during the behavior plan?

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<tr>
<td>Little discomfort</td>
<td>Some discomfort</td>
<td>Significant discomfort</td>
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12. How willing were you to change routines in order to carry out the behavior plan?

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<td>Not willing</td>
<td>Somewhat willing</td>
<td>Very willing</td>
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13. How well did carrying out the plan fit into your current routines?

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<td>Very well</td>
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14. How effective was the intervention in terms of teaching the child appropriate behavior?

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<td>Somewhat effective</td>
<td>Very effective</td>
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15. How well did the goal of the intervention fit with the team’s goal for improvement of the child’s behavior?

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<td>Very well</td>
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Appendix D

Novel Rater Evaluation Social Validity

Directions: Please score each item by circling the number that indicates how you feel about the parent and child behavior.

1. The child’s behavior is acceptable in this routine.

   1________2 ________3 ________4 ________5 ________
   No Somewhat Yes

2. The child is participating in the routine appropriately.

   1________2 ________3 ________4 ________5 ________
   No Somewhat Yes

3. The child appears comfortable with how the routine is going.

   1________2 ________3 ________4 ________5 ________
   No Somewhat Yes

4. The strategies used by the parent(s) or family member(s) are working in this routine.

   1________2 ________3 ________4 ________5 ________
   No Somewhat Yes

5. The parent appears comfortable with how the routine is going.

   1________2 ________3 ________4 ________5 ________
   No Somewhat Yes

6. The strategies used by the parent are practical for families to implement.

   1________2 ________3 ________4 ________5 ________
   No Somewhat Yes
Appendix E

Social Validity Interview

1. How did you feel about your child’s behavior prior to intervention?

2. How do you feel about your child’s behavior now following the intervention?

3. Was the training provided prior to implementation helpful?
   a. Is there anything you would change?

4. Was the coaching sessions during implementation helpful?
   a. Is there anything you would change?

5. Was the coaching sessions during implementation helpful?
   a. Is there anything you would change?

6. What was the feasibility of the behavior rating scale to complete following each routine?

7. How did you feel about the PTR process and steps?
   a. Is there anything you would change?

8. Were there any difficulties or barriers you faced when participating in the PTR process or implementing the intervention plan?
   a. If so, what were they?
   b. In your opinion, was there anything that could have been done to prevent them?

9. Did you feel the steps in the PTR model prepared you to continue the procedures when the researcher was not present?

10. Do you feel the PTR model helped you gain knowledge about behavioral principles?
    a. If yes, how do you feel this knowledge will affect how you handle possible future behaviors?

11. Would you feel consider using this model again?
Appendix F

PTR Integrity Checklist

Date of Initial Meeting: __________________________
Consultant: ___________________________________

**Instructions:** (1) Place a ‘x’ in each cell that coincides with the activities completed during the meeting (e.g., discussion, role-play, etc.). (2) Answer yes or no if the consultant effectively demonstrates each step of the intervention. (3) Obtain Integrity score.

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<th>Modeling</th>
<th>Role-play Observation &amp; Feedback</th>
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<td>n/a</td>
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<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>3. Explains and uses goal setting form</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>4. Explains and uses FBA checklist</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>5. Explains and uses FBA summary table</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>6. Explains and sets time for baseline data</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Meeting 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1. Goes over baseline data and hypothesis</td>
<td>n/a</td>
<td>n/a</td>
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<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>2. Explains and uses PTR intervention checklist</td>
<td>n/a</td>
<td>n/a</td>
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<td>Yes</td>
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<td>3. Explains and uses intervention scoring table</td>
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<td>Yes</td>
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<tr>
<td>4. Develops Intervention plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Makes and explains training checklist</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>6. Implements training using BST</td>
<td></td>
<td></td>
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<tr>
<td>7. Takes fidelity of implementation data</td>
<td>n/a</td>
<td>n/a</td>
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<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td><strong>Meeting 3</strong></td>
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<tr>
<td>1. Discusses intervention data</td>
<td>n/a</td>
<td>n/a</td>
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<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>2. Explains and uses self-evaluation social validity measure</td>
<td></td>
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<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Total Number of Correct Steps</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Percentage of Correct Steps</strong></td>
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</tr>
</tbody>
</table>
Appendix G

PTR Goal-Setting Form

PTR Step 2: Developing Short Term Goals

Directions:
1. Identify one broad goal in each category
2. In each category identify the behavior(s) to be decreased and the prosocial behaviors to be increased to achieve each broad goal.
3. Clearly define or operationalize each goal so that each goal is:
   - Observable (seen or heard)
   - Measurable (counted or timed)
   - Significant (impact on child’s life)

**Short-Term Goals for __________**

<table>
<thead>
<tr>
<th>Behavioral</th>
<th>Social</th>
<th>Independent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broad Goals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short-term goals for Decrease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short-term goals for Increase</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix H

PTR Functional Behavior Assessment Checklist

Problem behavior: ________________ Person Responding: ________________ Child Initials: ________

**PTR ASSESSMENT: Prevent Component**

1a. Are there *times of the day* when problem behavior is *most likely* to occur? If yes, what are they?

<table>
<thead>
<tr>
<th>Morning</th>
<th>Before meals</th>
<th>During meals</th>
<th>After meals</th>
<th>Traveling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afternoon</td>
<td>Bedtime</td>
<td>Community</td>
<td></td>
<td>Evening</td>
</tr>
</tbody>
</table>

Other: ___________________________________________

1b. Are there *times of the day* when problem behavior is *least likely* to occur? If yes, what are they?

<table>
<thead>
<tr>
<th>Morning</th>
<th>Before meals</th>
<th>During meals</th>
<th>After meals</th>
<th>Traveling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afternoon</td>
<td>Bedtime</td>
<td>Community</td>
<td></td>
<td>Evening</td>
</tr>
</tbody>
</table>

Other: ___________________________________________

2a. Are there *specific activities or routines* when problem behavior is *very likely* to occur? If yes, what are they?

<table>
<thead>
<tr>
<th>Breakfast</th>
<th>Dressing</th>
<th>Dinner time</th>
<th>Before school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent play</td>
<td>Traveling in car</td>
<td>T.V. viewing</td>
<td>After school</td>
</tr>
<tr>
<td>One-on-one play</td>
<td>Computer</td>
<td>Outside activities</td>
<td>Bedtime</td>
</tr>
<tr>
<td>Using the toilet</td>
<td>Lunch time</td>
<td>Cleanup</td>
<td>Hygienic activities</td>
</tr>
<tr>
<td>Bath-time</td>
<td></td>
<td>Specials (specify)</td>
<td>Transitions (specify)</td>
</tr>
</tbody>
</table>

Other: ___________________________________________

2b. Are there *specific activities or routines* where appropriate and desired behavior is *very likely* to occur? What are they?

<table>
<thead>
<tr>
<th>Breakfast</th>
<th>Dressing</th>
<th>Dinner time</th>
<th>Before school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent play</td>
<td>Traveling in car</td>
<td>T.V. viewing</td>
<td>After school</td>
</tr>
<tr>
<td>One-on-one play</td>
<td>Computer</td>
<td>Outside activities</td>
<td>Bedtime</td>
</tr>
<tr>
<td>Using the toilet</td>
<td>Lunch time</td>
<td>Cleanup</td>
<td>Hygienic activities</td>
</tr>
<tr>
<td>Bath-time</td>
<td></td>
<td>Specials (specify)</td>
<td>Transitions (specify)</td>
</tr>
</tbody>
</table>

Other: ___________________________________________

3a. Are there *specific individuals* whose proximity is associated with a high likelihood of problem behavior? If so, who are they?

<table>
<thead>
<tr>
<th>Parent</th>
<th>Specify: ________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siblings</td>
<td>Specify: ________________</td>
</tr>
<tr>
<td>Caregiver/babysitter</td>
<td>Specify: ________________</td>
</tr>
<tr>
<td>Other family member</td>
<td>Specify: ________________</td>
</tr>
</tbody>
</table>
Appendix H (continued)

<table>
<thead>
<tr>
<th>Problem behavior: ____________________ Person Responding: _____________ Child Initials: __________</th>
</tr>
</thead>
</table>

3b. Are there **specific individuals** whose proximity is associated with a high likelihood of appropriate and desired behavior? If so, who are they?

- Parent(s) Specify: ________________________________
- Sibling(s) Specify: ________________________________
- Caregiver/babysitter Specify: __________________________
- Other family members Specify: __________________________
- Other: __________________________

4. Are there **specific circumstances** that are associated with a high likelihood of problem behavior?

- Request to start task
- Being told he/she is wrong
- Reprimand or correction
- Told “no”
- Close proximity to certain individual
- Sibling teasing or comments
- Change in schedule

- Transition
- End of preferred activity
- Removal of preferred item
- Start of non-preferred activity
- Child is alone
- “Down” time (no task specified)
- Parent is attending to other individual

Other: __________________________

5. Are there conditions in the **physical environment** that are associated with a high likelihood of problem behavior? For example, too warm or too cold, too crowded, too much noise, too chaotic, weather conditions...

- Yes (specify) __________________________
- No __________________________

6. Are there circumstances **unrelated specific activities or routines** that occur on some days and not other days that may make problem behavior more likely?

- Illness
- Allergies
- Physical condition
- Fatigue

- No medication
- Change in medication
- Change in diet
- Change in routine

- Sleep deprivation
- Home conflict
- Stayed with non-custodial parent
- Parent not home

Other: __________________________

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Appendix H (continued)

Problem behavior: ____________________ Person Responding: ____________________ Child Initials: ______

PTR ASSESSMENTS: Teach Component

1. Does the problem behavior seem to be exhibited in order to gain attention from siblings or peers?
   ____ Yes  List the specific individuals: ____________________________________________
   ____ No

2. Does the problem behavior seem to be exhibited in order to gain attention from adults? If so, are there particular adults whose attention is solicited?
   ____ Yes  List the specific adults: ____________________________________________
   ____ No

3. Does the problem behavior seem to be exhibited in order to obtain objects (toys or games, materials, food) from peers or adults?
   ____ Yes  List the specific objects: ____________________________________________
   ____ No

4. Does the problem behavior seem to be exhibited in order to delay a transition from a preferred activity to a non-preferred activity?
   ____ Yes  List the specific transitions: __________________________________________
   ____ No

5. Does the problem behavior seem to be exhibited in order to terminate or delay a non-preferred (difficult, boring, repetitive) task or activity?
   ____ Yes  List the specific non-preferred tasks or activities
   ____ No

6. Does the problem behavior seem to be exhibited in order to get away from a nonpreferred individual?
   ____ Yes  List the specific peers or adults
   ____ No

7. What social skills(s) could the child learn in order to reduce the likelihood of the problem behavior occurring in the future?

   ____ Peer interaction  ____ Play skills  ____ Getting attention appropriately  ____ Joint or shared attention
   ____ Sharing objects  ____ Sharing attention  ____ Conversation skills
   ____ Taking turns  ____ Losing gracefully  ____ Making pro-social statements
   ____ Waiting for reinforcement  ____ Accepting differences

Others: ____________________
Appendix H (continued)

<table>
<thead>
<tr>
<th>Problem behavior: ____________________</th>
<th>Person Responding: ________________</th>
<th>Child Initials: _______</th>
</tr>
</thead>
</table>

8. What *problem-solving skill(s)* could the child learn in order to reduce the likelihood of the problem behavior occurring in the future?

- [ ] Recognizing need for help
- [ ] Asking for help
- [ ] Using visual supports to work independently
- [ ] Ignoring siblings/peers
- [ ] Graphic organizers

Others: ____________________________________________________________

9. What *communication skill(s)* could the child learn in order to reduce the likelihood of the problem behavior occurring in the future?

- [ ] Asking for a break
- [ ] Expressing emotions *(frustration, anger, hurt)*
- [ ] Requesting information

- [ ] Tapping individual for attention
- [ ] Requesting wants
- [ ] Rejecting
- [ ] Active listening

- [ ] Asking for help
- [ ] Commenting
- [ ] Responding to others

Others: ____________________________________________________________

Any other comments not addressed in the *Teach Component:*
Appendix H (continued)

Problem behavior: __________________________ Person Responding: ____________________ Child Initials: ________

PTR ASSESSMENT: Reinforce Component

1. What consequence(s) usually follow the Child’s problem behavior?

- Sent to time-out  - Gave personal space  - Verbal reprimand
- Chair time-out  - Sent to another individual  - Stated rules
- Head down  - Assistance given  - Physical prompt
- Send to another  - Verbal redirect  - Parent/sibling reaction
- room  - Delay in activity  - Physical restraint
- Given access to  - Activity changed  - Removal of reinforcers
  reinforcers  - Activity terminated  - Natural consequences (Specify)
- Calming/soothing  

Other: ____________________________________________________________

2. Does the child enjoy praise from parents, siblings, or other family members? Does the child enjoy praise from some individuals more than others?

- Yes  List specific people __________________________________________
- No  

3. What is the likelihood of the child’s appropriate behavior (e.g., on-task behavior; cooperation; successful performance) resulting in acknowledgment or praise?

- Very likely  - Sometimes  - Seldom  - Never

4. What is the likelihood of the child’s problem behavior resulting in acknowledgment (e.g., reprimands, corrections) from parents, siblings, or other individuals?

- Very likely  - Sometimes  - Seldom  - Never

5. What items and activities are most enjoyable to the child? What items or activities could serve as special rewards?

- Social interaction with adults  - Music  - Art activity
- Social interaction with peers/siblings  - Puzzles  - Computer
- Playing a game  - Going outside  - Video games
- Helping parents  - Going for a walk  - Watching TV/video
- Playing with pet  - Reading  - Objects (Specify)
- Going to community sight (Specify)  - Going to park  - Food (Specify)
- Individual play time  

Other(s): ____________________________________________________________

Any other comments not addressed in the Reinforce Component:
Appendix I

PTR Step 3: Assessment Organizational Table
Prevent-Teach-Reinforce Assessment Information

<table>
<thead>
<tr>
<th>Child: __________________________</th>
<th>Date: __________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention Data</td>
<td>Teaching Data</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Possible Hypotheses for Problem and Appropriate Behavior

<table>
<thead>
<tr>
<th>When….</th>
<th>He/she will….</th>
<th>As a result, he/she …..</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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</table>
Appendix J

PTR Interventions Checklist

<table>
<thead>
<tr>
<th>Prevention Interventions</th>
<th>Teaching Interventions</th>
<th>Reinforcement Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providing Choices</td>
<td><strong>Replacement Behavior</strong></td>
<td><strong>Reinforce Replacement Behavior</strong></td>
</tr>
<tr>
<td></td>
<td>☐ Functional</td>
<td>☐ Functional</td>
</tr>
<tr>
<td></td>
<td>☐ Desired or Pro-Social</td>
<td>☐ Desired or Pro-Social</td>
</tr>
<tr>
<td>Transition Supports</td>
<td>☐ Specific Independence Skills</td>
<td>☐ Increase Non-Contingent Reinforcement</td>
</tr>
<tr>
<td>Environmental Supports</td>
<td>☐ Problem Solving Strategies</td>
<td>☐ Discontinue Reinforcement of Problem Behavior</td>
</tr>
<tr>
<td>Environmental Modification (eliminating triggers)</td>
<td>☐ General Coping Strategies</td>
<td>☐ Group Contingencies</td>
</tr>
<tr>
<td>Adult Verbal Behavior (just be nice)</td>
<td>☐ Specific Social Skills</td>
<td>☐ Increase Ratio of + to – Responses</td>
</tr>
<tr>
<td></td>
<td>☐ Parent Pleasing Behaviors</td>
<td>☐ Home Reinforcement System</td>
</tr>
<tr>
<td>Setting Event Modification</td>
<td>☐ Learning Skills Strategies</td>
<td>☐ Establish Crisis Intervention</td>
</tr>
<tr>
<td>Opportunity for Pro-Social Behavior (sibling support)</td>
<td>☐ Self Management (self monitoring)</td>
<td></td>
</tr>
<tr>
<td>Peer/Sibling Modeling</td>
<td>☐ Delayed Gratification</td>
<td></td>
</tr>
<tr>
<td></td>
<td>☐ Independent Responding</td>
<td></td>
</tr>
<tr>
<td></td>
<td>☐ Increased Waiting Time</td>
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</tr>
</tbody>
</table>

**All asterisked interventions need to be selected and included in the child’s PTR Intervention Plan.**
Appendix K

**PTR Step 4: Intervention Plan**

Child: ___________________________  Date: ___________________________

Hypothesis: ____________________________________________________________________________

<table>
<thead>
<tr>
<th>PREVENT Interventions</th>
<th>Specific Strategy</th>
<th>Needed/Who</th>
</tr>
</thead>
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<td>Intervention Type</td>
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<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TEACH Interventions</th>
<th>Specific Strategy</th>
<th>Needed/Who</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention Type</td>
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<tr>
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</table>

<table>
<thead>
<tr>
<th>REINFORCE Interventions</th>
<th>Specific Strategy</th>
<th>Needed/Who</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention Type</td>
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<td></td>
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<tr>
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</table>