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An Evaluation of the Implementation of "The Happiest Toddler on the Block" Parenting Strategies by Young Mothers

Amye Elizabeth Bock
University of South Florida, abock@mail.usf.edu

An Evaluation of the Implementation of *The Happiest Toddler on the Block* Parenting Strategies by Young Mothers

By
Amye E. Bock

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Department of Child and Family Studies
College of Behavioral and Community Sciences
University of South Florida

Major Advisor: Lise Fox, Ph.D.
Shelley Clarke, M.A.
Kimberly Crosland, Ph.D.

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Abstract

Young parents and their children are considered a high-risk population as they are more likely to lack social support networks, have limited access to opportunities to enhance parenting skills, and are often financially dependent. Young children whose mothers have poor parenting skills are more likely to have persistent problem behavior. Three young mothers living in a transitional housing facility participated in this study. The purpose of this study was to determine if these mothers could implement parenting strategies that are a part of a commercially available parenting book and DVD. This study found that: (1) mothers were able to correctly implement the parenting strategies; (2) child problem behavior decreased slightly from baseline to follow-up; and (3) the mother's perception of child problem behavior shifted positively from the baseline to follow-up phases.

An Evaluation of the Implementation of *The Happiest Toddler on the Block* Parenting Strategies by Young Mothers

Recently, television shows such as MTV's reality series *16 and Pregnant* and *Teen Mom* have demonstrated the concerning issue of teenage pregnancy in America. The United States has the highest teenage birth rate compared to any other developed nation (Population Reference Bureau [PRB], 2009). In 2007, the United States reached the highest number of recorded births in the country's history and young mothers between the ages of 15 and 24 accounted for 35.4 percent of those births (Hamilton, Martin, & Ventura, 2009). Children of teenage mothers are at risk for behavioral problems; poor academic achievement; initiation of early sexual activity; maltreatment (physical abuse, neglect, or sexual abuse); later substance abuse; and poor growth compared to older mothers (Levine, Pollack, & Comfort, 2001; Stier, Leventhal, Berg, Johnson, & Mezger, 1993; Webster-Stratton & Taylor, 2001). There is a concern that young mothers might not have strong parenting skills as teenage parents tend to have a low tolerance for infant crying, lack patience with infants, and have limited knowledge of child development (Marshall et al., 1991). Young parents are likely to use physical punishment, lack quality home learning environments, and have poor social support systems (Hanna, 2001; Marshall et al., 1991).

Younger parents are often financially dependent; and have few opportunities to enhance parenting skills (Hanna, 2001; Marshall et al., 1991). With positive correlations between parent's age at child bearing and related issues in children's subsequent academic and psychosocial achievements (Fergusson & Woodward, 1999), young mothers appear to have parent training needs.

Behavioral Parent Training

Behavioral Parent Training (BPT) has been identified as an effective intervention for treating early childhood disruptive behaviors by teaching parents to be effective change agents in the home (Maughan, Christiansen, Jenson, Olympia & Clark, 2005). BPT has been used to address many topographies of young children's antisocial behaviors including noncompliance, temper tantrums, defiance, and aggression (Eyberg, 1992; Kazdin, 1997; Miltenberger, 2008; Serketich & Dumas, 1996). BPT is comprised of several components that trainers use to successfully teach parents behavior management skills. First, instructions are given to the learner that specify each component of the target behaviors and when it is appropriate to implement each behavior or procedure (Miltenberger, 2008). Next, the trainer uses modeling to demonstrate the correct behavior and the learner is asked to imitate the model (Miltenberger, 2008). The learner also practices the skills after instruction or modeling during the rehearsal component that can occur during a real situation or during a role-play that simulates a time when the behavior should take place (Miltenberger, 2008). Finally, feedback is used to reinforce every correct response during the BPT process while giving corrective feedback for partially correct or incorrect responses (Miltenberger, 2008).

BPT has been reported to be successful in training parents to correctly implement behavioral procedures while also demonstrating positive effects on child behavior. For example, one study examined the use of parent guided compliance to address

noncompliant behaviors in three children ranging in ages from four to six years old (Miles & Wilder, 2009). This study demonstrated that the use of BPT resulted in increasing the three parents' correct implementation of guided compliance from 38%, 36%, and 29% in baseline to 99%, 97%, and 95% respectively in the post training phase. The authors of this study also reported that for 2 of the 3 children, compliance increased from 37%, 39%, and 45% in baseline to 35%, 50%, and 63% in the post training phase. Additionally, Anastopoulos, Shelton, DuPaul, and Guevremont (1993) conducted a two month long parent training class that focused on teaching parenting skills to parents of children diagnosed with ADHD. These parenting skills included specialized reinforcement skills of positive attending, ignoring, compliance, and home token systems. The authors of this study reported that participants in the parent training group reported less severe ADHD behaviors in children, less parenting stress, and an increase in parenting self-esteem compared to the control group (Anastoupoulos et al., 1993). The results noted by the experimental group parents maintained into the two-month follow-up condition. (Anastopoulos et al., 1993). BPT has also been reported to demonstrate maintenance of positive changes in children's behavior over time. For example, Long, Forehand, Wierson, and Morgan (1994) reported in a fourteen year follow-up study of children who were between the ages of 2 and 7 when their parents participated in BPT were functioning as well as a comparison group of typically developing peers without a history of challenging behavior in their adolescence.

Webster-Stratton (1984) evaluated the effects of two parent training programs (either an individual therapy program or a group therapy program) compared to a control group and reported that four out of five behavioral variables for mothers improved significantly (fewer total commands, fewer ineffective commands, fewer critical statements and increased praise statements). In this study, participants were randomly assigned to a waiting list control group, 9 weeks of individual therapy, or 9 weeks of therapist-led group therapy based on a standardized video-modeling program. This study also reported positive effects on child behaviors, finding that child deviancy and noncompliance decreased in both treatment groups and during the 1-year follow-up most of the mother's behaviors maintained and both treatment groups of children displayed reductions in deviant and noncompliant behaviors (Webster-Stratton, 1984). BPT appears to be a viable option to train young mothers to implement behavioral procedures in order to manage child behavior.

BPT typically includes teaching parents to correctly implement behavioral management strategies that incorporate three main behavioral procedures: reinforcement; extinction; and punishment (Eyberg, 1992; Kazdin, 1980). *The Happiest Toddler on the Block (THTB)* is a commercially available parent training book and DVD that has been widely promoted in the popular media. The program provides parents with instruction on the use of reinforcement, extinction, punishment, and other behavioral procedures in a user-friendly and appealing format. The author describes behavioral strategies using parent-friendly language and humorous analogies that are designed to help parents understand why and when to use the strategies.

While *THTB* is comprised of core behavioral strategies, an evaluation of the effectiveness of the package has not been conducted. The purpose of this study was to determine if BPT can be used to teach young mothers to use the strategies presented in *THTB* and examine if the implementation of those strategies resulted in changes in child problem behavior and child engagement.

The Happiest Toddler on the Block

The strategies used within *THTB* are presented within a parent manual and DVD. These strategies can be used when children engage in different topographies of behavior. The author describes green-light behaviors as appropriate child behaviors, yellow-light behaviors as minor child disruptive behaviors that are perceived as annoying by the parent, and red-light behaviors as dangerous behaviors or those behaviors that break key family rules (Karp, 2008). There are five core parenting strategies that parents learn in the program and that will be evaluated in this study.

"Feeding the meter" is an antecedent strategy that parents can implement by delivering positive social reinforcement in the form of attention throughout the day in order to increase the future probability of appropriate behavior occurring while decreasing the probability of problem behaviors from occurring (Karp, 2008). This strategy is labeled noncontingent reinforcement (NCR) in the behavioral literature. NCR is defined as the delivery of reinforcement on a response-independent schedule and has been demonstrated to be effective in reducing problem behaviors (Carr, Severtson, & Lepper, 2009; Hagopian, Crockett, Stone, DeLeon, & Bowman, 2000; Hagopian, Fisher, & Legacy, 1994). *THTB* instructs parents on the different topographies of attention that can be delivered as NCR and require little response effort to deliver throughout the day. Having options permits the parents to choose what fits best for the needs of their families.

A few examples offered by the program include: smiling, winking, giving thumbs up, hugs, and high fives (Karp, 2008).

The use of "Toddler-ese" is the second core strategy described in the program (Karp, 2008). Toddler-ese is a type of child directed speech that parents can use to communicate with their child either before problem behavior occurs or during the occurrence of problem behavior. The author of *THTB* asserts that there is anecdotal evidence that the use of Toddler-ese might circumvent or reduce the occurrence of toddlers' problem behaviors (Karp, 2008). Parents are guided in *THTB* to have less concern about the content of their utterances when using Toddler-ese and focus more on how they connect with the child (i.e. attunement) in their delivery of Toddler-ese. Parents are guided to be temporal (respond quickly), topical (be appropriate to the situation), and tonal (using the correct tone and affect) when implementing Toddler-ese (Karp, 2008). Toddler-ese is implemented correctly when parents respond quickly and listen to the child for 5-10 sec if he or she is upset prior to using Toddler-ese (this component is called the Fast Food Rule). Parents are directed to use simple short phrases ranging from two to three words, repeat multiple times of what the child has said and label how he or she appears to feel. In addition, parents should deliver vocal communication while at the child's eye level and mimic the child's affect, tone, and posture (Karp, 2008). In the child development literature this type of verbal behavior is described as motherese or infant directed speech (Fernald, 1985). Motherese is a distinct type of speech that has been documented cross-culturally. It is linguistically simple with use of high pitches and exaggerated intonations. Adults who use motherese tend to use fewer words per utterance, repetition expansions, better articulation, and simplistic structure when addressing infants

and young children (Cooper, Abraham, Berman, & Staska, 1997; Dunst, Gorman, & Hamby, 2012; Fernald, 1985; Masataka, 1992). The use of Toddler-ese might be useful for getting children to listen to parents since researchers have demonstrated that young children prefer to listen to motherese compared to adult conversational speech (Cooper et al., 1997; Fernald, 1985).

THTB also offers strategies to use as consequences for children's yellow light (annoying) and red light (dangerous behaviors or behaviors that break key rules). The author recommends the use of consequences if the use of Toddler-ese and feeding the meter has not stopped the child's disruptive behavior (Karp 2008). These two strategies are " kind ignoring" and "timeout".

Parents are guided to implement "kind ignoring" if after using Toddler-ese for one minute the child is still engaging in mild disruptive behavior that is not dangerous or does not break any important rules (Karp, 2008). Parents are taught to let the child know that he or she needs some time to calm, then to walk away or turn away from the child and ignore him or her for approximately 30-60 sec, and finally deliver positive praise when the child engages in appropriate or "green light" behaviors (Karp, 2008). The steps involved in kind ignoring are identified as an extinction procedure in the behavioral literature. In extinction, the reinforcer that maintains a particular response is no longer delivered and subsequently the behavior will stop occurring in the future (Lerman & Iwata 1996; Miltenberger, 2008). Extinction or kind ignoring in conjunction with the use of NCR or "feeding the meter" can be effective in reducing attention maintained problem behaviors (Phillips & Mudford, 2011; Iwata, Pace, Cawdery & Miltenberger, 1994). For example, Iwata et al. (1994) reported that using extinction by terminating the delivery of

attention reduced a child's self-injurious behavior that was previously maintained from social reinforcement.

THTB recommends that parents use timeout as a consequence for children's red light behaviors or those behaviors that are dangerous or break key family rules (Karp, 2008). The timeout strategy incorporates many steps including setting a timer, staying calm, and providing feedback to the child once timeout has been completed. Timeout can be effective in promoting positive behavior change in children. Rortvedt and Miltenberger (1994) evaluated the effectiveness between high-probability requests and timeout to treat child noncompliance. Two mothers and their 4-year-old developmentally normal daughters participated in this study. This study reported that the introduction of high-probability requests was effective in increasing compliance for one child, but timeout was effective in increasing compliance in both children (Rortvedt & Miltenberger, 1994). Additionally, Olmi, Sevier, and Nastasi (1997) also reported the reduction in two children's noncompliance and problem behaviors when timeout and contingent time-in (i.e. attention) procedures were implemented.

Using BPT to Train Parents

In this study, BPT was used to teach young mothers to correctly implement *THTB* strategies within routines associated with child problem behavior. Although BPT has been demonstrated to be a successful technique to teach parent management skills and report positive behavior change in children certain limitations should be noted. BPT has been reported to be expensive to implement because professionals such as doctors and therapists typically lead the trainings (Kazdin, 1997). In addition, researchers have noted concerns about attrition of participants in BPT programs. Assemany and McIntosh (2002) reported in a meta-analysis of BPT studies that dropout rates ranged between 8-49% and reported that absenteeism and low participation were limitations of the studies.

The purpose of this study was to test the effectiveness of a popular behavior management package comprised of five parenting strategies. This study examined the use of BPT to teach a high-risk population of young mothers who express challenges in managing their children during every day routines (e.g., feeding, bed time, and dressing) to use the behavioral strategies presented in *THTB*.

Method

Participants and Setting

Three young mothers with typically developing toddlers participated in this study. All of the participants lived in a transitional housing facility for homeless pregnant and/or parenting women in crisis. In this housing program each family stayed in a small two-bedroom one-bath dorm style apartment in which the living rooms and laundry areas were communally shared. The mothers were expected to do daily chores, attend therapy sessions, go to work, and attend school if possible. Additionally, all participants received two fifty-dollar gift cards to a major discount store chain for their participation in this study.

Samantha and Brett. Samantha was a 20-year-old Caucasian woman. She was the mother of two young boys. Her youngest son was two-years-old. Brett was three-years-old and was selected as the target child for this study. Throughout this study Samantha worked approximately 30 hrs per week and attended classes at a community college while living at the transitional housing facility. Samantha was living at the housing program for approximately one year when this study began and prior to living there she and her children were homeless.

Stephanie and Jonyelle. Stephanie was a 20-year-old Latina and mother of three children. Two of her children lived with her at the transitional housing facility. She had a three-month-old boy who suffered from congenital kidney problems. Jonyelle was selected as the targeted child of this study and she was four-years-old.

Throughout this study, Stephanie and her children were living at the facility for approximately 8 months when this study began and were previously homeless.

Fai and Lola. Fai was a 24-year-old African American mother of six children. Four of her children lived with her at the transitional housing facility. Fai had a 3-month-old girl, two fraternal twin girls who were 16-months-old, and one five-year-old girl. Lola was the target child for this study and was 16-months-old. Prior to living in the transitional facility Fai was previously incarcerated. She transitioned from jail to the housing facility. Fai was able to regain custody of four of her children. During the baseline phase of this study Fai was approved to move into Section 8 housing (affordable independent housing). The third baseline session and all subsequent observation sessions took place in her new home. The family's new house was a four-bedroom two bath single family home with room for table for the children to eat at.

Selected Routines

Each of the mothers was asked to complete the RBI-SAFER Report Combo to help identify at least two difficult routines (McWilliam & Casey, 2008). The experimenter interviewed the participants using the RBI-SAFER Report Combo to gather information about daily routines, provide information on the child's strengths and skills deficits (McWilliam & Casey, 2008). With the help of the experimenter, each mother selected one routine for parent training and a second routine that would be probed for generalization of the parenting strategies. The three criteria used to select the routine were: 1) routine was associated with a likelihood of target child problem behavior; 2) routine occurs for a minimum of 10 minutes; and 3) routine occurred on a regular basis.

Samantha selected bedtime as the training routine. Bedtime started when Brett began to brush his teeth and ended when he was lying in his bed with his eyes closed or until 20 minutes had surpassed. Typically, the bedtime routine consisted of brushing teeth, dressing, and a few minutes of playing with his younger brother. Samantha selected dinner as the generalization routine. Dinner began when Brett sat down at the table and was completed when Brett brought his dish to the sink or when 20 minutes had elapsed. Samantha described Brett's problem behavior during these routines as behaving rudely by screaming and saying no to his mother and jumping on his bed instead of going sleep.

Stephanie selected evening leisure time as the targeted routine. This family's leisure time began when Stephanie told her daughter Jonyelle that she could play before taking her bath and ended when Jonyelle transitioned to bath time or when 20 minutes had passed. Stephanie's generalization routine was dinner and began when Jonyelle sat at the table. Dinnertime was completed when Jonyelle brought her plate to the sink or when 20 minutes had surpassed. When nominating these routines, Stephanie described Jonyelle's behavior challenges as engaging in disruptive behaviors and refusal to follow her mother's directions.

Fai selected dinnertime as her targeted routine. When Fai and her family lived in the transitional housing facility there was no space for a dining room table. Instead of sitting at a table, Fai would sit in a chair and bottle feed her 3 month old, while Lola and her twin sister would wait for Fai to spoon feed them both. Her eldest daughter sat on the floor and independently ate during dinner. When living at the facility, the dinnertime routine began when Fai asked Lola to come and get a bite to eat and ended when Lola walked away for a period longer than 3 minutes or when 20 minutes had elapsed. At the

new home, dinnertime began when Lola sat at the table and ended when Lola put her plate in the sink or when 20 minutes had elapsed. Fai's generalization routine was morning time. This routine began when Fai started to change Lola's diaper. This routine consisted of diapering, dressing, hair brushing, and teeth brushing. This routine was complete after Lola brushed her teeth or after 20 minutes had passed. Fai noted that Lola engaged in whining and crying behaviors within these routines.

Materials

A hand held video camera was used to record observations during the baseline, training, post training, and follow-up phases of this study. In addition, a tape recorder was used to record the instructions provided by the parent trainer to the parent during training sessions and for Samantha's booster training. These audiotapes were scored by observers to assess procedural fidelity of training steps. *THTB* DVD was provided for mothers to watch during the first training session in order to help participants gain familiarity with this program. The DVD gives visual examples of the use of each technique and recommends when parents should implement the strategies. A laptop computer was used during trainings to display example video clips of each parenting strategy. Additionally, training manuals were provided for the participants and adapted from *THTB* book and DVD. The training manual consisted of: an agenda of training; definition and examples of when to implement the parenting strategies; role play scenarios; parent treatment integrity sheets; cue cards with a description and picture of each strategy.

Mother Dependent Variables

The primary dependent variable was the mothers' implementation of *THTB* strategies during difficult routines with their toddlers. Mothers were taught the use of five

strategies: feeding the meter; toddler-ese; fast food rule; kind ignoring; and timeout. The mothers were trained to use feeding the meter and toddler-ese throughout the routine and the fast food rule, kind ignoring, and timeout in response to child problem behavior. The percentage of intervals that four strategies (feeding the meter, toddler-ese, fast food rule, and kind ignoring) were implemented was calculated by: dividing the number of intervals the strategies were implemented by the total number of intervals multiplied by 100%. Trained observers watched the observation video and coded the occurrence or nonoccurrence of each parenting strategy within every 15-sec interval. A frequency count was used to record the number of instances timeout was implemented both correctly and incorrectly in an observation session. Implementation of strategies was scored if the mothers' use of the strategy followed the operational definitions.

Feeding the meter (noncontingent reinforcement). Feeding the meter was defined as the mother's delivery of any form of positive reinforcement (delivery of preferred activity, hugs, praise, delivery of preferred edible) to her child during the routine without stating a contingency and prior to any occurrence of child problem behavior. An example of feeding the meter would be if the child is playing on the floor with a toy and his mother said to him "You are playing so nicely". Observers will not score feeding the meter if the mother states a contingency prior to delivering the reinforcer. An example when the mother would not get credit for feeding the meter would be if the mother told her daughter that she would give her a cookie only if she cleaned up her toys.

The fast food rule. The fast food rule was defined as implemented by the mother when her child engaged in mild problem behavior (behaviors that do not break key rules

or are dangerous). In order to be scored correctly the mother was instructed to get on the child's eye level and listen to her child for a minimum of 5 sec. For example, the fast food rule was used correctly when the mother requested her child to transition to an unpreferred activity such as bath time and the toddler began to cry and yell. The mother got on her child's eye level, and listened to the child for a minimum of 5 sec, before implementing Toddler-ese.

Toddler-ese. Toddler-ese could be used prior or during child problem behavior. Toddler-ese was scored as implemented if the mother got on her child's eye level and repeated (at least twice) what her child previously said or appeared to be feeling using short 2-3 word phrases. For example, when the mother's son started to cry after his brother took his toy; the mom would get on his eye level; use the Fast Food Rule to listen; and say "Mommy knows, you are mad, mad, mad! You want that toy, you really want that toy!".

Kind ignoring (extinction). If after one minute of using Toddler-ese the child continued to display mild problem behaviors or yellow light behaviors (behaviors that are not dangerous or break a key rule) the mother would implement kind ignoring. Kind ignoring was defined as the mother implementing the following steps:

1. The mother told her child that he or she needed time to calm and she would be back to check on him or her.
2. The mother either turned her back to her child or moved into another room. If the mother returned to the child and he or she was still engaging in mild problem behaviors then kind ignoring was implemented again. For example, if the mother's son was rolling on the floor and crying, the mother

told her son that he needed some time to calm and then she walked into the next room for 30 sec. After noticing her son was calm she directed him to help her water the plants.

Timeout. Timeout was implemented following child problem behavior that was dangerous or broke a family rule (red light behaviors such as hitting, spitting, cursing, climbing on furniture). The mother did not have to complete all of the steps in timeout in order for timeout to be scored if child problem behavior stopped after the delivery of the timeout warning. Timeout was defined as the mother implementing the following steps:

1. The mother delivered a verbal warning by saying if the problem behavior continued, then the child would need to go to timeout.
2. Next, the mother would count to three.
3. If the child's problem behavior continued, the mother would tell her child to go to the designated timeout area or use physical guidance if necessary.
4. The mother would set a timer to the minute that corresponds to the child's chronological age (i.e. 2 years of age equals 2 minutes of timeout) and left the child in timeout.
5. After the timer expired the mother would verbally review with the child appropriate behaviors to engage in instead of going to timeout in the future.

For example, timeout was scored when a two year old kicked his mother and she said "No more kicking or timeout" and begins counting to three. After the child continued to kick his mother she took him to the designated timeout area and set a timer for two minutes. She then walked away and when the timer expired she returned to her calmed toddler and said "Mommy is sorry you

went to timeout. We use nice hands and feet in our family. Next time you are mad. We can practice using words instead of kicking".

5. If child problem behavior continued after timer expired, then the mother would tell her child that he or she needed more time to calm down and repeat steps 2-4.

Child Dependent Variables

The secondary dependent variables that were measured were two child responses including: occurrence of problem behavior and engagement. The percentage of intervals of child behavior were measured by dividing the intervals of occurrence of the dependent variables by intervals of non-occurrence plus intervals of occurrence of the dependent variables multiplied by 100%.

Child problem behavior defined. The following operational definitions are described for each target child:

1. Samantha's son Brett engaged in verbal outburst and jumping on his bed. Verbal outbursts were defined as using a voice volume that was louder than normal while saying no, I don't love you, or any other negative vocalizations. Jumping on the bed was defined as Brett moving his body on the mattress in a manner that propelled his body into the air.

2. Stephanie's daughter Jonyelle engaged in screeching, standing on furniture, property destruction, and physical aggression. Screeching was defined as vocally emitting short high pitched sounds. Standing on furniture was defined as standing on top of any furniture that was not

intended for people to stand on (i.e. couches, bunk bed, tables). Property destruction was defined as throwing and/or kicking objects in the environment that are not meant to be thrown or kicked and/or tearing paper. Physical aggression was defined as hitting, kicking, shoving, or throwing objects and as a result made contact with another person's body.

3. Fai's daughter Lola engaged in whining. Whining was defined as vocally emitting long high pitched cries which lasted for longer than 3 sec.

Child engagement defined. During the majority of the routine (10-sec or more of each 15-sec interval) the child followed the natural sequence of steps in that routine. The child followed the routine if his or her eyes were looking at the mother and/or on the materials and/or walking appropriately and/or following the mother's directions or expectations for that routine. For example, the toddler was engaged during a bedtime routine if he completed the steps of the routine such as brushed his teeth, put his pajamas on, got into bed, and looked at a book while his mother read to him. A non-example of engagement would be if the mother and child were playing a board game together and the child turned away from the mother and no longer participated in the game.

Observer Training

Four undergraduate students served as observers in this study. Each observer was instructed on the operational definitions of each dependent variable in this study. The observers viewed short video clips that depicted each parenting strategy and child target behavior to serve as examples and non-examples of the dependent measures.

Next, the trainer showed a full twenty-minute video of a mother and child completing a routine and reviewed the data collection method with the observers. The observers were trained in the partial interval time series and frequency data collection methods. The trainer paused the training video at every 15-sec interval and reviewed the strategies and child behaviors. The trainer also noted the occurrence of timeout during the video. The observers watched the video twice with the trainer. On the first sweep the observers recorded the occurrence of the mother's dependent variables and reported whether the strategies were implemented in each 15-sec interval. The observers were asked during this sweep to keep a frequency tally of the number of times timeout was implemented as it corresponded with the operational definition. On the second sweep the observers recorded the occurrence of the two child dependent variables. Finally, the observers were asked to independently view a second video of a mother and child routine and independently score the items on the data collection sheets. The observers were required to reach 80% agreement with the researcher. Two of the observers were selected to serve as primary observers and the other two observers served as reliability partners throughout this study.

Data Collection

Each observation session was video recorded. The primary data collectors viewed the observation videos and recorded the occurrence or non-occurrence of the child dependent variables within every 15-sec interval. The primary data collector watched the observation video a second time and coded the occurrence or nonoccurrence of four of the five parenting strategies within every 15-sec interval. The primary observer also recorded the frequency of correct and incorrect use of timeout.

Data sheets were used to record data. All data collectors received a list of the operational definitions of the dependent variables and scored the implementation of parent strategies and child responses during the observation if they corresponded to the provided definitions.

Interobserver Agreement

Interobserver Agreement (IOA) was calculated using the interval-by-interval method for four of the five parenting strategies as well as the two child responses. Each interval was compared to determine whether the observers agreed on both the occurrence and nonoccurrence of the dependent variables. IOA was collected across 33% of all sessions. Interval-by-interval IOA was calculated by adding the number of intervals of agreement divided by the number of intervals disagreed plus the number of intervals agreed multiplied by 100 (Cooper, Heron, & Heward, 2007). In addition, total count IOA was used to measure the IOA of the frequency that timeout was implemented during each routine. Total count IOA was calculated by dividing the smaller of the counts by the larger count and multiplying by 100 (Cooper, Heron, & Heward, 2007).

Agreement values for implementation of *THTB* parenting strategies for Samantha, Stephanie, and Fai across baseline, training, post training, and follow-up sessions were 97% (range, 93% to 100%), 96% (range, 82% to 100%), and 95% (range, 90% to 100%) respectively. The total count IOA for correct and incorrect use of *THTB* timeout strategy for Samantha, Stephanie, and Fai across baseline, training, post training, and follow-up sessions was 100% for all participants. Agreement values for child problem behavior for Brett, Jonyelle, and Lola across baseline, training, post training, and follow-up sessions was 92% (range, 86% to 100%), 92% (range, 80% to 100%), and 93% (range, 85% to

100%) respectively. Finally, agreement values for child engagement across baseline, training, post training, and follow-up sessions for Brett, Jonyelle, and Lola were 97% (range, 91% to 100%), 98% (range, 90% to 100%), and 94% (range, 80% to 100%).

Experimental Design and Procedures

A concurrent multiple probe baseline design across four mother-child dyads was utilized in this study (Horner & Baer, 1978). Baseline, training, post training, and follow-up sessions were video recorded.

Pre baseline assessment. The pre baseline assessment meetings were used to establish the routines for intervention and determine when data would be collected. During the pre baseline assessment meeting, the RBI-SAFER Report Combo was administered to each participant to help determine the targeted and generalization routines for this study (McWilliam & Casey, 2008). During the second pre baseline assessment meeting, the trainer video recorded the targeted routine. The purpose of video recording during the pre baseline assessment was to reduce participant reactivity, and to determine individual operational definitions for each child's problem behavior. The trainer delivered no feedback or instruction on parenting strategies during this assessment. The mothers were instructed to interact with their children as they would on any other day.

Baseline. Prior to the beginning of each baseline session the mothers were instructed to complete the targeted routine with their children as they typically would. The experimenter video recorded at the start of each routine. The observation occurred for a minimum of 10 minutes, until the routine ended, or until 20 minutes had elapsed.

Parent training. The training sessions were introduced in a staggered fashion for each mother-child dyad. On the first day of training the experimenter watched *THTB* DVD with the mother. The DVD provided video modeling examples depicting *THTB* strategies being implemented by parents. The behavioral parent training consisted of BST which lasted for approximately one hr for each training session. Samantha and Stephanie completed the training in 3 sessions. Fai completed the training in 5 sessions. The trainings sessions were centered on learning and practicing the strategies during the same difficult routine that was observed in baseline. The behavioral parent training of *THTB* strategies continued until the participant was able to implement each strategy as it corresponded to the operational definition during role plays and the actual targeted routine. Each component of the behavioral parent training is outlined below.

During the instructions component the trainer reviewed a written description of *THTB* strategies and viewed short video clips with the mother to help further demonstrate what each strategy should look like when implemented. Next, the trainer modeled each strategy (one at a time) for the mother during a role-play scenario of the difficult routine. The trainer specified each component of the strategy as it was being modeled. During this time the mother was asked to take on the role of her child. The mother was then asked to imitate the strategy that the trainer modeled while the trainer played the role of her child. After the modeling component the trainer provided immediate verbal feedback consisting of praise for correct implementation and corrective feedback for incorrect implementation. The participant was required to demonstrate each strategy in the role-play as it corresponded to the operational definition prior to learning the next strategy. The trainer completed the parent intervention integrity checklist with the participant on the

implementation of the strategies during the training and reviewed the strategies at the end of each training session. Additionally, in between training sessions the trainer video recorded the mother during the targeted difficult routine and provided additional in vivo training consisting of verbal prompts during the live routine if needed. The training phase was completed once the participant was able to correctly implement each strategy during role play and correctly implement the strategies during 40% or more intervals of the targeted routine.

On Samantha's first post training session, the percent of intervals of implementation dropped below 40% and thus a booster training was implemented for the next three sessions. The booster session consisted of: a brief instruction of each strategy; textual prompts in the form of a checklist of the strategies placed in her children's room for quick referencing; praise for correct implementation during the actual routine; and graphical feedback at the beginning of each booster session. A second post training phase was implemented once Samantha was able to consistently implement the parenting strategies for at least 40% of intervals for three consecutive sessions.

Post training. Post training data was collected after completion of the training phase. During the post training phase the mothers did not receive specific feedback from the trainer during the targeted routine. The experimenter video recorded all post training sessions and instructed the mothers to complete the routine as they normally would.

Generalization. Generalization probes were collected during baseline, post training and follow-up phases. A single generalization probe was collected during the baseline and follow-up phases for all participants. Three generalization probes were collected during the post training phase for each participant.

Each generalization routine was different from the targeted routine. The observation of the "untrained" routine lasted for a minimum of 10 minutes, until the routine ended, or when 20 minutes had elapsed. The same instructions were delivered to the participants during generalization probe days. The trainer asked the mothers to complete the routine with her child as she typically would, while video recording the observation session.

Follow-up. A follow-up probe occurred two weeks after each participant completed the post training phase. The procedures for the follow-up observation sessions were the same as the baseline and post training phases. The mothers were asked to complete the routine as she typically would with her child.

Procedural Integrity

A naïve observer completed the parent training integrity sheet after listening to the audio recordings of parent training sessions. The following categories of experimenter behavior were audio recorded to assess procedural integrity of the experimenter's implementation of training: (a) reviewed instructions on implementing each strategy; (b) showed video examples of each strategy; (c) each strategy was modeled by the trainer; (d) mother completed the strategy in a role play scenario; (e) the trainer delivered praise for correct responding; and (f) the trainer delivered corrective feedback if necessary. Procedural integrity was scored as the number of components present divided by total number of components multiplied by 100. Procedural integrity was 100% across training sessions for all 3 participants. Procedural integrity data was also collected for Samantha's booster training sessions. The components in the booster training consisted of: (a) reviewing instructions on implementing each strategy; (b) providing a visual prompt (checklist of each strategy posted in children's room); (c) providing praise for correct

responding during actual routine; and (d) providing graphical feedback (reviewed Samantha's data with her). Procedural integrity was 100% for all three of Samantha's booster training sessions.

Social Validity

Three social validity assessments were administered to provide additional data on the outcomes of the intervention and parent perceptions as they participated in the research. The Parent Daily Hassles (PDH) was administered during both the pre-baseline phase and follow-up phases (Crnic & Greenberg, 1990). The PDH is a 20-item questionnaire that assesses the frequency and intensity of 20 everyday events that might be seen as hassles for parents. The frequency of each event is rated on a 4-point scale and parent perception of the intensity of hassles is rated on a 5-point scale. Scores above 50 on the frequency scale and above 70 on the intensity scale indicate a high frequency and intense pressure of perceived parenting hassles (Crnic & Greenberg, 1990).

The second social validity questionnaire was completed post intervention and consisted of a 5-point likert scale completed by a group of three naïve observers who were professionals in the field of early childhood. The naïve observers rated 6 randomly ordered 90-sec videotapes of the mothers and their children completing routines during both the baseline and post training phases (Fox & Westling, 1991). This procedure was used to determine if persons unrelated to the experiment would rate post training parent-child interactions as being more appropriate and positive in comparison to baseline videotapes.

The third social validity assessment was a 5-point likert scale, which was verbally administered to participants by the trainer once per week during baseline, training and post training phases. This was used to assess the participant's perceptions of the feasibility of implementing the parenting strategies, child interactions, and ease of routine completion.

Finally, a final survey was administered after the follow-up session was completed. The survey consisted of a 5-point likert scale as well as open-ended questions that allowed for participant comments. The purpose of this survey was to gain insight on the participants perceptions about the training components, parenting strategies, and overall how this study affected or changed their parenting strategies and children's behavior.

Results

Parent Implementation of Strategies

Figure 1 displays the percentages of intervals of *THTB* parenting strategies utilized correctly during baseline, training, post training, booster training (for Samantha only), follow-up and generalization probe phases. The percentage of intervals where the target child displayed problem behaviors are also displayed on Figure 1 across all phases of the study. During baseline all of the participants implemented the parenting strategies at low levels. The mean percent of correct implementation of parenting strategies within target routines for mothers Samantha, Stephanie, and Fai were 1.73% (range, 0% to 4%), 7.71% (range, 0% to 45%), and .71% (range, 0% to 4%) respectively. The implementation of the *THTB* parenting strategies was also probed during generalization routines. None of the participants implemented the parenting strategies during the baseline generalization routines.

During the training phase, the data reflects that each participant increased in her use of the targeted strategies. Samantha increased the use of correct parenting strategies to a mean percent of 47.91% (range, 24% to 74%). The strategies that Stephanie used increased to a mean of 54.75% (range, 45% to 71%) and Fai increased her use of the parenting strategies to a mean of 53.2% (range, 42% to 61%).

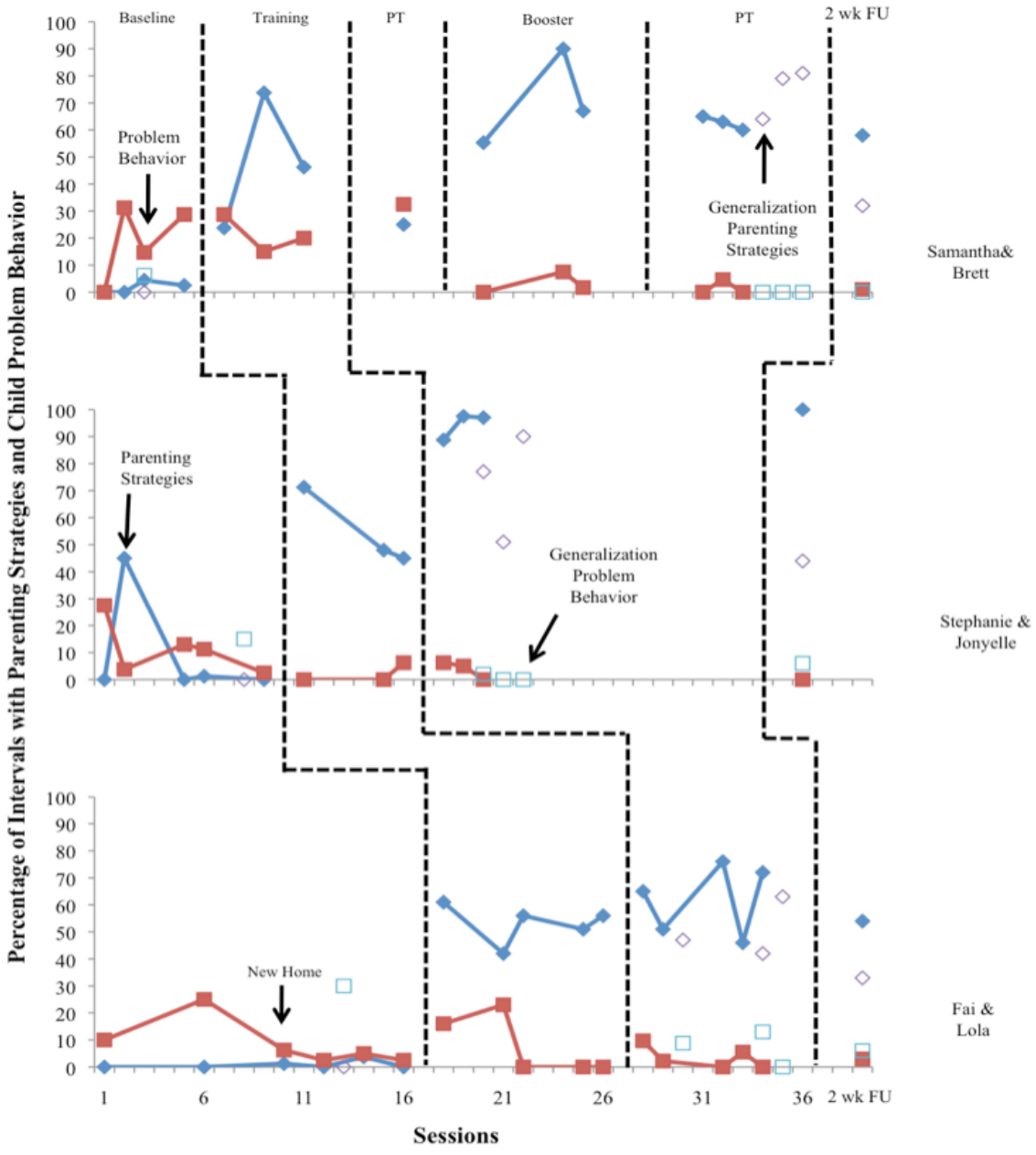

Figure 1. Percentage of parenting strategies and child problem behavior in baseline, training, post training (PT), and 2 week follow up phases.

During Samantha's first post training session, the use of parenting strategies declined to 25%, which was below the established criterion of at least 40% of intervals. Three booster training sessions were introduced and Samantha's mean percent of implementation improved to 70.77% (range, 55% to 90%) during the booster phase.

During post training, all of the participants were implementing parenting strategies at a frequency well above baseline levels (Figure 1). While in post training, the mean percent of intervals of correct implementation of the parenting strategies by Samantha, Stephanie, and Fai were 62.67% (range, 60% to 81%), 94.42% (range, 51% to 98%), and 62% (range, 42% to 76%) respectively. All of the participants were also observed using the parenting strategies during generalization routines at a frequency above their baseline observations. During post training generalization routines, Samantha, Stephanie, and Fai implemented the strategies 74.67% (range, 64% to 81%), 72.67% (range, 51% to 90%), and 50.67% (range, 42% to 63%) respectively.

Finally, 2 out of 3 participants maintained the mean percent of intervals of correct use of *THTB* parenting strategies during the follow-up observation that was conducted two weeks after the last post training observation session (as seen in Table 1). Samantha maintained the use of the strategies at a slightly lower level of 58% of intervals during follow-up. Stephanie maintained the use of strategies at 100% of intervals in follow-up. Fai's use of the parenting strategies decreased from post training to follow-up with an average of 58% of intervals with strategy implementation. All three of the mothers exhibited substantial increases in their use of the parenting strategies from baseline to post training phases within the targeted routines.

Table 1

The Percent of Parenting Strategies and Child Problem Behavior during Baseline, Training, Post Training, and Follow-up Phases

Mother/ Child	Parenting Strategies Mean and (range)				Child Problem Behavior mean and (range)			
	Baseline	Training	Post Training	Follow-up	Baseline	Training	Post Training	Follow-up
Samantha/ Brett	1.7 (0-4)	47.9 (24-74)	68.7 (60-81)	58	16.2 (0-31)	21.3 (15-29)	.8 (0-5)	1
Stephanie/ Jonyelle	7.7 (0-45)	54.8 (45-71)	83.6 (51-98)	100	12.2 (3-28)	2.1 (0-6)	2.2 (0-6)	0
Fai/Lola	.7 (0-4)	53.2 (42-61)	64.6 (42-76)	54	12 (3-30)	7.8 (0-23)	9.3 (0-13)	3

The implementation of these strategies in generalization routines was lower for all of the participants in the follow-up session. Samantha implemented the parenting strategies during the follow-up generalization probe during 32% of intervals. Stephanie decreased her use of parenting strategies during the follow-up generalization probe to 34% of intervals and Fai decreased her use of parenting strategies to 33% of intervals.

Use of *THTB* Timeout Procedure

The frequency in which timeout was implemented either correctly or incorrectly across all phases is demonstrated in Table 2. During baseline, Samantha attempted to use a timeout procedure twice, however she did not use it correctly. Stephanie used an incorrect form of timeout once during baseline. Fai never used timeout during baseline. Samantha did not use the time out strategy until her second post training phase and then used it correctly once. Stephanie correctly implemented time out procedures once during training and once again during post training. Fai used the correct time out procedure

twice during training, once during post training, and once during the generalization routine in post training. During and after training, all participants were able to correctly implement the timeout procedure.

Table 2

Frequencies of Correct and Incorrect Use of Timeout from Baseline, Training, and Post Training Phases

Mother/Child	Baseline		Training		Post Training	
	Correct	Incorrect	Correct	Incorrect	Correct	Incorrect
Samantha/Brett	0	2	0	0	1	0
Stephanie/Jonyelle	0	1	1	0	1	0
Fai/Lola	0	0	2	0	2	0

Child Behavior

Figure 1 displays the percentage of intervals that child problem behavior was observed within target and generalization routines across all phases in this study. Throughout this study, child problem behavior remained at relatively low levels and decreased further once the parenting strategies were introduced in the training phase. During the first observation, Brett was not observed having problem behavior during the targeted bedtime routine. For this session only, the family got home late and Samantha noted that Brett was really tired and she was able to put him to bed without any problem behaviors. During subsequent baseline observations her rates of problem behavior ranged between 15% and 31% of intervals with an overall mean of 25%. During baseline, Jonyelle and Lola's problem behaviors demonstrated a decreasing trend within the baseline phase. During baseline, Brett, Jonyelle, and Lola engaged in problem behaviors an average of 25% (range, 15% to 31%), 11.60% (range, 3% to 28%), and 8.54% (range, 3% to 25%). Notably, Fai, Lola and her other children moved into independent housing

during the baseline phase of this study. The third baseline phase and all subsequent sessions took place in their new home. This will be addressed further in the discussion portion of this paper. In the generalization routine, Brett engaged in problem behaviors 6.25% of the observation intervals. Jonyelle engaged in problem behaviors 15% of intervals during the baseline generalization probe and Lola engaged in problem behaviors during 30% of the observed intervals.

Throughout training the data demonstrated slight decreasing trends in child problem behavior across all participants. Brett, Jonyelle, and Lola engaged in problem behaviors a mean percent of 21.25% (range, 15% to 28%), 2% (range, 0% to 6%), and 8% (range, 0% to 23%) respectively.

Throughout post training, the frequency of child problem behavior was absent or minimal for all participants (see Table 1). Brett engaged in problem behavior a mean percent of .78% (range, 0% to 5%). During post training, Jonyelle engaged in problem behavior a mean percent of 2.08% (range, 0% to 6%), and 7.8% (range, 0% to 13%). The data display that problem behaviors decreased during post training generalization probes as well. Brett engaged in a mean percent of 0% of problem behavior during post training generalization probes. Jonyelle engaged in a mean percent of .67% (range, 0% to 2%) of problem behavior during post training generalization probes. Lola also engaged in problem behavior during the post training generalization probes at a mean percent of 7.27% (range, 0% to 13%). For all child participants, low levels of problem behaviors were maintained in the follow-up phase.

Brett, Jonyelle, and Lola engaged in problem behaviors 1%, 0%, and 3% of intervals during the follow-up phase of this study (see Figure 1 and Table 1).

Child Engagement

The secondary dependent measure was child engagement and was scored throughout all phases of this study. In baseline, Brett, Jonyelle, and Lola were engaged in the targeted routine a mean percent of 19.96% (range, 6% to 75%), 40.08% (range, 10% to 85%), and 30.63% (range, 24% to 95%). In addition, child engagement during baseline generalization probes was 75%, 23.75%, and 65% of intervals for Brett, Jonyelle, and Lola respectively.

Increases in child engagement during parent training were noted for Brett with engagement at frequencies above his baseline observations a mean of 64.58% (range, 24% to 93%) with engagement in the target routine. Jonyelle and Lola also had overall higher rates of engagement with a mean of 69.46% (range, 49% to 96%) for Jonyelle, and 81.8% (range, 70% to100%) for Lola. During the first post training session Brett's engagement decreased to 54% of intervals, but engagement increased during booster training to a mean percent of 59.6% (range, 24% to 93%). During the post training phase all of the target children maintained increased levels of engagement. Brett, Jonyelle, and Lola were engaged in the targeted routine a mean percent 97.33% (range, 95% to 100%), 60.25% (range, 30% to 90%), and 87.6% (range, 77% to 100%). Additionally, there were increasing levels of child engagement in the post training generalization probes. During post training, Brett always engaged in the generalization routine 100% of the intervals in the session. Jonyelle was engaged in the generalization routine during post training a mean percent of 81.33% (range, 61% to100%).

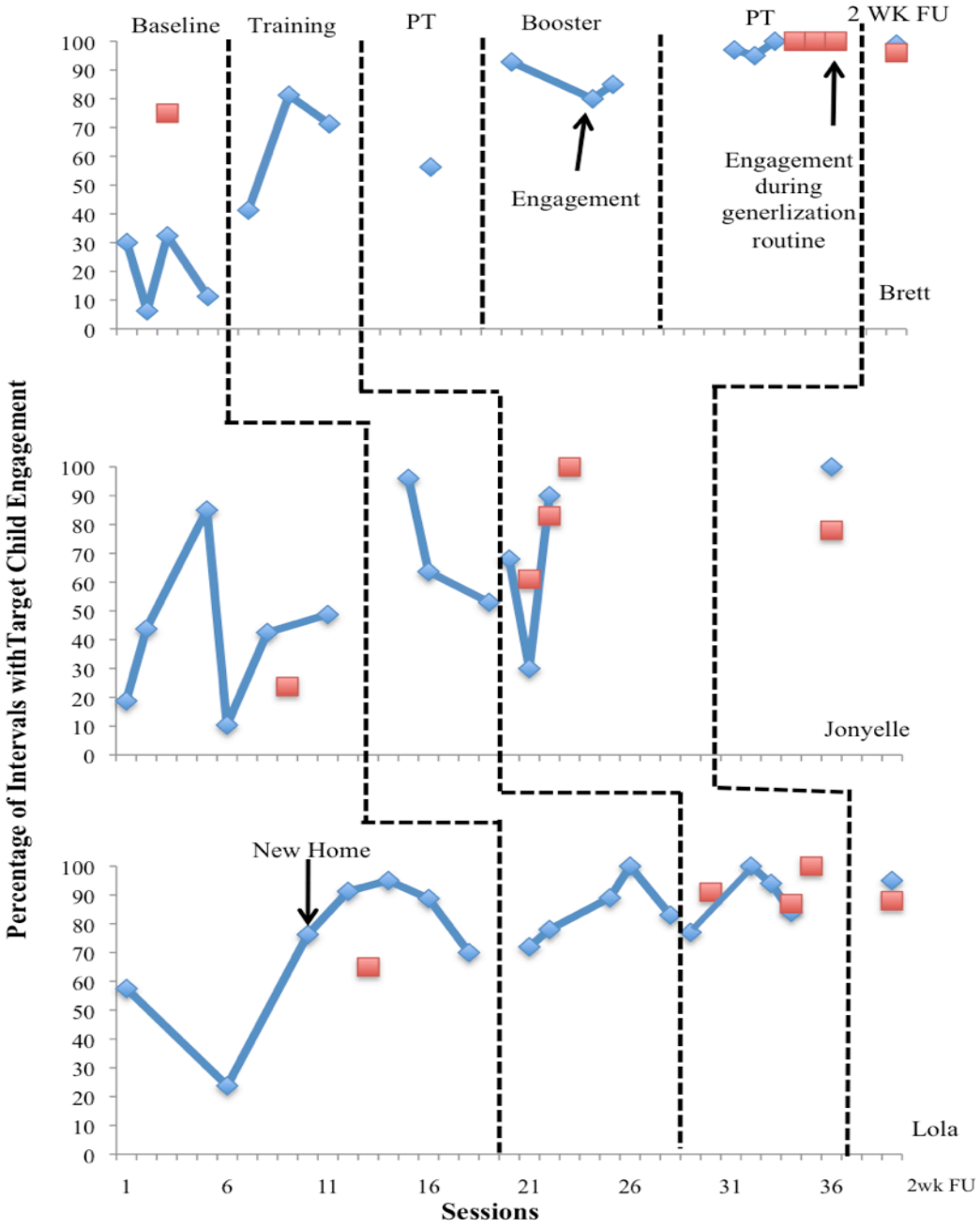

Figure 2. Percentage of target child engagement in trained and generalization routines across baseline, training, post training (PT), booster, and 2 week follow-up phases.

In post training, Lola was engaged in the generalization routine a mean percent of 92.66% (range, 87% to100%). Engagement levels in the follow-up probes were similarly high with 99%, 100%, and 95% of intervals with child engagement for Brett, Jonyelle, and Lola.

Social Validation

Prior to the start of the study and after completion of the follow-up session, the Parenting Daily Hassles (PDH) survey was administered to each mother (see Table 3). The PDH assesses the frequency and intensity of 20 experiences that can be deemed as hassles by parents. A score above 50 on the frequency scale and above 70 on the intensity scale indicate that the parents are potentially experiencing many parenting hassles and are under intense parenting stress. Samantha and Fai scored above 50 on the frequency scale during baseline and reported decreases in parenting hassles in follow-up. All mothers rated a reduction in perceived daily hassles from baseline to follow-up. Samantha, Stephanie, and Fai rated the frequency of daily events (from 0-80) that are perceived as hassles as 55, 34, and 58 at baseline and 37, 29, and 27 at follow-up. Samantha's and Fai's perceived intensity of daily hassles decreased from baseline to post training while Stephanie's scores did not change. Additionally, Samantha, Stephanie, and Fai rated their perceived intensity of daily hassles (from 0-100) as 68, 44, and 58 at baseline and 27,44, and 27 at follow-up.

Table 3

Parenting Daily Hassle Scores in Baseline and Follow-up Phases

Mothers	Parenting Daily Hassles Scores	Baseline	Follow-up
Samantha	Frequency (0-80)	55*	37
	Intensity (0-100)	68	27
Stephanie	Frequency (0-80)	34	29
	Intensity (0-100)	44	44
Fai	Frequency (0-80)	58*	27
	Intensity (0-100)	58	27

Note. Frequency scores of 50 or above indicate a perceived high frequency of hassles of daily events.

A weekly social validity questionnaire was also collected from each mother throughout baseline, post training, and the follow-up phases in this study (see Table 4). The mothers responded to questions about their confidence in using parenting strategies, the ease of the selected routine, and their perceptions of child cooperation and compliance. The data indicate that all of the mothers reported higher ratings in feeling more confident in their use of the parenting strategies, ease of routines, positive mother child interactions, and child compliance.

Three professionals who provide assistance in the area of early childhood viewed randomly ordered and selected video vignettes of the target routines from baseline and post training sessions for each parent. The experimenter randomly selected three video sessions s from a hat and picked 2-minute segments from the middle of each video.

Table 4

Weekly Assessment of Mother Perspectives

	Samantha and Brett			Stephanie and Jonyelle			Fai and Lola		
	Baseline mean (range)	Post Training mean (range)	FU score	Baseline mean (range)	Post Training mean (range)	FU score	Baseline mean (range)	Post Training mean (range)	FU score
1. I feel confident using my parenting strategies.	3.5 (3-4)	4.5 (4-5)	5	3.5 (3-4)	5	5	5	5	5
2. I feel that our routines are easy.	4.5 (4-5)	4	5	3.5 (3-4)	4.33 (4-5)	5	2.5 (2-3)	5	5
3. My child interacts positively with me.	4	4	5	3	4.67 (4-5)	5	3.5 (3-4)	5	5
4. I enjoy completing routines with my child.	4	4	5	4 (3-5)	4-3 (4-5)	5	5	5	5
5. My child listens to me.	3	3.5 (3-4)	5	3	3.67 (3-4)	4	2	4	5

Note: FU stands for Follow-up. Rating: 1= don't agree at all; 2 = agree a little; 3 = agree somewhat; 4= agree very much; 5= agree a lot

The results from this social validity questionnaire are reported in Table 5. The data indicate that professionals were able to detect differences in the use of appropriate parenting strategies and the quality of the parent-child interaction. At the end of the study, mothers also completed a final questionnaire where they provided their thoughts about the parent training and *THTB* strategies. All of the mothers expressed satisfaction with: the coaching and training; *THTB* parenting strategies; and improvements in their child's behavior.

Table 5

Social Validation Ratings by Professionals

	Samantha and Brett		Stephanie and Jonyelle		Fai and Lola	
	Baseline mean (range)	Post Training mean (range)	Baseline mean (range)	Post Training mean (range)	Baseline mean (range)	Post Training mean (range)
1. In this routine the mother has positive interactions with the target child.	1. 67 (1-3)	4	2 (1-3)	3.67 (2-5)	1.33 (1-2)	4 (3-5)
2. The mother is effective in engaging with the child during the routine.	1	4.33 (4-5)	2.33 (1-4)	3.33 (2-4)	1.33 (1-2)	4 (3-5)
3. The child appears to enjoy interacting with his or her mother.	2.67 (1-4)	4.67 (4-5)	2.33 (1-4)	4.33 (3-5)	1	4.33 (4-5)
4. The child's behavior is appropriate to the context of the routine.	1.33 (1-2)	4	3 (2-4)	3.67 (3-4)	3.33 (3-4)	4.67 (4-5)
5. The mothers parenting strategies appear appropriate to the context of the routine.	1.33 (1-2)	4	2.33 (2-3)	3.67 (3-4)	1.33 (1-2)	3.67 (3-5)

Ratings: 1 = none of the time or no interaction; 2= a little of the time; 3= some of the time 4= most of the time; 5 = all of the time

In addition, all mothers reported that they preferred the use of the feeding the meter strategy and kind ignoring and were less likely to use timeout. Finally, all of the mothers said that they would recommend *THTB* parenting strategies to other mothers.

Discussion

The primary purpose of this study was to evaluate the implementation of *THTB* strategies by high-risk young mothers whose socioeconomic situations and housing status were unstable. A secondary purpose was to determine if the use of these strategies resulted in a reduction of child problem behavior and increased child engagement during targeted routines.

The results of this study indicated that young mothers living in poverty could be trained to implement five of *THTB* parenting strategies. Moreover, the mothers who were trained found value in the strategies and felt the strategies were helpful in their interactions with their children. Although problem behavior remained at low levels throughout the study, slight decreasing trends of child problem behavior were recorded throughout the training and post training phases. This study also provides data on a successful approach for training mothers within the context of their environment and the influence of the training in *THTB* on mothers' perspectives about their children's behavior over time.

The initial parent training was effective for 2 out of 3 participants. Samantha required a booster training. After Samantha completed the initial training phase, her use of the strategies decreased dramatically during the first post training session. During this time Samantha reported many extraneous variables that might have influenced her ability to use the strategies during the first post training session.

For example, Samantha reported: that her car broke down and she was unable to afford to get it fixed; the funding for her children's child care expenses was expiring; and she was doing poorly in a class at school. These additional external stressors might have been influential factors in Samantha's ability to implement the trained parenting skills. Following the three booster training sessions, Samantha increased her use of the strategies above the criterion. Notably, Stephanie and Fai never verbally reported additional stressors and were consistent in their implementation following the training.

The data gathered from the social validity measures lend support that changes occurred in mother's perceptions of their children's problem behavior and that changes occurred that were observable within the targeted routines. Ratings from the PDH questionnaire support that the mother's perceived frequency and intensity of hassles decreased after they received the parent training. While child problem behavior remained low, the mother's perceptions of child problem behavior changed throughout the course of this study. The participant's ratings from the weekly social validity questionnaire also increased throughout this study. However the weekly social validity statements regarding: ease in routine; parenting strategies; and positive child interactions were unexpectedly rated high during the baseline phase. Although the data indicate that the mothers were implementing the parenting strategies at very low frequencies throughout the baseline phase. One reason for high ratings in baseline could be that the participants did not yet have a strong rapport with the parent trainer and did not feel comfortable answering questions about their parenting skills honestly.

Furthermore, all of the mothers are regularly interviewed by social workers who ask similar questions about their parenting skills and they might have been more apt to rate themselves higher in order to answer in a socially acceptable manner. In addition to mother's perspectives other professionals who worked with the mothers verbally reported noticeable changes in the use of parenting strategies and appropriate child behavior. For example, the parent coordinator at the transitional housing facility reported that Samantha seemed to be appropriately managing Brett's problem behavior. Similarly, the parent coordinator stated that she noticed a positive change in Jonyelle's problem behavior. Fai's social worker noted that Lola's behavior had dramatically improved since she started the parent training phase. Lastly, naïve observers reported increases in child appropriate behavior for all participants from baseline and post training video clips.

The results of this study must be interpreted cautiously as there were several limitations. This study secondary dependent measure of child problem behavior was not controlled for 2 out of the 3 participants. Jonyelle and Lola's frequency of problem decreased to low and stable levels prior to parent training and remained at low levels throughout the phases of this study. Lola's decrease of problem behavior during the dinnertime routine at baseline might be attributed to the family's move to their new home. Instead of standing and waiting for her mother to feed her, Lola and her sisters were able to sit at a table and feed themselves at the new house. When Lola was able to sit at a table and feed herself she no longer had to engage in problem behavior to compete with her twin sister to get a bite of food from their mother. Additionally, a secondary generalization probe conducted in Fai and Lola's new home was not conducted. Increasing trends in child engagement were only observed for 1 out of the 3 target

children. The frequency of child engagement increased during the training and post training phases for Brett only. The frequency of child engagement for both Jonyelle and Lola remained at relatively consistent levels throughout the study.

The data on the use of generalization of the parent strategies in non-trained routines indicated that generalization rates were lower in post training and follow-up probes. This suggests that for these mothers, programming for generalization should be built into the parent training approach. Stokes and Bear (1977) suggested programming for generalization by using strategies such as training with multiple exemplars, using varied instructions or reinforcers within training, building self-reinforcement into the training, and ensuring that participants receive reinforcement for the skills within their communities. Future behavior skills training should consider how training can be approached in a manner that increases the likelihood generalization will occur.

Decreases in parenting strategies resulted for 1 out of 3 participants during the targeted routine at follow-up and all participants failed to maintain the use of parenting strategies during the generalization routines during follow-up. This raises concerns about the ability of these parents to maintain their use of the trained parenting strategies over time. This might be a particular concern related to the challenging living circumstances for these mothers. All of the participants lived in extreme poverty, were working to establish stable housing, had little social support, began parenting at a young age, and were single parents. Future research should examine how long term maintenance of the use of the strategies by parents who face these multiple risks can be achieved.

THTB is offered commercially as a DVD for parents to purchase and learn the strategies. In this study, a more directive approach of using BST paired with the DVD was used to examine if an at risk population could learn and implement *THTB* parenting strategies. It would be of interest to examine if mothers would be able independently learning the strategies by reading and watching *THTB* book and DVD.

In general, this study addressed several findings from the behavioral parent training literature. This could be the first study that demonstrates the use of BST to train behavioral parenting strategies to young mothers in poverty. Additionally, there was no attrition of the mothers who elected to participate in the parent training. As reported by Assemany and McIntosh (2002) attrition is a potential concern during parent training. The manner in which this BST was delivered (e.g., in parent home and within everyday routines) accommodated issues that might influence ongoing participation. For example, none of the participants had to worry about traveling or childcare expenses because the training took place in their home and was flexible to their schedules. Additionally, the parent-friendly nature of *THTB* parenting strategies was socially valid to the participants and the strategies were reported fun to learn and utilize. Finally, all participants despite the ecological issues were able to learn and implement *THTB* parenting strategies and change their perceptions of child problem behavior throughout this study.

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