



# PBS for Children and Families in the Part C System: An early intervention model

Lise Fox

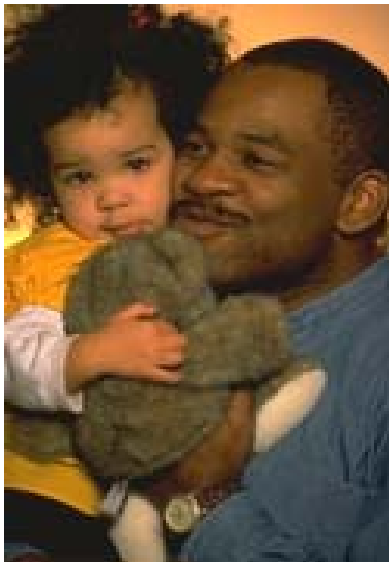
Shelley Clarke

Michelle Duda

Early Intervention



Positive Behavior Support



➡ To provide families, caregivers, and others with positive strategies and skills that will result in the child's acquisition of appropriate social and communication skills

➡ To assist young children with challenging behavior and their families with support to achieve quality of life outcomes

# Goals of the Program

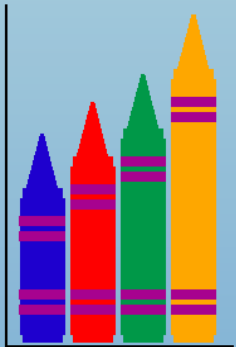


- Provide comprehensive and effective services to young children (birth to three) who have challenging behavior in Hillsborough County
- Conduct research that will evaluate the effectiveness of the program and contribute to the evidence-base on effective practices for children with challenging behavior
- Provide data that facilitate the development of a system of care for young children with challenging behavior




# Program Perspectives

- Individualized
- Natural environments
- Family systems
- Ecological
- Strength-based
- Focused on skills
- Comprehensive



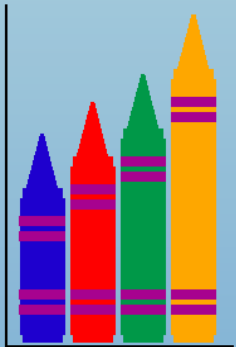
# Process of Positive Behavior Support

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- Step 1: Convene a team and identify goals of intervention
  - Step 2: Gathering information (functional assessment)
  - Step 3: Developing hypotheses
  - Step 4: Designing behavior support plans
  - Step 5: Implementing, monitoring, and evaluating outcomes



# Intervention Components

- Screening to determine potential eligibility
- Family/Child Care visit to determine severity of behavior within natural environment and daily routines
- Person-centered planning with family system and circle of support
- Functional assessment within home and child care environments





# Intervention (continued)

- Family-centered, comprehensive behavior support plan development
- Modeling and coaching in natural environments
- Family support and education
- Ongoing evaluation and monitoring



# Research Questions



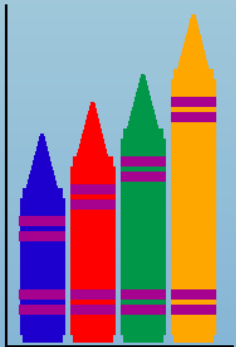
-  What are the overall immediate and long-term outcomes for children and families who participate in the program?
-  What is the potential for service integration of the program in a community-based service delivery system (efficiency, feasibility, acceptance, and process)?





# EIPBS Outcomes

- Child overall development
- Change in problem behavior
- Family quality of life
- Parent Stress
- Parent Hassle



# Research Questions



- ▶ Will family-centered PBS result in meaningful child outcomes for families and children?
- ▶ What are effective ways to teach natural change agents to implement PBS within the natural environment of home, community, and child care?
- ▶ Will the implementation of PBS with systematic transition planning affect the child's transition from one child care setting or service setting to another?



# Outcomes of PBS

- Multiple baseline design across routines or settings
- Independent Variable – family-implemented positive behavior support within natural settings
- Dependent Measures – child behavior reduction, child engagement or active participation, child communication, family member interaction/communication
- Follow-up probes to extend 24 months post-intervention



# Empirical Case Study :

- 1. Assessment-based intervention**
- 2. Participant/Setting: Two-year-old child, parents, home routines**
- 3. Intervention strategies reflect a preventative/proactive philosophy**



# Process:



## **Team:**

Parents, 2 EIPBS Behavioral Consultants

## **Person Centered Planning**

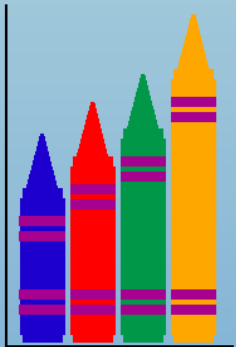
**Goals:** Be a "happy" boy

Reduce problem behavior

Start preschool

## **Selected Routines:**

1. Diaper change
2. Bathtime
3. Transition from play



# Methodology:



## Single-subject design

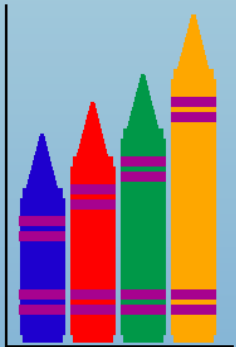
**Concurrent multiple baseline across routines**

## Dependent Variables:

**Challenging Behavior:** *Aggression, resistance, elopement, property destruction, screaming, crying*

**Engagement:** *Following directions, participating in activity appropriately for majority of interval*

*68% of sessions with IOA: Always exceeded 91%*



# Supplemental Data

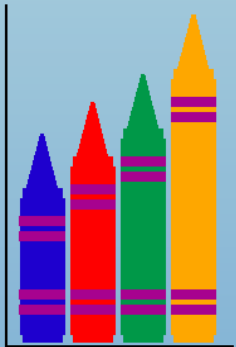
**Duration of diaper change routine:** Length of time

**Child Communication Lexicon:** Frequency/Different words spoken

**Adult Interactions:** Positive and negative interactions

**Procedural Fidelity:** Checklist of intervention components

**Social Validation:** Parents ratings of procedures and outcomes



# Independent Variable:

**PBS Process** development and implementation of comprehensive assessment-based intervention

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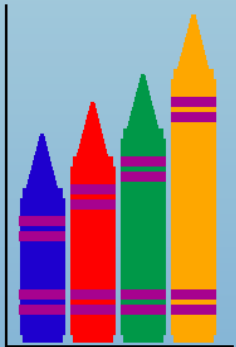
Step 1: Identify Goals

Step 2: Gather Information/ Functional Assessment

Step 3: Develop Hypotheses

Step 4: Design Behavior Support Plan

Step 5: Implement intervention





# Functional Assessment Methods:

## **Functional Assessment Interview**

*(O'Neill et al., 1997)*

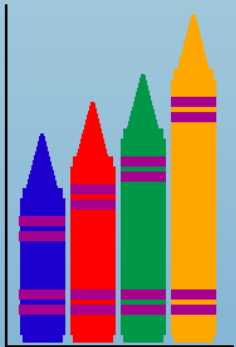
## **Direct Observation**

## **EIP Assessments:**

*Mullens, TABS,*

*Behavior/Developmental History, Speech and Language Evaluation*

**Parenting Stress Index:** *Self-report*



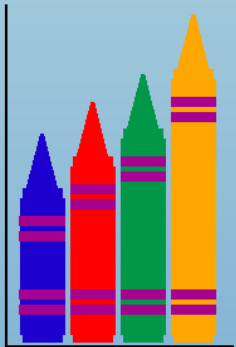
# Information Gathered

**Difficulties:** *transitions, changes in routine, stopping preferred activities*

**Parent response:** *bribing, coaxing, reasoning, removal of demands*

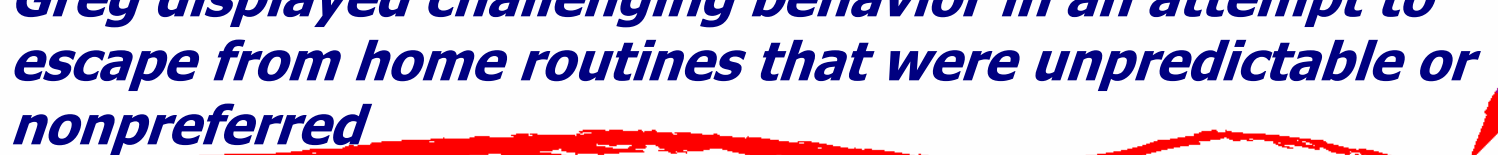
**Strengths:** *Likes to help with chores*  
*"Likes to do things in certain way"*

**Medical:** *Verbal receptive deficits, auditory sensitivity*



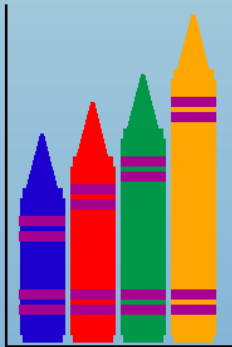
# Hypothesis Statement:

*Greg displayed challenging behavior in an attempt to escape from home routines that were unpredictable or nonpreferred*



## Intervention components

- **Parent responses**
- **Prevention strategies**
- **Skills**



# Specific Intervention Strategies

## Parent Responses

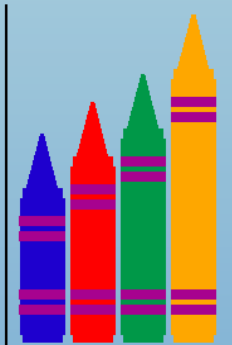
- .Clear instructions
- . Redirect and ignore
- . Praise
- .Provide choice
- .Materials ready

## Prevention Strategies

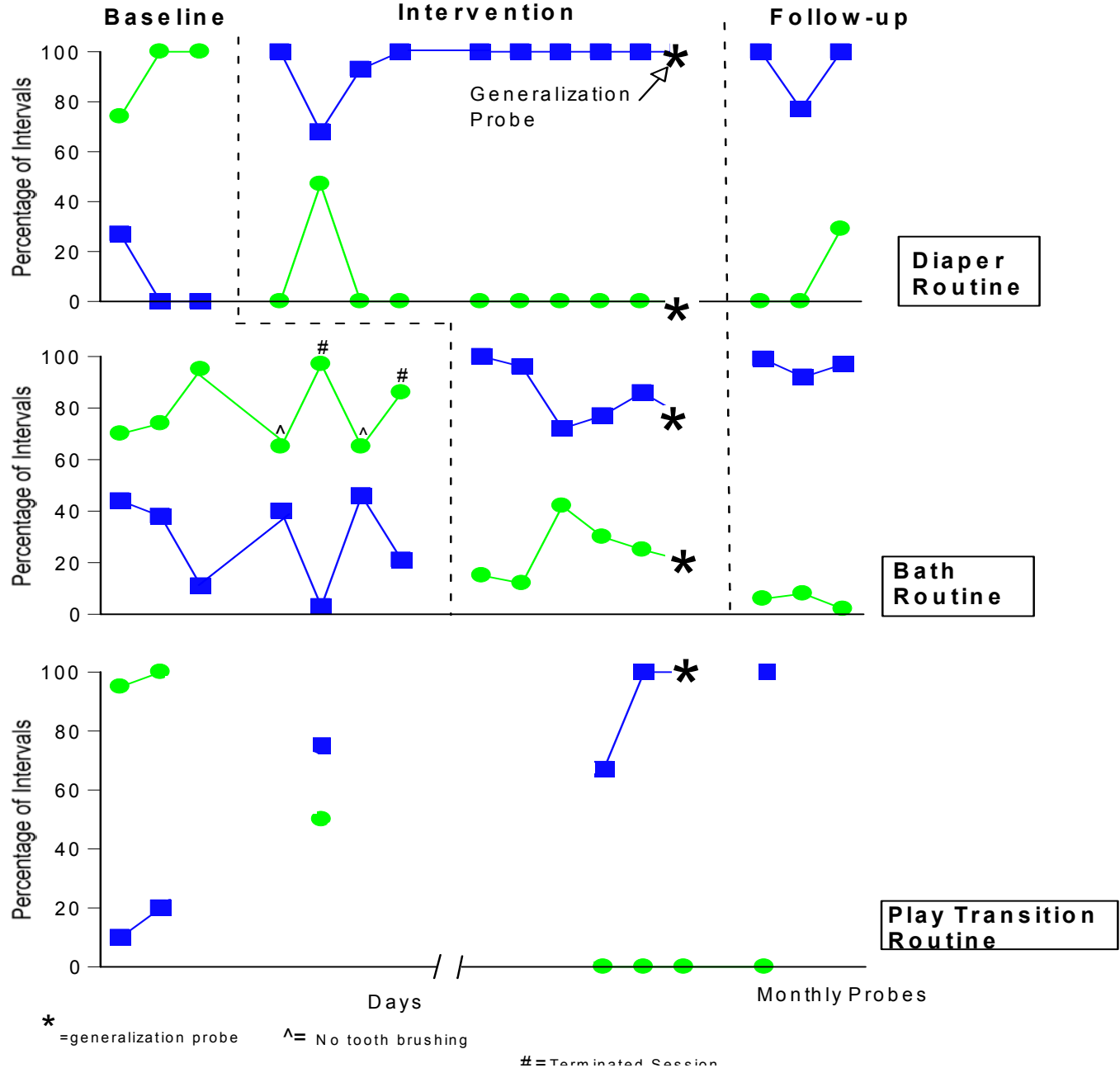
- .Visual cues/schedule
- .Choice chart
- .Preferred items
- . Modified materials
- .Remove distractions

## Skill Building

- .Active participation
- .Walk independently
- .Choice
- .Teach gesture for hug



# Engagement and Challenging Behavior

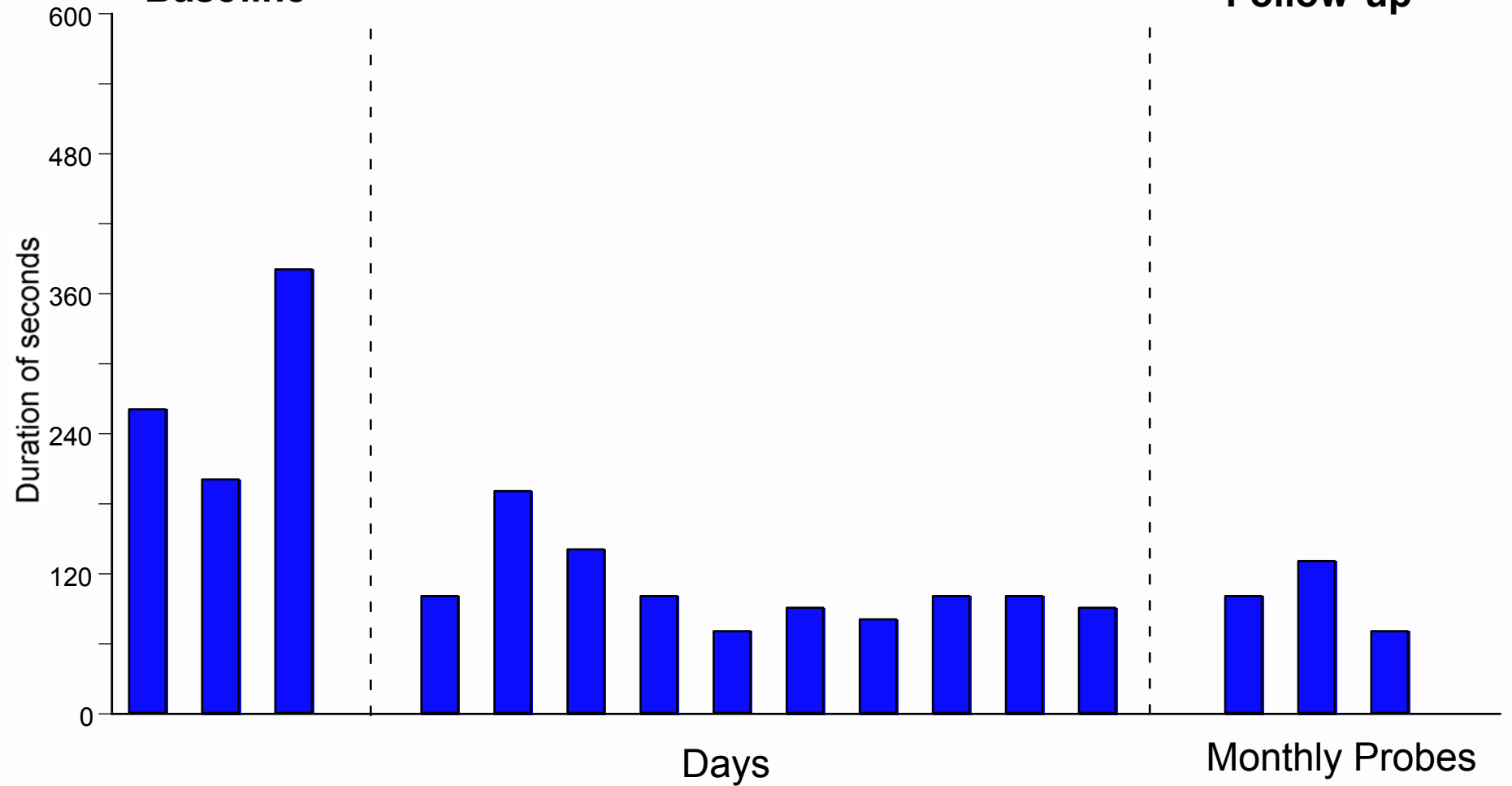


# Diaper Routine Duration

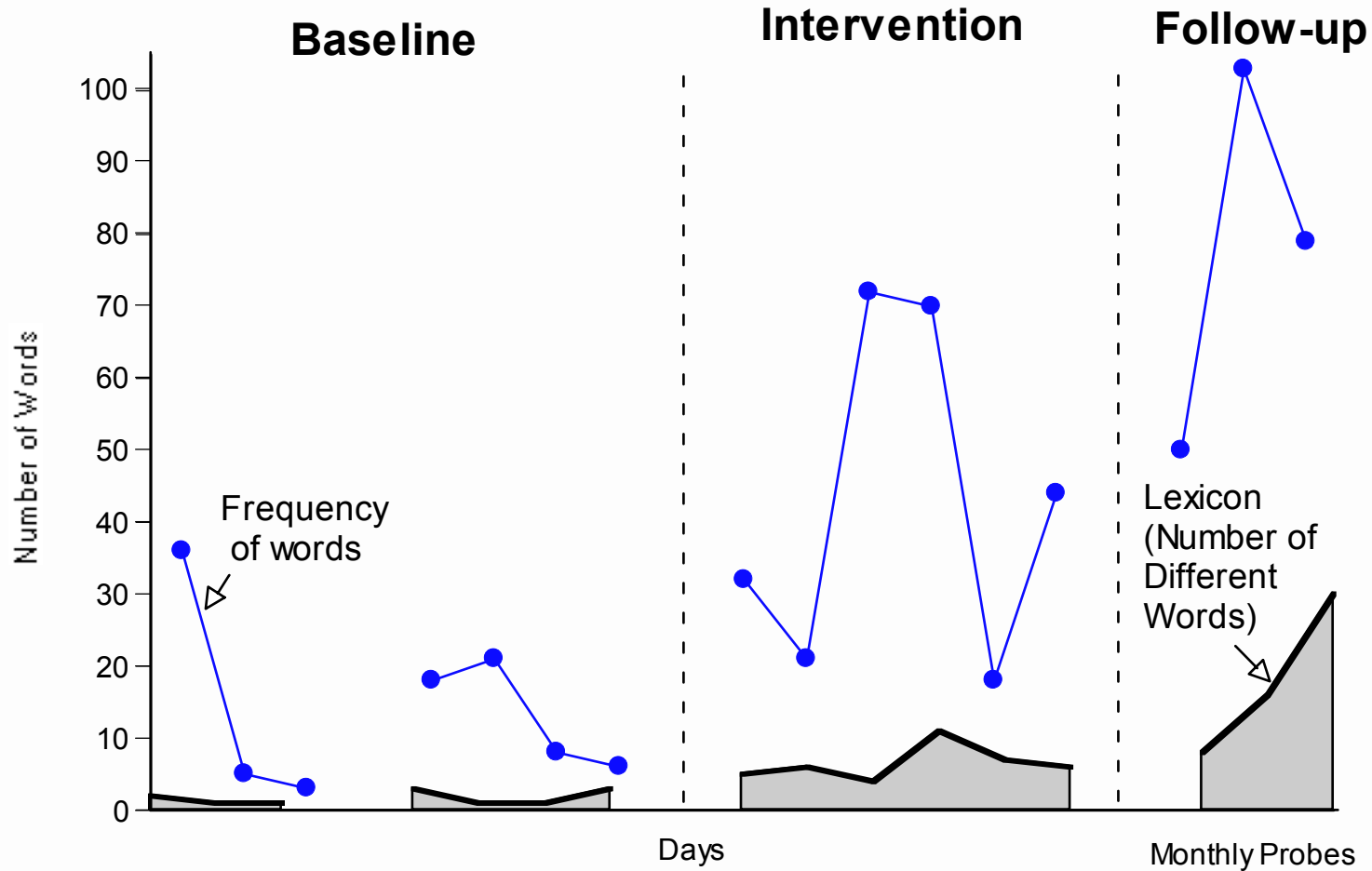
**Baseline**

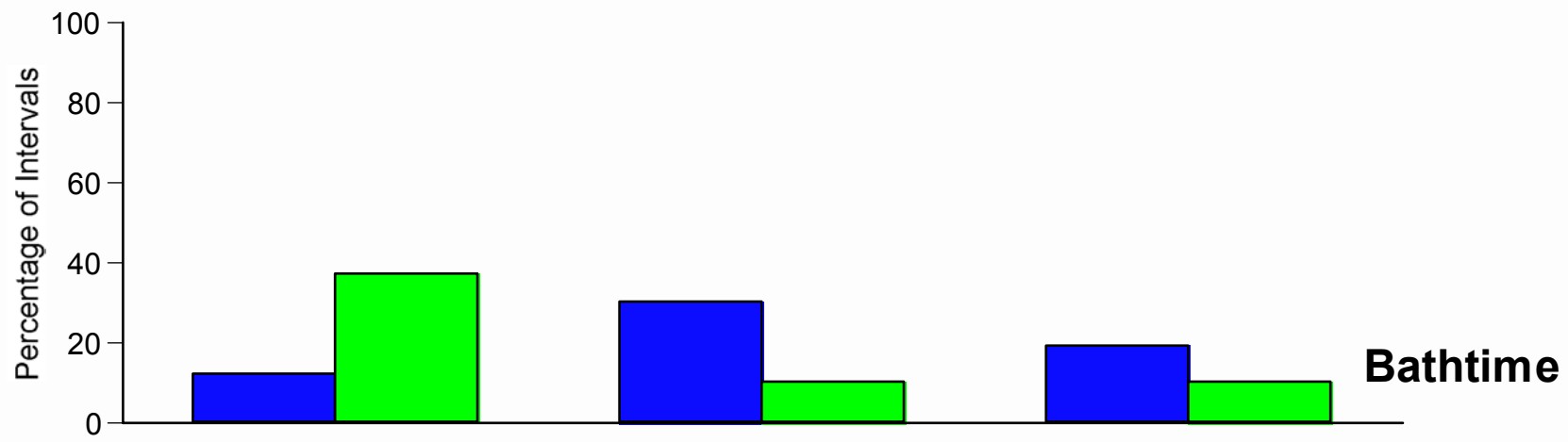
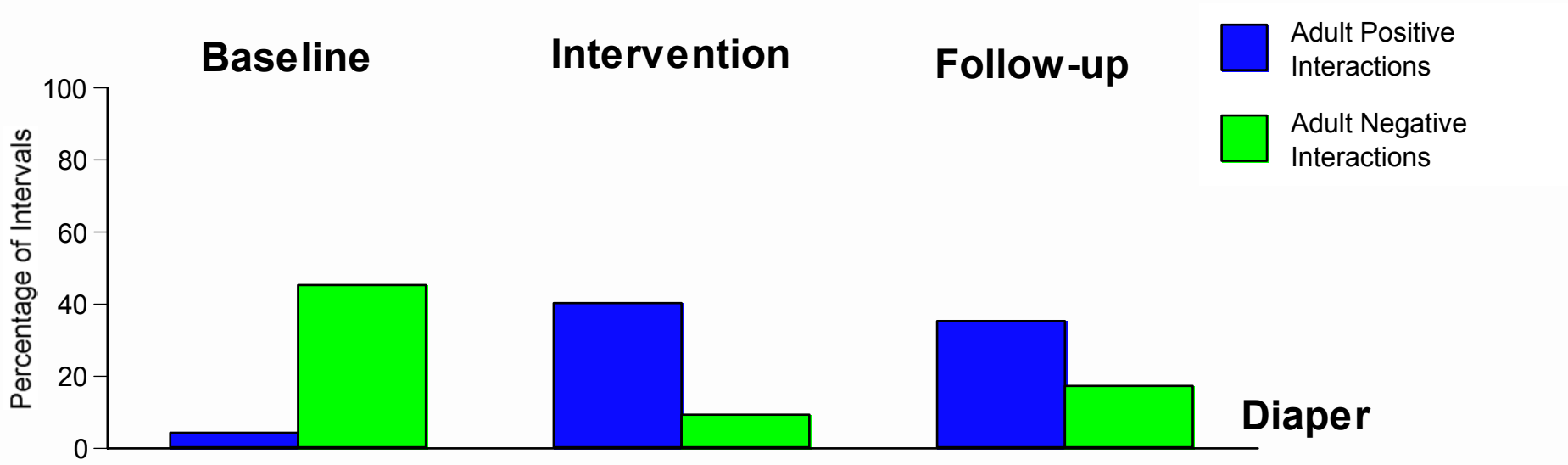
**Intervention**

**Follow-up**



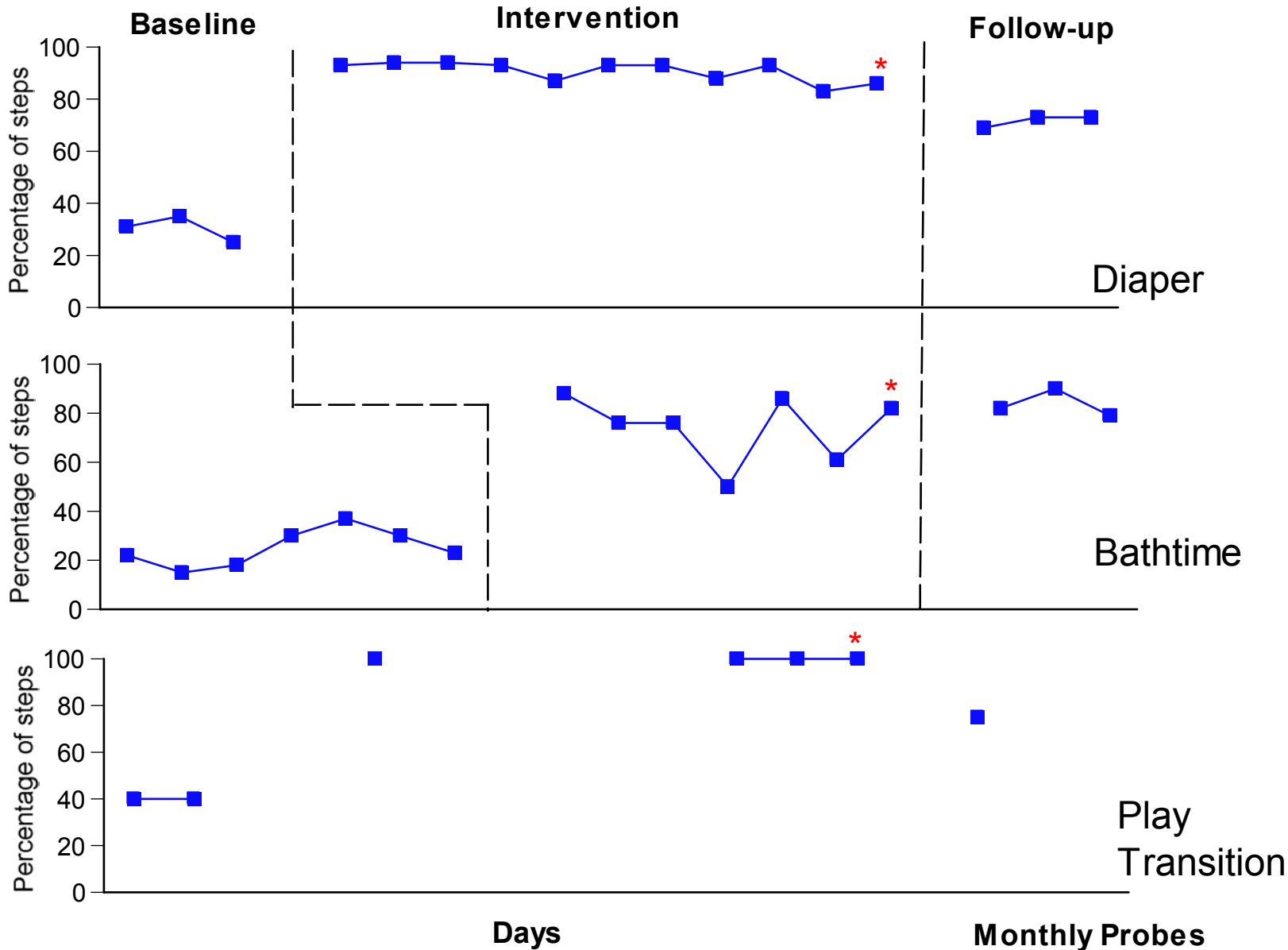
# Frequency and Expressive Lexicon Spoken During Bathtime







# Procedural Fidelity Percentage of Steps Completed



\* Generalization probe- (Dad)

## Social Validation Mean Ratings

**How would you rate Gregory's behavior during:**

1-Very Challenging 2-Slightly Challenging  
3-Not Challenging at all

**Diaper Change: 2.90**

**Bathtime: 2.42**

**How many backup strategies were used to help Gregory during routine:**

1-All backup strategies 2-Some backup strategies  
3-No backup strategies

**Diaper Change: 2.97**

**Bathtime: 2.70**

**How effective were intervention components in reducing challenging behavior:**

1-Not effective at all 2-Somewhat effective  
3-Very effective

**Diaper Change: 2.97**

**Bathtime: 2.85**

**How easy was it to implement and use intervention materials and strategies:**

1-Not easy at all 2-Somewhat easy  
3-Very easy

**Diaper Change: 3.00**

**Bathtime: 2.96**

**Did the intervention address the behavior(s) of concern during routine:**

1-Did not address behavior(s) 2-Addressed some behavior(s)  
3-Addressed all behavior(s)

**Diaper Change: 3.00**

**Bathtime: 3.00**

# Contributions of study

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## Limitations

**Intervened in only two routines**

## Contributions

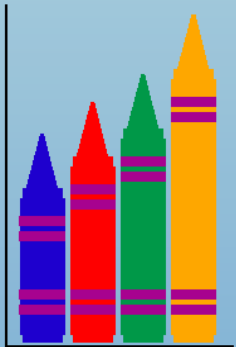
**Empirical, longitudinal study with toddler**

**Parents intervention agents in home**

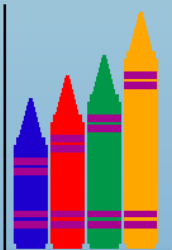
**Supplemental data**

**Strategies generalized to other activities**

**Current Status: Successfully transitioned to preschool**



# Max, Zak, & Emmy



Center for Evidence-Based Practice:  
Young Children  
with Challenging Behavior

# Who: Max (32 months)



## **Strengths:**

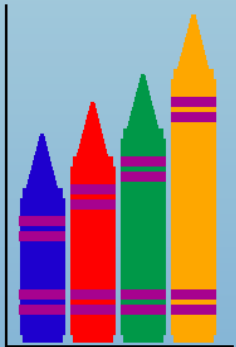
- Loving & affectionate
- Determined to try new things

## **Medical Concerns/Challenges:**

- History of failure to thrive & feeding difficulties
- Difficulties with expressive language & articulation

## **Problem Behaviors:**

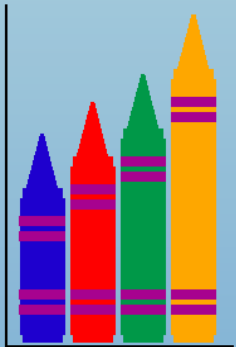
- Tantrums, hitting, biting, throwing toys, excessive crying, turn taking, off-task, elopement



# Step 1: Identify Goals



- Family's Initial Concerns
  - Wanted help with Max only
  
- Team Building/Rapport
  
- Interventionist's Observations
  - Quickly realized concerns were related to all three children (Max, Zak, & Emmy)
  
- Identify Parent Responses & Strengths



# Who: Zak (32 months)

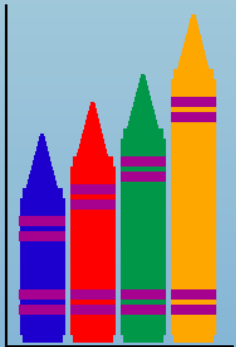


## **Strengths:**

- Very inquisitive
- Loves vehicles (very knowledgeable)

## **Problem Behaviors:**

- Hitting, food dumping, spitting, off-task, biting, throwing toys, excessive crying, turn taking, elopement



# Who: Emmy (5 1/2 years)

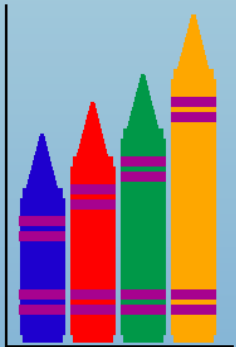


## **Strengths:**

- Artistic
- Demonstrates leadership
- Likes to help mother with household chores

## **Problem Behaviors:**

- Hitting, kicking, taking toys away, throwing objects, negative interactions with mother
- Models & encourages inappropriate language & behavior with younger brothers





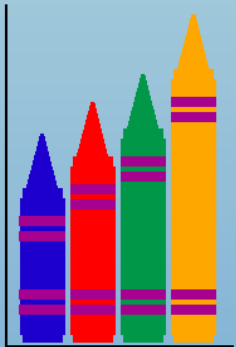
# Step 2: Functional Assessment



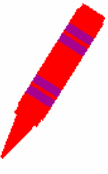
## Functional Assessment:

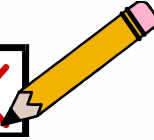
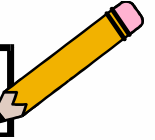
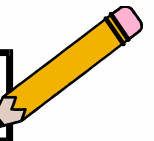
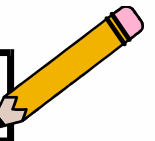
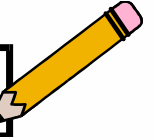
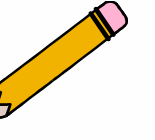
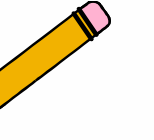
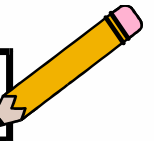
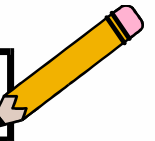
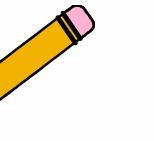
- Functional Assessment Interview-Revised for young children (O'Neill et al., 1997)
- Systematic behavioral observations across times & routines
- Record Review—including CBCL, PSI, MSEL
- Quality of Life Survey with mother
- Sibling interview-Emmy
- Unstructured interview with mother

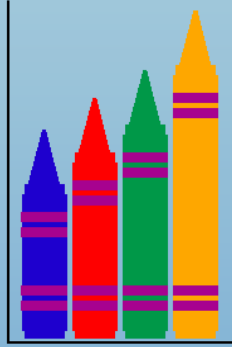
## Identify Target Routines



# Target Routines



Routines	Max	Zak	Emmy
Clean Up	<input checked="" type="checkbox"/> 	<input checked="" type="checkbox"/> 	
Twin Play	<input checked="" type="checkbox"/> 	<input checked="" type="checkbox"/> 	
All Play	<input checked="" type="checkbox"/> 	<input checked="" type="checkbox"/> 	<input checked="" type="checkbox"/> 
Dinner	<input checked="" type="checkbox"/> 	<input checked="" type="checkbox"/> 	<input checked="" type="checkbox"/> 



# Step 3: Hypothesis for Clean-Up

Function: The children displayed challenging behavior in order to both continue access to a preferred activity and escape demand to clean-up.

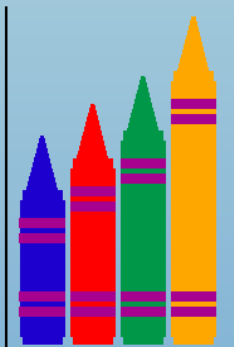
## CLEAN-UP

### Hypothesis:

- When asked to clean-up, Max & Zak displayed challenging behavior in order to both continue access to a preferred activity and escape demand to clean-up.

### Parent responses:

- "Gave in"
- Cleaned-up independently



# Step 3: Hypothesis for Twin Play

Function: The children displayed challenging behavior in order to obtain their **mother's attention**.

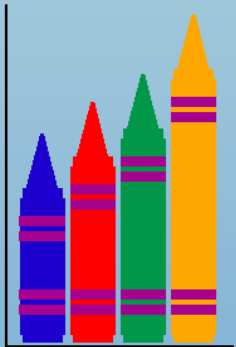
## TWIN PLAY

### Hypothesis:

- When their mother left the area or stopped playing with them, Max & Zak displayed challenging behavior in order to obtain their mother's attention.

### Parent responses:

- Stopped her activity
- Came into room
- Consoled child



# Step 3: Hypothesis for All Play

Function: The children displayed challenging behavior in order to obtain their **mother's attention.**

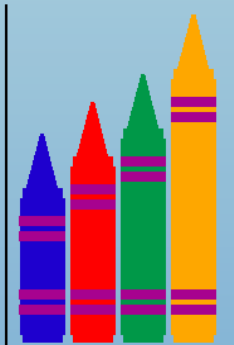
## ALL PLAY

### Hypothesis:

- When their mother left the area or stopped playing with them, Max, Emmy, & Zak displayed challenging behavior in order to obtain their mother's attention.
- This behavior was more intense in presence of Emmy, who instigated challenging behavior with her brothers.

### Parent responses:

- Stopped her activity
- Came into room
- Consoled child
- Verbal reprimand



# Step 3: Hypothesis for Dinner

Function: The children displayed challenging behavior in order to both obtain their **mother's attention** and **escape** (nonpreferred food and/or area).

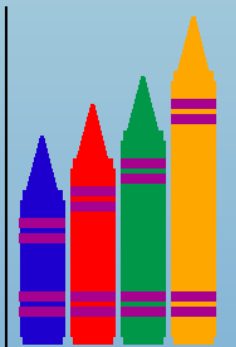
## DINNER

### Hypotheses:

- When engaged in the dinnertime routine, the children displayed challenging behavior in order to obtain attention from their mother.
- When engaged in the dinnertime routine, Zak threw or dumped his food and/or beverages in order to escape nonpreferred food and/or to leave area.

### Parent responses:

- Gave in to demand
- Excused from dinner
- Verbal reprimand



# Step 4: Behavior Support Plans



- Developed based upon family's goals & functional assessment data.
- Created in collaboration with the natural intervention agent (i.e., the mother).
- Plans included prevention & teaching components
- Incorporated preference



# Methodology



## **Single Subject Design:**

- Multiple baseline across routines (Kazdin, 1982)
- Used to evaluate changes in composite & individual data

## **Supplemental Data:**

- Procedural Fidelity

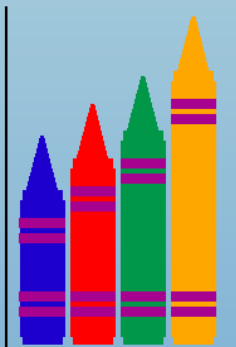
## **Dependent Variables:**

- Percentage of observed intervals with challenging behavior
- Percentage of observed intervals with engagement

## **Independent Variable:**

- Process of PBS (i.e., development & implementation of comprehensive assessment-based intervention)

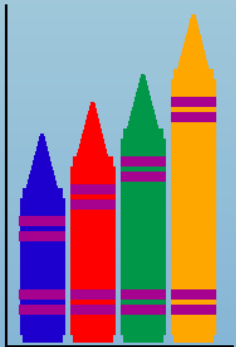
*Interobserver agreement calculated for 30% of sessions at minimum of 80% reliability for all behaviors coded.*





# Step 5: Implement Intervention

- Implementation was initiated **sequentially** across routines.
- **Coaching** was provided during each session to ensure mastery of prevention & intervention components.
- **Procedural fidelity** data were collected to ensure accurate implementation of each support plan (i.e., percentage of completed steps).



# Clean-up: Plan Components

## Prevention Strategies

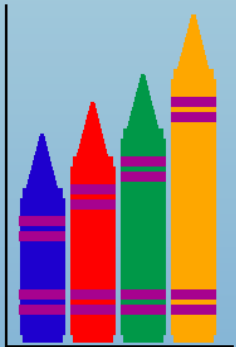
- Visual cues to help with transitions (beginning & end)
- Structure activity (clear beginning & end)
- Make activity fun (used preferred theme)
- Age-appropriate expectations

## Parent Responses

- Provide high rates of specific praise
- Ignoring
- Redirection (using expectations)

## Skill Building

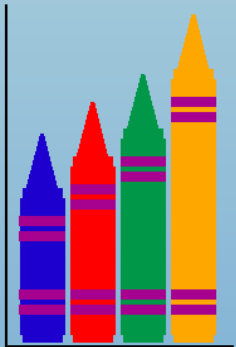
- Teach children how to clean-up & follow age-appropriate expectations



# Clean-up: Plan Components

## Family's Goals:

- Increase rate of engagement.
- Increase independence.



# Twin Play: Plan Components



## Prevention Strategies

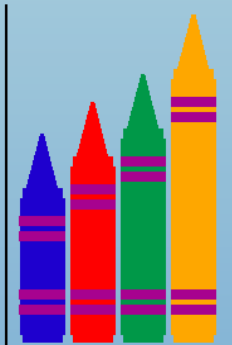
- Choice given (toys)
- Structure activity (clear beginning & end)
- Length of activity shortened to 15 min.
- Toy selection (quantity & ability for independence)
- Clear expectations (visual & verbal)

## Parent Responses

- Noncontingent specific praise
- Ignoring
- Redirection (using expectations)

## Skill Building

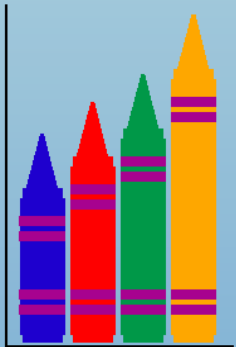
- Teach children how to play independently & follow age-appropriate expectations



# Twin Play: Plan Components

## Family's Goals:

- Increase rate of engagement.
- Decrease rate of disruption toward mother.
- Decrease rates of challenging behavior.



# All Play: Plan Components



## Prevention Strategies

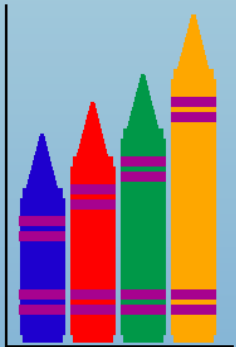
- Choice given (toys)
- Structure activity (clear beginning & end)
- Length of activity shortened to 20 min.
- Toy selection (quantity & ability for independence)
- Clear expectations (visual & verbal)
- Emmy serves as helper to her mother

## Parent Responses

- Noncontingent specific praise
- Ignoring
- Redirection (using expectations)
- Provide Emmy more opportunities for her to receive specific praise.

## Skill Building

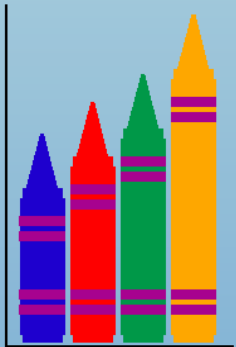
- Teach Emmy rules for playtime & teach her to lead activities



# All Play: Plan Components

## Family's Goals:

- Teach Emmy "big sister skills" (e.g., prompting, praise, nonverbal imitation).
- Increase rate of engagement.
- Decrease rate of disruption toward mother.
- Decrease rate of challenging behavior.
- Increase rate of age-appropriate prosocial skills.



# Dinner: Plan Components



## Prevention Strategies

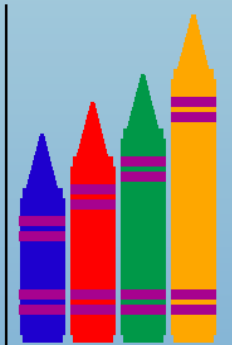
- Structure (Consistently follow same sequence such as prayer)
- Choice for food (back-up)
- Seating arrangement (mother stayed at table, next to Emmy)
- Food on table to prevent need for mother to leave area
  - Emmy's preferences embedded within plan

## Parent Responses

- High rates of specific praise
- Ignoring
- Redirection (using expectations)

## Skill Building

- Emmy takes on role of helping/taking lead
- Emmy's self-management plan:
- Emmy & mother independently evaluate her performance & compares ratings after dinner (i.e., the steps Emmy reported completing versus the number of steps the mother observed Emmy completing)
- Menu of reinforcers provided for 80% of steps completed

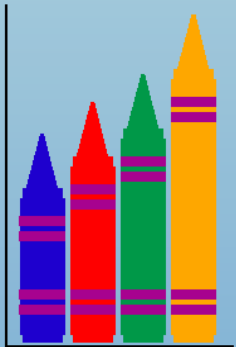




# Dinner: Plan Components

## Family's Goals:

- Increase rate of engagement.
- Increase rate of appropriate prosocial skills (e.g., "all done").
- Teach Emmy to monitor her own behavior.



# Show me the... Composite Data

- Looks at rate of challenging behavior from the parent's perspective.
- Data scored using a 10-sec continuous interval system.
- Challenging behavior was scored if displayed by ANY child.
- Explores behavior in the context of a family systems approach.

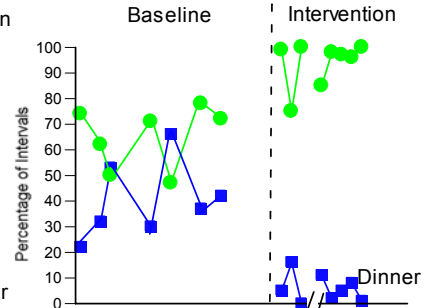
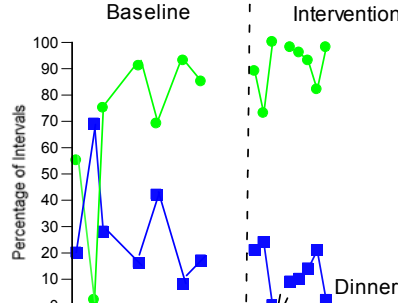
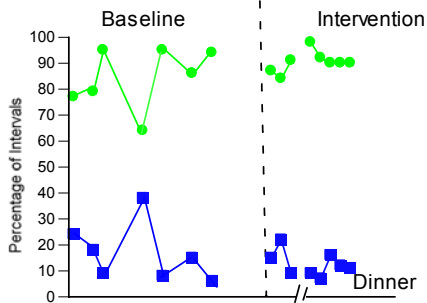
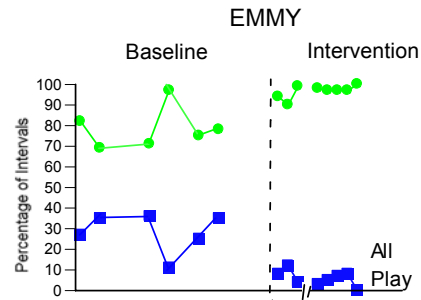
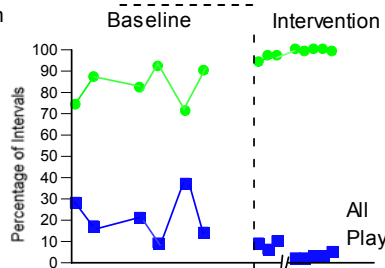
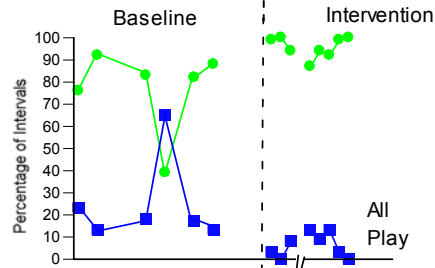
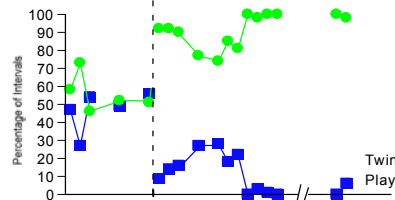
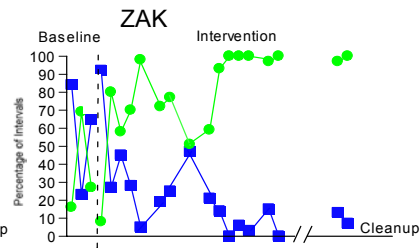
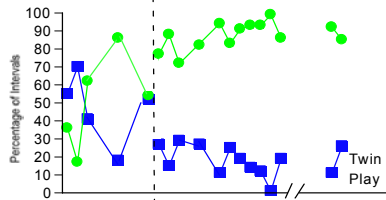
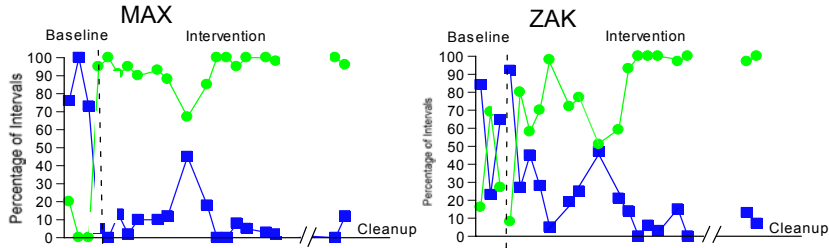




# Show me the... Individual Data

- Both engagement and challenging behavior were scored for each individual child across all four routines.
- Data scored using a 10-sec continuous interval system.
- Helped monitor intervention plan (i.e., comparing rates of engagement and challenging behavior).
- Helped us acknowledge how each child was progressing.





# Contributions of the Study

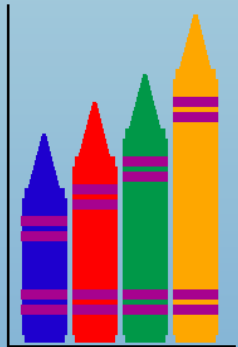


## **Contributions:**

- Illustration of PBS model applied to young children with challenging behavior across four routines.
- Natural intervention agents (mother & Emmy) within a natural setting (home).
- Looked at data from the parents perspective with respect to the amount of stress and effort from multiple children.

## **Current Status:**

- Family has reported that they engage in more social activities (i.e., going out to eat, church dinners).
- Happier affect, less stress, less community isolation.
- Still working with the family.



"The very best conference I've  
attended in years..."  
-2004 NTI attendee



# Addressing Challenging Behavior

National Training Institute on Effective Practices  
Supporting Young Children's  
Social/Emotional Development

**May 4 - 7, 2005   Sheraton Sand Key Resort   Clearwater Beach, Florida**

INFORMATION & REGISTRATION available at  
[www.addressingchallengingbehavior.org](http://www.addressingchallengingbehavior.org)