PREVENT-TEACH-REINFORCE FOR FAMILIES (PTR-F): Reducing Challenging Behaviors in Children with ASD

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Today’s Session
Describe the background and purpose of Prevent-Teach-Reinforce for Families (PTR-F)
Describe the processes related to the PTR-F model
Describe and discuss the RCT study
Questions and discussion

Challenging Behavior Defined
• Any repeated pattern of behavior that interferes with learning or engagement in prosocial interactions with peers and adults.
• Behaviors that are not responsive to the use of developmentally appropriate guidance procedures.
• Prolonged tantrums, physical and verbal aggression, disruptive vocal and motor behavior (e.g., screaming, stereotypy), property destruction, self-injury, noncompliance, and withdrawal.

The “Most Serious” Challenging Behaviors
• Intense, persistent, violent, “out of control”
• Present risks to child’s and family’s physical and mental health
• Negatively impacts family functioning, community participation, overall child development

Overarching Features of the PTR model
Research-based Practices and Positive Behavior Support Process
- Assessment and Intervention
Team-driven decision making
Steps are scripted as much as possible
Each step ends with self-evaluation
Selection of interventions based on children's needs
Entire process is manualized
All PTR Interventions include at least one antecedent strategy (PREVENT), one instructional strategy (TEACH) and strategies for enhancing consequences (REINFORCE)

Research on PTR and PTR-YC
- Randomized controlled trials and single case experimental designs
- Data have shown that strategies are effective in reducing problem (challenging) behavior and increasing social skills and engagement
- Good fidelity (at least while supervised) and good social validity
- New demonstrations with families (Sears et al., 2013; Bailey, 2013) and manualized PTR-F with recent pilot studies in Denver, CO and Tampa, FL
PTR-F model differs from other PTRs:

- PTR-F was developed to be effective in typical family circumstances that do not include professional educators or behavior specialists.
- PTR-F has goals that include reducing the child’s challenging behaviors and, also, enhancing the overall quality of life for the entire family system.

General Guidelines

- Establish and Maintain Collaborative Partnerships
- Remain Family-Centered in all Aspects of the PTR-F Process
- Ensure Contextual Fit of Behavior Support Plans
- Utilize a Strength-based Approach that Recognizes the Capabilities and Contributions of Both Children and Families
- Recognize the Importance of Coaching and Support of Families in Gaining Comfort and Proficiency with Plans
- Provide Support that is Tailored to Both Family Needs and Preferences

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PTR for Families Overview

Initiating the Process

Step 1: Initiating the process
Step 2: PTR-F Assessment
Step 3: PTR-F Intervention
Step 4: Coaching
Step 5: Monitoring plan implementation and child progress

Initiating the Process

Building a Team

- Who is on the PTR-F team?

Setting up meeting structure and schedule

Goal Setting

Goal Setting

Step 1: Identify the Child’s Challenging Behaviors to Decrease
Step 2: Select ONE Challenging Behavior to Target
Step 3: Operationally Define the Target Behavior
Step 4: Identify the Desirable Behaviors to Increase

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**Goal Setting**

<table>
<thead>
<tr>
<th>Time</th>
<th>Challenging Behaviors</th>
<th>Target Behavior</th>
<th>Operational Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>After school</td>
<td>Washing toys, fighting with sister</td>
<td>After school</td>
<td>Functional play</td>
</tr>
<tr>
<td>After school</td>
<td>Washing toys and flushing toilet</td>
<td>After school</td>
<td></td>
</tr>
</tbody>
</table>

**Universal Parenting Practices!**

1. Provide high rates of positive attention and acknowledge occasions in which the child is behaving appropriately
2. Establish and maintain regular and predictable daily routines
3. Include consistent patterns of activities within those routines
4. Clearly define behavioral expectations within daily routines and be clear about the difference between desirable behavior and undesirable behavior.

**Breaking down toilet flushing...**

- **TOILET FLUSHING**
  - YES
  - NO

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**Developing Household Expectations and Rules**

- Fewer than five expectations
- State clearly desirable behavior and undesirable behavior
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PTR-F Assessment

Summarizing
1. Challenging Behavior: PREVENT
2. Challenging Behavior: REINFORCE
3. Hypothesis Statement

WHEN Julian is alone/bored/having an unstructured time, THEN Julian engages in repetitive behavior (toy washing and toilet flushing), and AS A RESULT, Julian get the desired stimulation, gets attention from parents and terminates unpreferred activity.
Implement Universal Practices!

1. Provide high rates of positive attention and acknowledge occasions in which the child is behaving appropriately.
2. Establish and maintain regular and predictable daily routines.
3. Include consistent patterns of activities within those routines.
4. Clearly define behavioral expectations within daily routines and be clear about the difference between desirable behavior and undesirable behavior.

PTR-F Intervention

- **Prevent Strategies**
  - Positive time-out
  - Time-out with or without enforced limits
  - Limit physical access to areas
  - Limit other opportunities for positive reinforcement
  - Limit contact with other stimuli

- **Teach Strategies**
  - Teach appropriate ways to communicate preferred activity
  - Teach social skills
  - Teach self-monitoring
  - Teach self-reinforcement
  - Teach self-management
  - Teach decision-making

- **Behavioural Strategies**
  - All possible means
  - Identify a functional alternative
  - Provide positive reinforcement for desirable behavior
  - Provide resources to prevent the occurrence of undesired behavior

PTR for Families Overview

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The Importance of Fidelity

How do you know what is working?

Coaching

Coaching is systematic

Coaching focuses on building capacity

Coaching is a collaborative process

Coaching emphasizes the families’ strengths

Fidelity of implementation

Review Progress
Review Plan
Observe Routine
Reflection
Feedback and Problem Solving
Planning and Next Steps

Coaching Strategies

Used in observation
Used in plan
Used in feedback and reflection
Notes

Observe
x
x
\[\text{played with toys}\]

Plan
x
x

Side by Side Support

Side Support

Problem-solving Discussion
x
x

Environmental Arrangement

How playing

PTR for Families Overview

Step 1: Initiating the process
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Monitoring

Repetitive behavior

Funct.

Play

Randomized control trial with the PTR-F

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95% of children with ASD emit challenging behaviors
• Stereotypy
• Aggression
• Property destruction

Parents of children with ASD show more signs of parental stress
• Related to challenging behaviors and everyday life struggles

Thesis objectives

1-Implementation

• Fidelity
• Exposure
• Integrity of intervention
• Dosage
• Response to intervention

2-Effects

• Reduce one challenging behavior
• Increase one appropriate behavior
• Reduce parenting stress
• Assess PTR-F social validity

Context of the study

PTR-F at home
2 readaptation centers for children with ID and ASD at 2 private centers
40 families randomized in 2 groups (3 hr training or PTR-F)
5 cohorts, January 2015 to September 2016

Context of the study

PTR-F

3-HR TRAINING

PTR-F was implemented following the 5-step procedure
1. 8 weeks of intervention, meetings once or twice a week
2. 2 hours/meeting
3. Parents were coached on all intervention strategies and implemented them every day

Pre-test

PTTR-75

Post-test 1

Effects

PTTR-75

Post-test 2

PTR-F or training

CARS-2; BPI-01; PSI; NCBRF

BPI-01; PSI; NCBRF; TARF-R*

5 girls, 18 boys
Severity of ASD symptoms (CARS-2)
• Minimal: 10
• Moderate: 3
• Severe: 10
Language at home:
• French: 13
• English: 7
• Other: 3

5 fathers and 18 mothers (3 couples)
Annual income
• Less than $29 999: 12
• Between $30 000 and $49 999: 8
• More than $50 000: 9
Main occupation
• Full-time worker: 11 fathers and 6 mothers
• At home: 5 fathers and 14 mothers
• Students: 2 fathers and 2 mothers

Individual characteristics

PTR-F: CHILDREN

PTR-F: PARENTS

• Parents were met at home
• Training followed the same steps as taught in the PTR-F
• Real-life examples of problem behaviors

5 fathers and 18 mothers (3 couples)
Argumedes, Lanovaz & Larivée (2018, JADD)

Table: PTR-F: Group results

<table>
<thead>
<tr>
<th>Comportements problématiques (BPI-02; Rojahn et al., 2001)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Significatif de l’effet du temps: Frequency (F(1,22)=4.85, p = 0.01, r = 0.55)</td>
</tr>
<tr>
<td>• No interaction effect: Frequency (F(1,22)=0.47, p = 0.63, r = 0.1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comportements désirables (NCRF; Aman et al., 1996)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Significatif de l’effet du temps: Frequency (F(1,22)=7.94, p = 0.001, r = 0.6)</td>
</tr>
<tr>
<td>• No interaction effect: Frequency (F(1,22)=0.02, p = 0.88, r = 0.1)</td>
</tr>
</tbody>
</table>

PTR-F: Individual results

Argumedes, Lanovaz & Larivée (in preparation)

 PTR-F: Implementation

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Résultats</th>
</tr>
</thead>
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<tr>
<td>Exposition</td>
<td>PTR-F: M = 3.7 (8-11.5)</td>
</tr>
<tr>
<td>Quality of participation (PTR-F and Training)</td>
<td>M = 8.0 (74 %, n = 17)</td>
</tr>
<tr>
<td>Validity (PTR-F)</td>
<td>68 % (pv=1)</td>
</tr>
<tr>
<td>Social Validity(PTR-F)</td>
<td>M = 4.0/5</td>
</tr>
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Argumedes, Lanovaz & Larivée (in preparation)

PTR-F and parental stress: Results

Objectif

1. Frequency or severity of PB is associated with parental stress?

<table>
<thead>
<tr>
<th>Frequency or severity of PB</th>
<th>Parental stress</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>M = 6.0, p &lt; 0.005</td>
<td>0.6</td>
<td>0.00</td>
</tr>
</tbody>
</table>

2. Correlation between changes in PB and changes in parental stress

<table>
<thead>
<tr>
<th>Frequency of change in PB</th>
<th>Parental stress</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>T2 - T1</td>
<td>M = 6.0, p &lt; 0.005</td>
<td>0.6</td>
<td>0.00</td>
</tr>
</tbody>
</table>

3. Differential effects of both interventions on parental stress?

| Intervention effect | M = 6.0, p < 0.005, r = 0.1 |

Argumedes, Lanovaz & Larivée (2018, JADD)
Discussion

- The Prevent-Teach-Reinforce model, when implemented by parents of children with ASD, reduced one challenging behavior and increased one appropriate behavior (but the 3-hr training did).
- The majority of parents implementing the PTR-F had high fidelity of implementation (70%).
- Social validity was high for the PTR-F.
- High severity of challenging behavior is correlated to high levels of parenting stress.
- Changes in challenging behaviors are moderately correlated to changes in parenting stress.
- Parents implementing PTR-F had more reductions in stress than parents receiving the 3-hr training.

Future projects

- Increase the number of participants
- Compensation for the participation
- Systematic observation of behaviors
- Physiological measures for parenting stress
- Randomized research protocol (qualitative and quantitative measures for parenting stress and quality of life measures)

Questions? Discussion?

References