Parent Training for Disruptive Behaviors in Autism Spectrum Disorder

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Objectives

• Review the various forms of parent training for autism spectrum disorder (ASD)

• Describe a new parent training program for children with ASD and disruptive behaviors

• Present findings from a large-scale randomized clinical trial of Parent Training vs. Parent Education

• Discuss future directions for the RUBI PT program
Prevalence: How common is ASD

- Current Prevalence Rates
  - 1 in 68 children  (CDC, 2014)
  - 6 per 1,000 children worldwide  (Elsabbagh et al, 2012)

- Broadening case definition
- Increased public awareness
- Better diagnostic methods
Good News, Bad News

• Better at identifying children with ASD

• Few widely-available evidence-based treatments

• Parents overwhelmed by ‘treatment’ choices
  – Google search ‘Autism Treatment” = 50 million hits
    • (up from 37 million last year, 9 million two years ago!!)
    • Just under 1 million when you add ‘evidence based’
Added Challenges of Treatment

• Most EBTs are costly, time- and personnel-intensive
  – Challenge to wide-ranging dissemination and implementation
  – Hard for families to access

• There is a pressing need for trials that will expand the availability of empirically supported, time-limited, cost-effective treatments for ASD
Parent Training

• Traditionally a time-limited approach

• Emphasizes role of parents as the agent of change

• History as established EBT in child mental health
  – 30+ years of rigorous evaluation
  – Focus on externalizing behavior disorders
    – Kazdin Method of Parenting
    – Eyberg’s Parent-Child Interaction Therapy
    – Barkley’s Defiant Children
    – Webster-Stratton’s Incredible Years
Why Target Parents?

• High rate of disruptive behavior problems (≈50%)

• Adaptive skills deficits

• High parent stress/accommodation

• Parent inclusion in treatment is not common
Parents need specific instruction on techniques to:

Improve **core symptoms**

Reduce **challenging behaviors**, and

Improve **adaptive functioning** in their children
• Parent Training = Good

• What exactly is ”Parent Training” in ASD
Parent Support
Knowledge-focused
Child is *Indirect* Beneficiary

Care Coordination
Psychoeducation

Parent-Mediated Intervention
Technique-focused
Child is *Direct* beneficiary

Core Symptoms
Primary (JASPER)
Complementary (ESDM)

Maladaptive Behaviors
Primary (RUBI-PT)
Complementary (Feeding Day Treatment)

Variations in format, location, intensity, duration, target age range
Development of a Parent Training Program for Disruptive Behaviors in Young Children with ASD
# Research Units in Behavioral Intervention (RUBI) Autism Network

<table>
<thead>
<tr>
<th>Lawrence Scahill, M.S.N., Ph.D.</th>
<th>Luc Lecavalier, Ph.D.</th>
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<tbody>
<tr>
<td>Emory University</td>
<td>Michael Aman, Ph.D.</td>
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<td>Karen Bearss, Ph.D.</td>
<td>Eric Butter, Ph.D.</td>
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<td>University of Washington</td>
<td>The Ohio State University</td>
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<td>Cynthia R. Johnson, Ph.D., BCBA-D</td>
<td>Naomi Swiezy, Ph.D.</td>
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<td>University of Florida</td>
<td>Noha Minshawi, Ph.D.</td>
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<td>Tristram Smith, Ph.D.</td>
<td>Indiana University</td>
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**Website:**

[www.rubinetwork.org](http://www.rubinetwork.org)
RUBI PT Intervention Targets

• Reduce challenging behaviors
  • Noncompliance, tantrums, aggression, transitions/daily routines

• Increase adaptive skills
Aspects to Address ASD

- Function-based treatment (ABC model)
- Use of visual strategies
- Parent materials on identifying function of behaviors
- Functional communication
- Emphasis on decreasing behavioral excesses + skill acquisition
- Focus on generalization & maintenance
Parent Training Sessions

11 core sessions
• Behavioral Principles (the ABC’s)
• Prevention Strategies
• Daily Schedules
• Reinforcement 1 & 2
• Planned Ignoring
• Compliance Training
• Functional Communication Skills
• Teaching Skills 1 & 2
• Generalization & Maintenance

PLUS
• 2 Home Visits
• 2 Telephone Boosters

7 optional sessions
• Toileting
• Feeding
• Sleep
• Time Out
• Imitation
• Crisis Management
• Contingency Contracting
Personalization

Clinicians make choices in personalizing the PT program based upon:

– family need
– child age
– level of functioning
– target behaviors
What is at the heart of the RUBI Parent Training Program?

4 Key Concepts
How to Think about Behaviors:  
4 Key Concepts

1) Behaviors are *learned*
   - Toilet training
   - Waving bye

   (Same goes for challenging behaviors!)
Learning Process

Child: Runs away and screams when given command

Parent: Removes the demand

Child’s Refusal Behavior Reinforced

Reinforced
Learning Process: Parent-Child Dyad

Child: Runs away and screams when given command

Parent: Removes demand

Child: Stops screaming and running away

Parent’s removal of demand is reinforced

Child: Stops screaming and running away

Parent: Removes the demand

Parent’s removal of noncompliance is reinforced

Child: Runs away and screams when given command
• Ben and his mom are at the check-out line in the grocery store. Ben asks his mom for a candy bar and his mom says “no”. Ben begins to incessantly repeat his request.

• Mom repeats “no” a few times and then ignores Ben’s requests while placing the groceries on the conveyer belt.

• Ben begins screaming “I want a candy bar” and crying. Mom ignores the crying and screaming for about 30 seconds, but eventually gives Ben the candy bar.

• Ben immediately calms down and patiently holds his candy bar to be scanned. He enjoys eating the candy on the way home.

WHAT HAS BEN LEARNED?
How to Think about Behaviors: 4 Key Concepts

2) Behaviors can be *Adaptive or Maladaptive*
   – getting dressed, putting seatbelt on
   – hitting, screaming, elopement
How to Think about Behaviors:
4 Key Concepts

3) Behaviors are forms of communication!
   – What is my child trying to say via this behavior???
How to Think about Behaviors: 
4 Key Concepts

4) Behaviors serve a *function*
   - Their job is to get a need (or want) met
Functions of Behavior

1) Escape: “Get away” from aversive event/stimuli (task, people, place)

2) Tangible: “Get what I want” (preferred toy, food, video)

3) Attention: “Pay attention to me” (peer, caregiver, parent)

4) Automatic: “I like the way that feels” (Body movements/activities that produce a + internal state)
Three-Term Contingency
Antecedent

Trigger that ‘sets off’ the behavior
• Demands:
  – “Sit down”
  – “get dressed”
  – Saying “no”

• Restrictions:
  – Taking toys away
  – Taking preferred food away

• Onset of “negative” stimuli
  – Loud noises
  – Crowded spaces
• Anything the person does
• Observed
  – describe what I would see if I were watching
• Measured
  – Timed
  – Counted
Behavioral Terminology

“Gets upset when taken to the bathroom” vs. “Hits, cries, and flops on the floor when I try to take him to the bathroom”

“Does not sleep well at night” vs. “Wakes up 2 to 3 times per night and cries out for me”

“Does not like new food” vs. “Pushes away the plate and leaves the table when new food presented”
Mother: “Tom has been disobedient at home. Is he bad during therapy?”

Therapist: “Tom is usually good, but sometimes he is stubborn.”
**Mother:** “Tom has been hitting me at home. Does he hit you during therapy?

**Therapist:** “No he hasn’t hit me, but he has pulled my hair.”
• What comes *after* behavior
• All behaviors have a consequence
• Planned or unplanned
## Behavior Chart

<table>
<thead>
<tr>
<th>Date/Time of day</th>
<th>What happened before</th>
<th>What happened during (describe each person's behavior)</th>
<th>What happened after (consequences)</th>
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Let’s Put This Into Practice

• Look for:
  – Antecedents
  – Behaviors
  – Consequences
  – Function(s) of the child’s behavior
  – What is the child learning in this situation?
Video Vignette Example
### Behavior Chart

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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mom said no</td>
<td>Tantrum (stomp, yell)</td>
<td>Mom gives him the brownie</td>
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<tr>
<td></td>
<td>FUNCTION???</td>
<td>To “Get what he wants”</td>
<td></td>
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<tr>
<td></td>
<td>WHAT HAS THE CHILD LEARNED IN THIS SITUATION?</td>
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</tbody>
</table>
How Behavior Function Informs Treatment

Example 1
• Turns classwork into paper airplanes
• Talks to neighbors
• Makes disruptive noises

TEACHER SENDS TO PRINCIPAL

Behavior is “escape-maintained”

Example 2
• Turns classwork into paper airplanes
• Talks to neighbors
• Makes disruptive noises

TEACHER SENDS TO PRINCIPAL

Behavior is maintained by peer attention
Tailoring Strategy to Behavioral Function

Antecedent Strategies
• Avoid situations/people
• Control the environment
• Do things in small doses
• Change the order of events
• Change how you ask/respond
• Address setting events
• Visual cues/schedules

Consequences
• Catch the child being good
• Special play time
• Behavioral contingencies
• Sticker charts
• Planned ignoring
• Guided compliance
• Functional communication training
Food for Thought

• Strategies can take time to work
  — Child is having to ‘relearn’ new behaviors

• Protests can be a sign that the strategy is working!

• Pick one Behavior/Strategy at a time
Food for Thought

• Consistency, predictability, and follow-through are your keys to success.
Original Investigation

Effect of Parent Training vs Parent Education on Behavioral Problems in Children With Autism Spectrum Disorder
A Randomized Clinical Trial

Karen Bearss, PhD; Cynthia Johnson, PhD; Tristram Smith, PhD; Luc Lecavalier, PhD; Naomi Swiezy, PhD; Michael Aman, PhD; David B. McAdam, PhD; Eric Butter, PhD; Charmaine Stillitano, MSW; Noha Minshawi, PhD; Denis G. Sukhodolsky, PhD; Daniel W. Mruzek, PhD; Kylan Turner, PhD; Tiffany Neal, PhD; Victoria Hallett, PhD; James A. Mulick, PhD; Bryson Green, MS; Benjamin Handen, PhD; Yanhong Deng, MPH; James Dziura, PhD; Lawrence Scahill, MSN, PhD

RUBI: Study Objectives and Design

- RCT of PT versus PE in children with ASD and DBP
  - PT – behavioral intervention
  - PE – psychoeducational program
- 24 Week Trial with evaluations every 4 weeks
- Follow-up at Week 36 and 48
Control Condition: Parent Education (PE)

- Autism Diagnosis
- Understanding Clinical Evaluations
- Developmental Issues
- Family / Sibling Issues
- Medical & Genetic Issues
- Choosing Effective Treatments
- Alternative Treatments
- Advocacy & Support Services
- Educational Planning
- Play Activities
- Evidence-based Treatment Options
- Treatment Planning

PLUS

- 1 Home Visit
# Intervention Targets

## Parent Training

- Reduce challenging behaviors
  - Noncompliance, tantrums, aggression, transition difficulties
- Increase Adaptive Skills
- Based on ABA
- Focus on:
  - Antecedent and consequence based strategies
  - Skill building
  - Generalization & maintenance

## Parent Education

- Expand caregiver knowledge of ASD
Both PT and PE

• Delivered individually to each caregiver
• 60- to 90-minute sessions in clinic
• Components of sessions:
  – Therapist script
    • Didactic Instruction
  – Activity sheets
  – Video vignettes
  – Role-plays between clinician and parent
  – Individually tailored homework assignments
Homework

• Homework is central to change
• Choice of homework comes from standard prompts but is personalized and crafted in partnership between the parent and clinician
• Parents encouraged to select homework assignment:
  – target
  – strategy
Goals of Behavior Support Plan (BSP)

• Provide a descriptive functional assessment
  – Iterative process between parent and clinician that constructs the function of the child’s problem behaviors
• Track progress through parent training
  – Describes the intervention strategies collectively developed by the therapist and the parent
PT and PE Program Structure

Parent Training

• Week 1-16
  • 11 Core Sessions
  • 1 Home Visit
  • Up to 2 Optional Sessions

• Week 17-24
  • 1 Home Visit
  • 2 Booster Sessions

• Up to 6 dyad coaching sessions

Parent Education

• Week 1-24
  • 12 Core Sessions
  • 1 Home Visit
Outcomes of the RUBI study:

Who did we treat and how did it work?
Participants

180 families

- 3-0 to 6-11 years
- DSM-IV Diagnosis of ASD using gold standard tools
- > 15 on the parent-rated Aberrant Behavior Checklist Irritability (ABC-I) subscale
- Stable medication/treatment plan
Baseline Characteristics

- 88% boys
- mean age = 4.7 ±1.1 years
- 74% IQ ≥70
- 87% Caucasian
- 69% Autistic Disorder
- 46% in Regular Education class
- 20% on stable psychotropic medication
Outcome Measures

• Parent-reported outcomes
  – Aberrant Behavior Checklist-Irritability Subscale
  – Vineland

• BLINDED Independent Evaluator Ratings:
  – Parent Target Problems via parent interview
  – Improvement item of the Clinician Global Impressions
    • Much/Very Much Improved = Treatment Responder
Therapist Fidelity/Parent Adherence

<table>
<thead>
<tr>
<th>Parent Training</th>
<th>Parent Education</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>THERAPISTS</strong></td>
<td><strong>THERAPISTS</strong></td>
</tr>
<tr>
<td>97% therapist fidelity to treatment</td>
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</tr>
<tr>
<td><strong>PARENTS</strong></td>
<td><strong>PARENTS</strong></td>
</tr>
<tr>
<td>89% retained in 24 week program</td>
<td>91% retained in 24 week program</td>
</tr>
<tr>
<td>92% of core sessions attended</td>
<td>93% of core sessions attended</td>
</tr>
<tr>
<td>95% of parents would recommend</td>
<td>86% of parents would recommend</td>
</tr>
</tbody>
</table>

# of cases per therapist ranged from 1 to 21 cases ($x = 7.7$)
ABC-I Outcomes

48% decline in PT vs.
32% for PE
Effect size = 0.62

Baseline  | Week 4  | Week 8  | Week 12 | Week 16 | Week 20 | Week 24
---       | ---     | ---     | ---     | ---     | ---     | ---

P < 0.0001
CGI Positive Response

69% in PT vs.
40% in PE

Parent Training
Parent Education
Vineland Daily Living Skills: Standard Scores (Scahill et al, 2016)
Discussion - Highlights

• Largest psychosocial RCT in ASD
  – 6 sites
  – 23 therapists
  – 180 children

• Parent Training > Parent Education on parent ratings overall improvement rated by a blinded clinician

• Gains maintained 24 weeks post-treatment
Discussion: Surprise

• Parent Education
  – Strong engagement and parent satisfaction
  – Larger than predicted improvement (39.6% CGI of 1 or 2)
  – Did providing parents with a better understanding of ASD plot an indirect pathway for improvement in disruptive behavior?
The RUBI Autism Network
Parent Training Program:
Where Do We Go From Here?
Final PT Manual

• Introduction
  – Case examples
  – ‘Clinician Tips’
• 11 Core & 7 Optional Sessions
  – Therapist script
  – Activity Sheets
  – Parent Handouts
  – Fidelity Checklists
• Home Visit
• Booster Session

www.rubinetwork.org
Current/Future Directions

• New findings
  – Moderators (Lecavalier et al, 2017)
  – Parenting factors
  – PEP status
  – Behavior Observation

• Broaden access to RUBI PT
  – Group
  – Telehealth
  – Community dissemination/implementation
  – Train-the-trainer
Where does RUBI PT fit in practice?

In general clinical practice

– 6 sites, 23 therapists, 97% fidelity = promising

– Community-viable model of care

• Role of therapist script
• Billing codes in place
• Low intensity training = great training opportunity
• Low overhead for implementation
Funding Acknowledgments

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