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Parent Training in Children with Autism Spectrum Disorder and Disruptive Behavior: A Randomized Trial

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Research

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Learning Objectives

1. Describe characteristics of structured parent training programs
2. Summarize the main findings from a multicenter trial of parent training for young children with ASD and disruptive behavior
3. Outline the main session topics and intervention strategies used in the structured parent training program



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1. Structured Parent Training

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Background

- Disruptive behavior occurs in up to 50% of children with ASD (*Mazurek et al., 2013, RASD*)
- Many ABA techniques exist for assessing and treating such behavior (*National Autism Center, 2015*)
- *But* there is little guidance on when, why and how to use these ABA techniques in practice (*Kasari & Smith, 2013, Autism; Romanczyk et al., 2014, RJADD*)
- *And* these techniques have not been evaluated in large trials (*Smith et al., 2007, JADD*)

BACB Practice Guidelines for “Focused ABA” (2012):

“Examples . . . include establishing compliance with medical and dental procedures, sleep hygiene, self-care skills, safe and independent leisure skills”

“Focused treatments generally range from 10-25 hours per week of direct therapy (plus direct and indirect supervision hours)”

Impractical for children likely to have multiple problems

Parent Training

- Single-subject studies show that parents can learn to implement ABA techniques (*Odom et al., 2003, Focus*)
- Standardized, short-term parent training is well-established as an effective intervention for other child clinical populations (*Barlow et al., 2010, Cochrane Collaboration*)
 - Commonly implemented in community-based primary care practices, mental health clinics, etc.
 - Conducted by a wide range of clinicians (psychologists, counselors, social workers, nurses, etc.)

Characteristics of Parent Training

1. Targets disruptive behaviors in 6-20 sessions (1-2 hours each)
2. Emphasizes collaborative empiricism
 - Clinician and parent jointly identify goals and evaluate effects of parent-implemented interventions

Characteristics (cont.)

Systematically teaches new skills in steps

- Didactic instruction
- Demonstration by clinician or video model
- Role-play between clinician and parent
- Direct coaching by clinician of parent with child
- Homework developed together by clinician and parent
- Homework review in next session

PT for disruptive behavior in ASD

Developed and piloted manual (*Johnson et al., 2007, Beh Interventions*)

Tested in combination with risperidone (*Aman et al., 2009, JAACAP, n = 124*)

Adapted and piloted manual for use as a solo treatment for young children with ASD (*Bearss et al., 2013, JADD*)

Tested in multicenter trial (described in this talk):

- Research Units in Behavioral Intervention (RUBI)

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2. Multicenter Trial

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

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JAMA
The Journal of the
American Medical Association

RUBI Study

Randomized clinical trial (RCT) of efficacy

- PT versus PE in young children with ASD and DBP
 - PT – behavioral intervention
 - PE – psychoeducational program

24-week trial with evaluations every 4 weeks

Follow-up at Weeks 36 and 48

- All PT families
- PE responders who don't cross over to PT

Participants (N = 180)

3-0 to 6-11 years

DSM-IV Diagnosis of ASD based on expert evaluation,
confirmed by standardized diagnostic testing

≥ 15 on the parent-rated Aberrant Behavior Checklist
Irritability (ABC-I) subscale

Stable medication/treatment plan

Receptive language ≥ 18 months

English-speaking caregiver

No co-occurring medical or psychiatric condition that would
interfere with participation or require other treatment

No prior participation in structured parent training

RUBI PT Sessions

1. ABC Model

2. Prevention

3. Visual cues/schedules

Home Visit #1

4. Reinforcement #1

5. Reinforcement #2

6. Planned Ignoring

7. Compliance

8. Functional Comm Training

9. Teaching Skills #1

10. Teaching Skills #2

Home Visit #2

11. Gen/maintenance

2 booster sessions + 2 optional sessions

RUBI PE Sessions

Expanding parent knowledge of ASD

Topics:

- Evaluation and diagnosis
- Developmental issues
- Educational planning
- Advocacy
- Treatment options

Both PT and PE

Delivered individually to each child's parents

60- to 90-minute sessions in clinic

Components of sessions

- Therapist script
- Fidelity forms
- In-session activity sheets/video vignettes
- Homework assignments (individually tailored)

Prerequisites for Clinicians (N = 23)

Master's degree or higher

Didactic training

Video review of sessions conducted by expert therapist

Treatment with one non-study family

- All sessions reviewed
- 80% fidelity each session to qualify to treat families

Maintaining Fidelity

Weekly site supervision

Monthly cross-site teleconferences

Detailed therapist scripts for session

Fidelity checklists

- specifying the required elements of each session
- scored by independent raters for 10% of video-recorded sessions, randomly selected

Outcome measures

Primary outcomes:

- Parent-rated Aberrant Behavior Checklist-Irritability (ABC-I)

Secondary outcome measures:

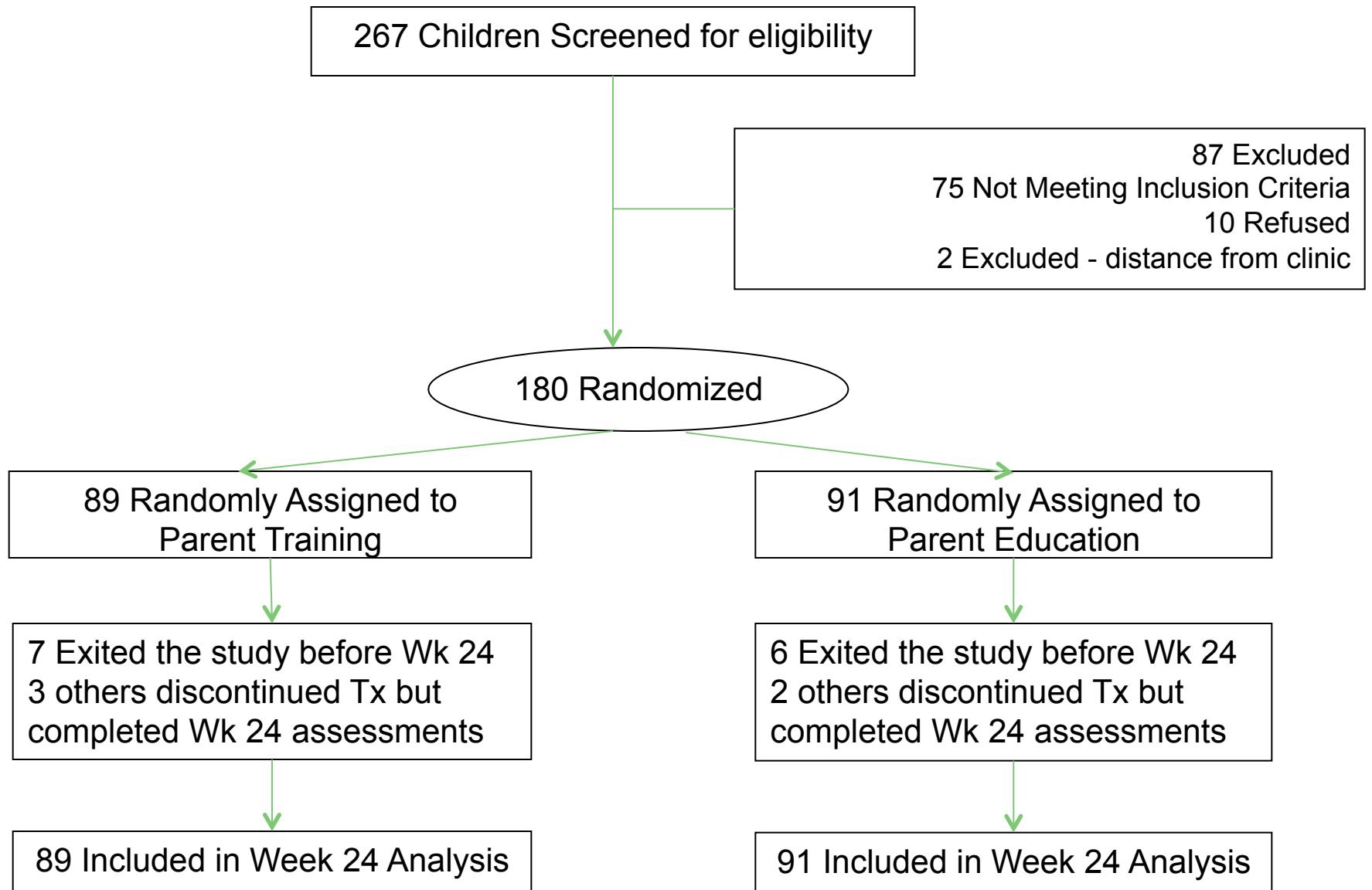
- Parent-rated Home Situations Questionnaire
- Blinded independent evaluator ratings of Clinical Global Impressions
- Adaptive skills (Vineland Adaptive Behavior Scales)
- Parent outcomes (rating scales completed by parent)

Additional secondary outcomes now being analyzed:

- Standardized behavior observation
- Additional child outcomes

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Flow of patients through RUBI Study



Baseline Characteristics

88% boys

Age = 4.7 ± 1.1 years

74% IQ ≥ 70

87% Caucasian, 14% Hispanic

46% in general education class

20% on stable psychotropic medication

88% two-parent family

Intervention

Parent Training

THERAPISTS

- 97% fidelity

PARENTS

- 89% completed 24 weeks
- 92% of core sessions attended
- 95% would recommend

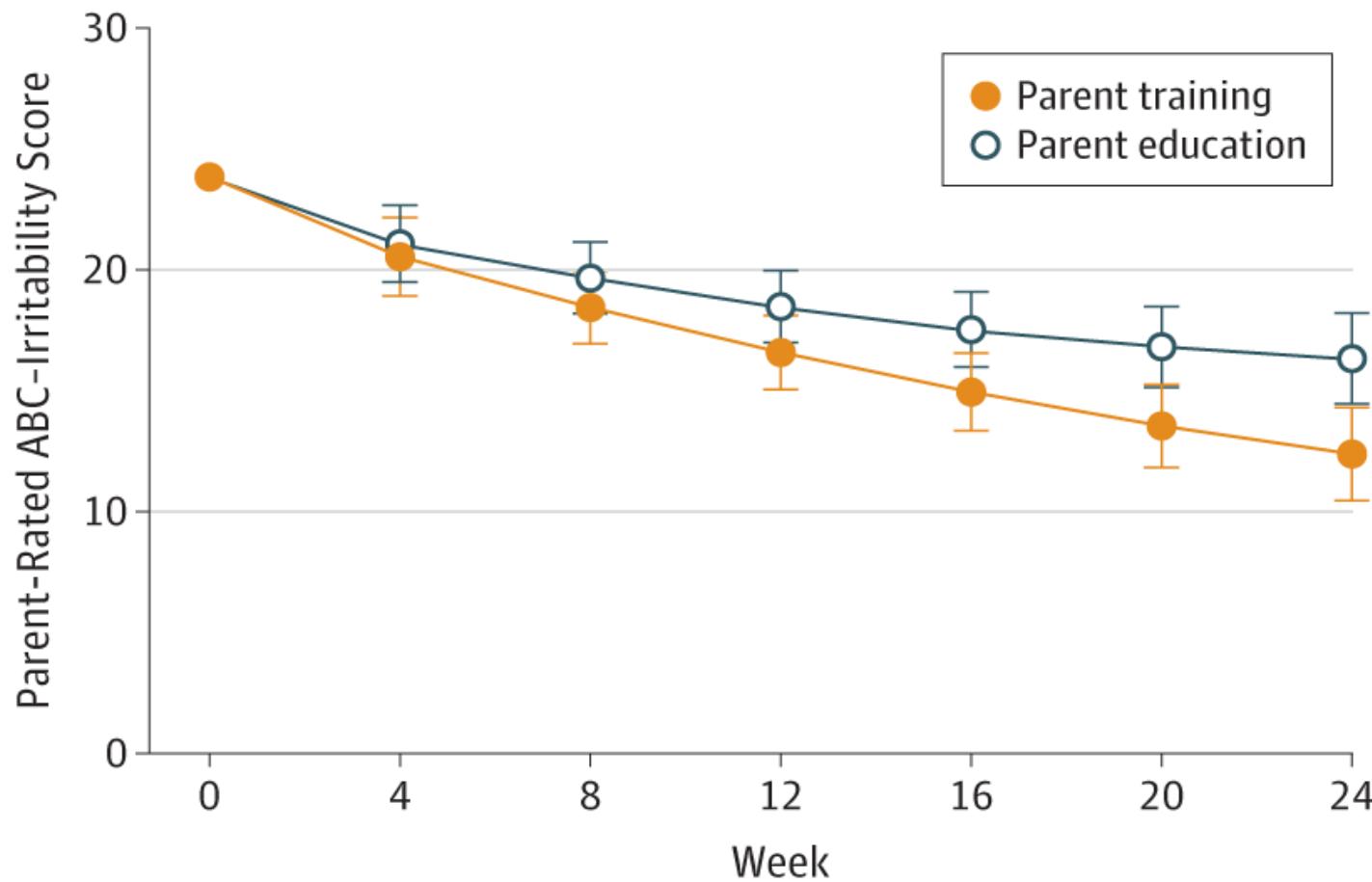
Parent Education

THERAPISTS

- 97% fidelity

PARENTS

- 91% completed 24 weeks
- 93% of core sessions attended
- 86% would recommend

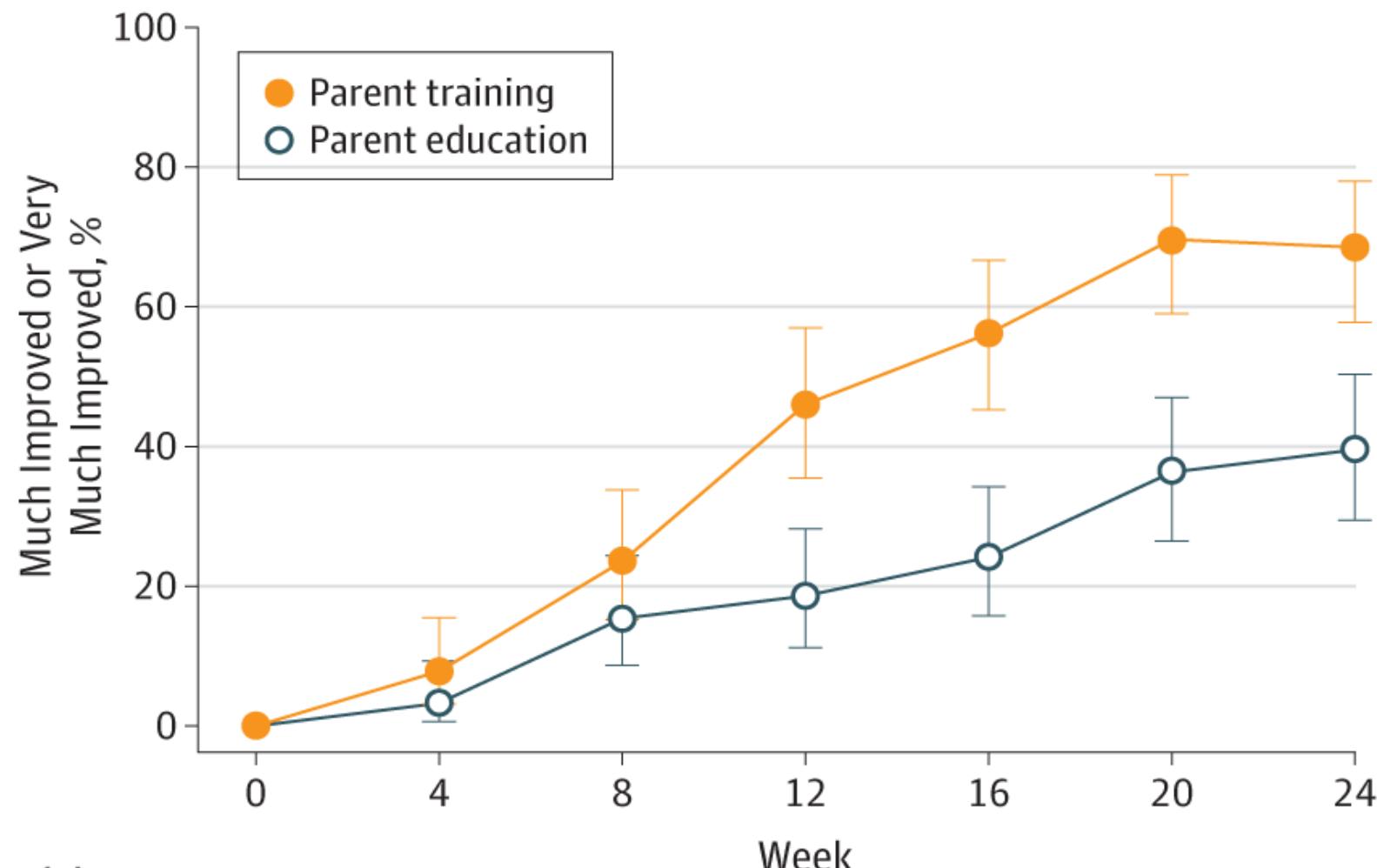
**No. of participants**

Parent training	89	86	82	81	79	79	82
Parent education	91	85	84	83	79	83	85

Home Situations Questionnaire

Mean (95% confidence interval)

	Parent Training (n=89)		Parent Education (n=91)		Group Difference		Effect Size
Baseline	4.0	(3.7; 4.3)	3.8	(3.4; 4.1)			
Week 12	2.6	(2.3; 2.9)	3.0	(2.7; 3.3)	-0.4	(-0.7; -0.1)	
Week 24	1.8	(1.5; 2.2)	2.5	(2.2; 2.9)	-0.7	(-1.1; -0.3)	0.45

**No. of participants**

Parent training	89	86	82	81	78	79	80
Parent education	91	86	84	83	79	82	85

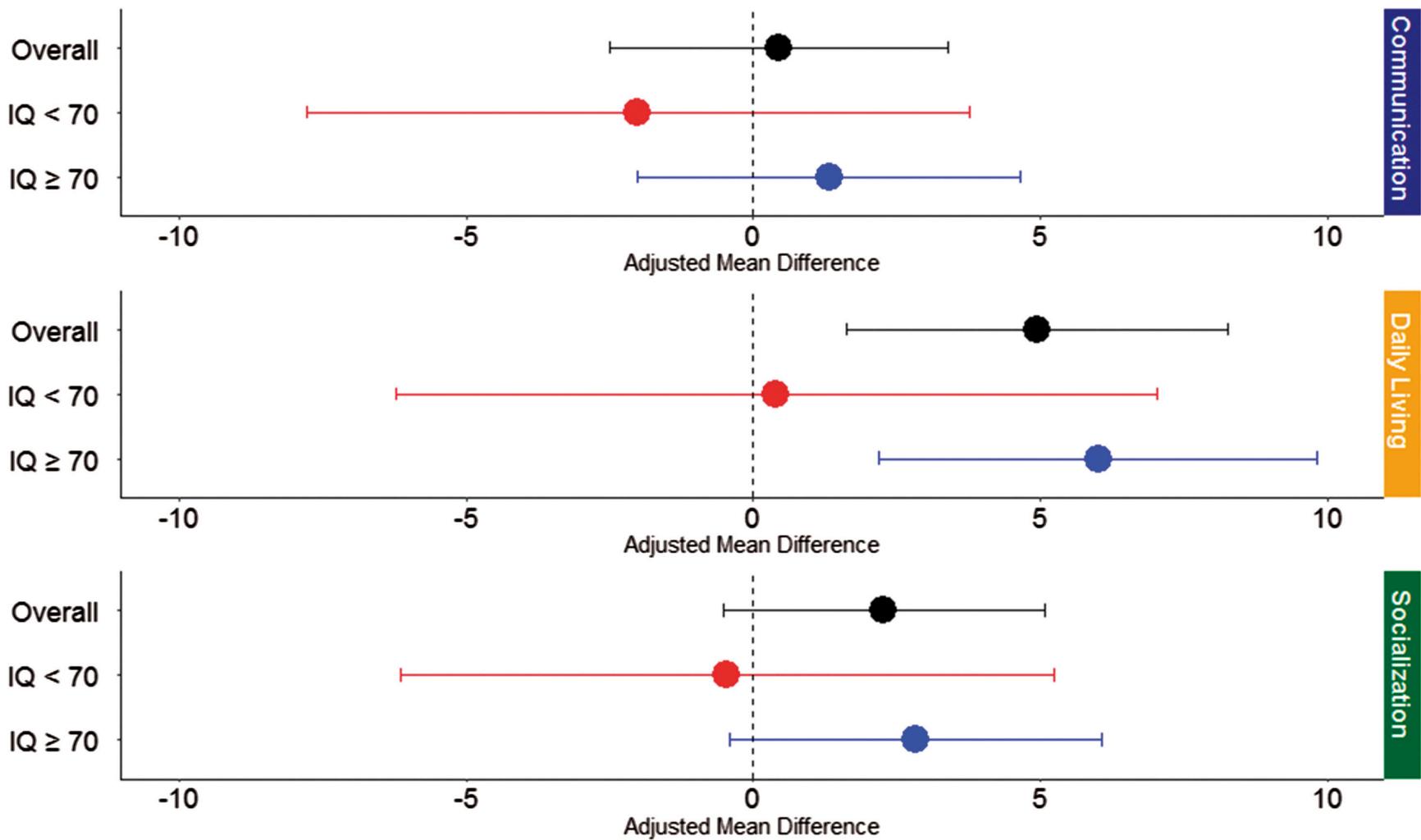
Journal of the American Academy of

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Effect of Parent Training on Adaptive Behavior in Children With Autism Spectrum Disorder and Disruptive Behavior: Results of a Randomized Trial

Lawrence Scahill, ^{MSN, PhD}, Karen Bearss, ^{PhD}, Luc Lecavalier, ^{PhD}, Tristram Smith, ^{PhD},
Naomi Swiezy, ^{PhD}, Michael G. Aman, ^{PhD}, Denis G. Sukhodolsky, ^{PhD},
Courtney McCracken, ^{PhD}, Noha Minshawi, ^{PhD}, Kylian Turner, ^{PhD}, Lynne Levato, ^{PhD},
Celine Saulnier, ^{PhD}, James Dziura, ^{PhD}, Cynthia Johnson, ^{PhD}

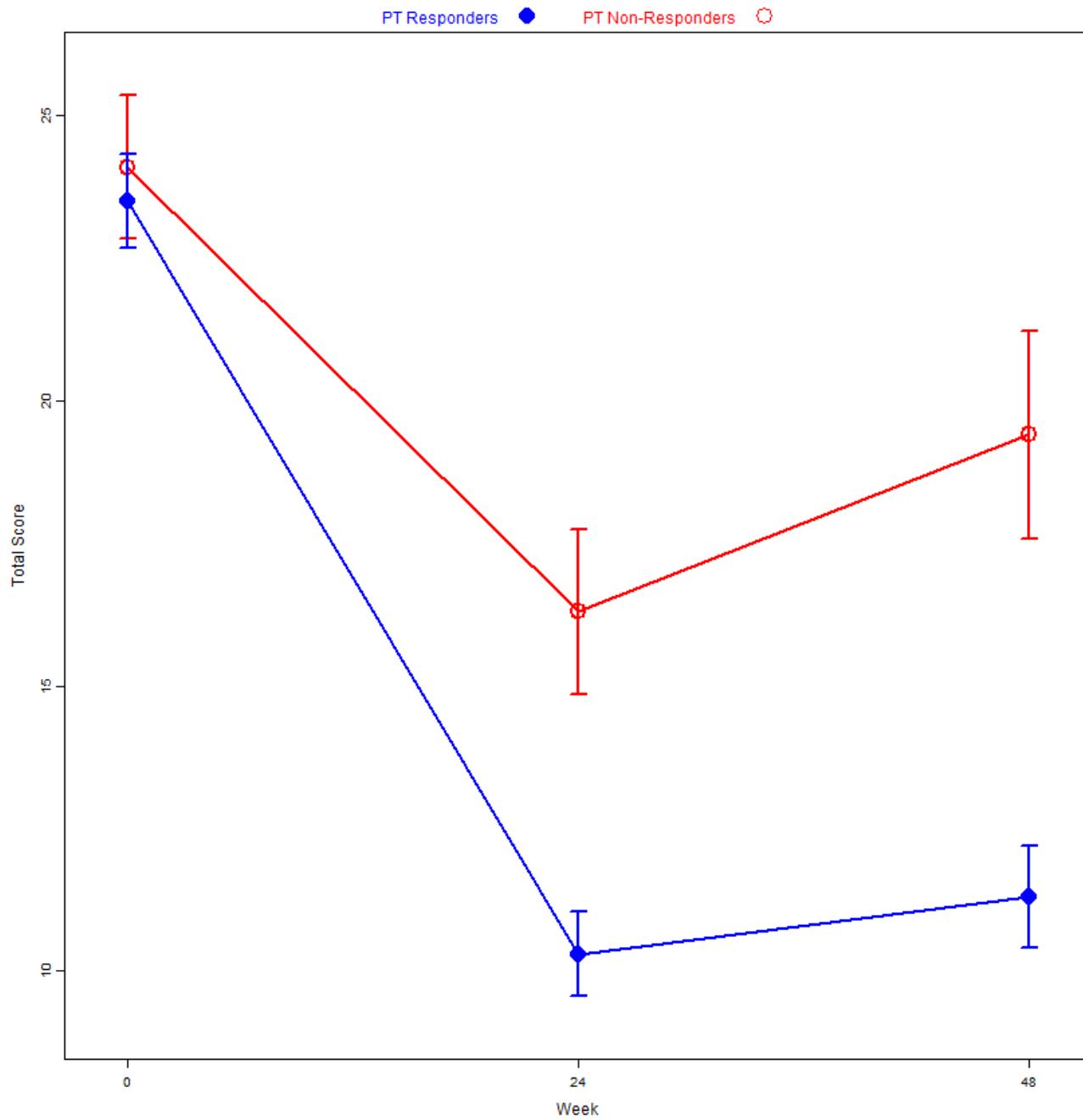


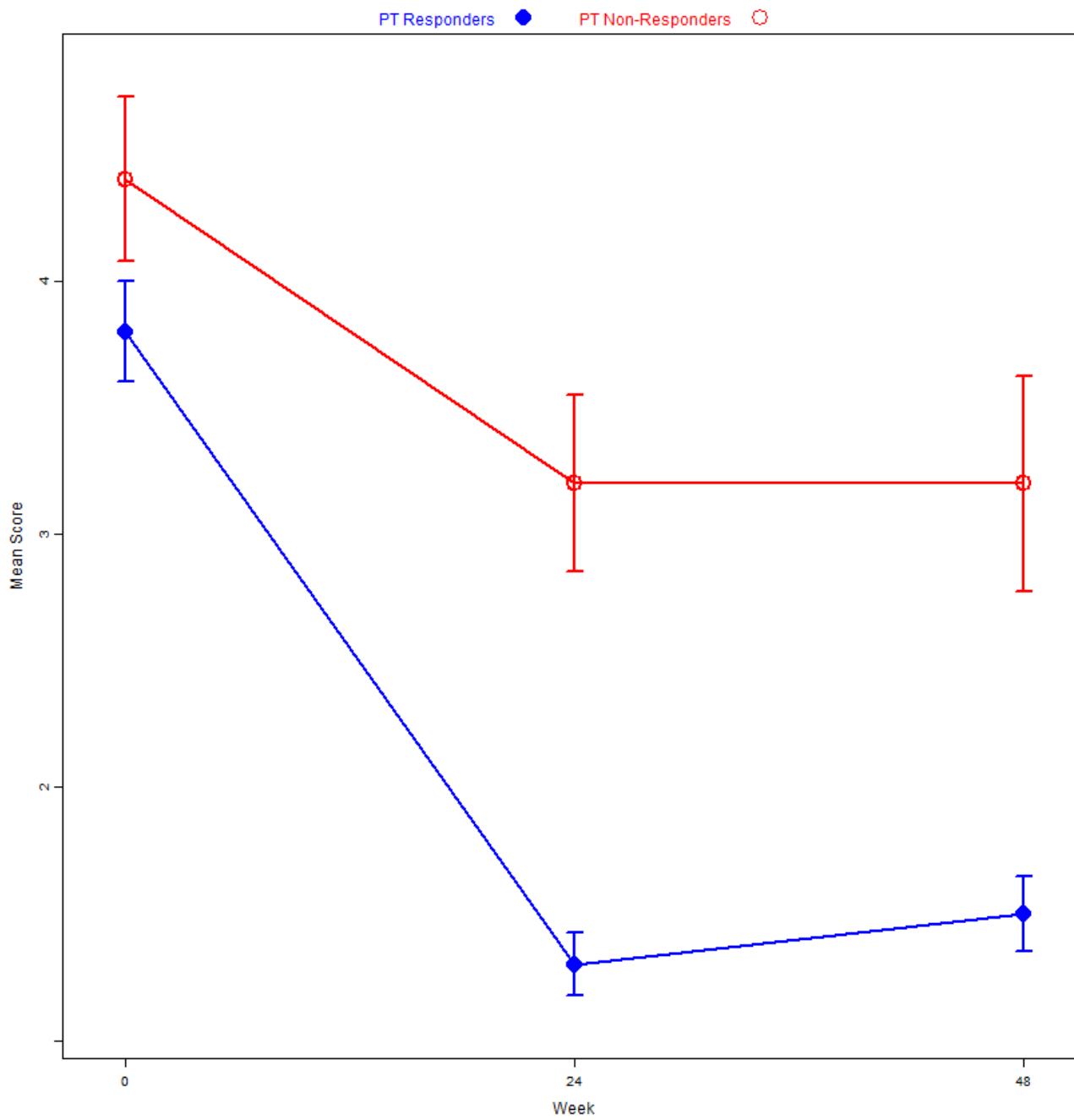
That's Great

But does it last.....

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CGI-I Long-term Outcomes

PT positive responder (N=61)

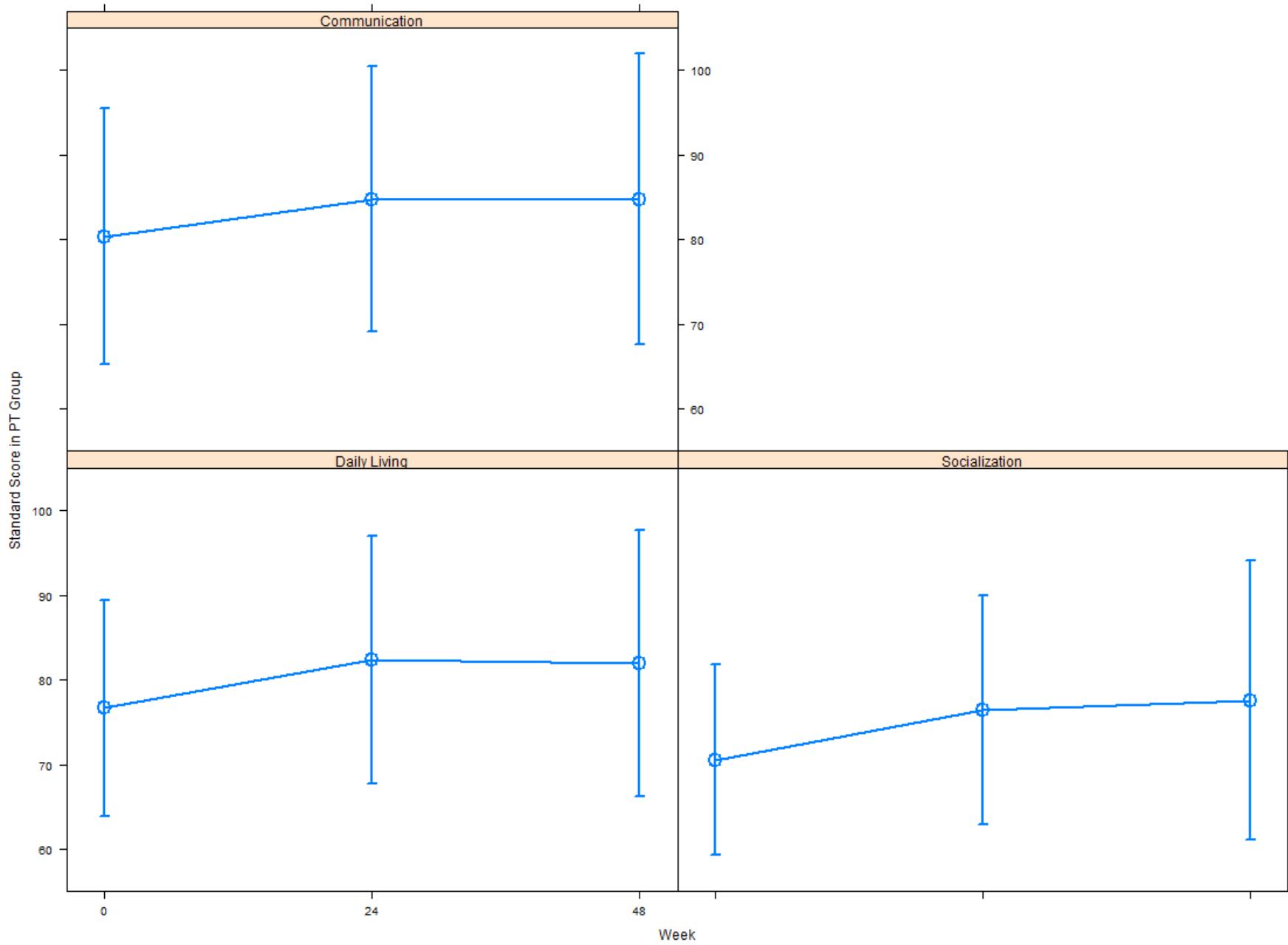
- 79% maintained positive response at week 48

PT non-responder (N=28)

- 32% improved at week 48

PE positive responder (N=23)

- 70% maintained positive response



How Did It Help Children: Conclusions

Brief, structured parent training program was superior to parent education for reducing disruptive behavior in young children with ASD

- Effect sizes moderate to large, as rated by parents and blinded evaluators
- Additional measures, including *standardized behavior observation*, still being analyzed

Parent Measures

Parenting Stress Index (Short Form)

Parent Sense of Competence

Caregiver Strain Questionnaire

- Administered at Baseline, Week 12, and Week 24

Parenting Stress Index: Total

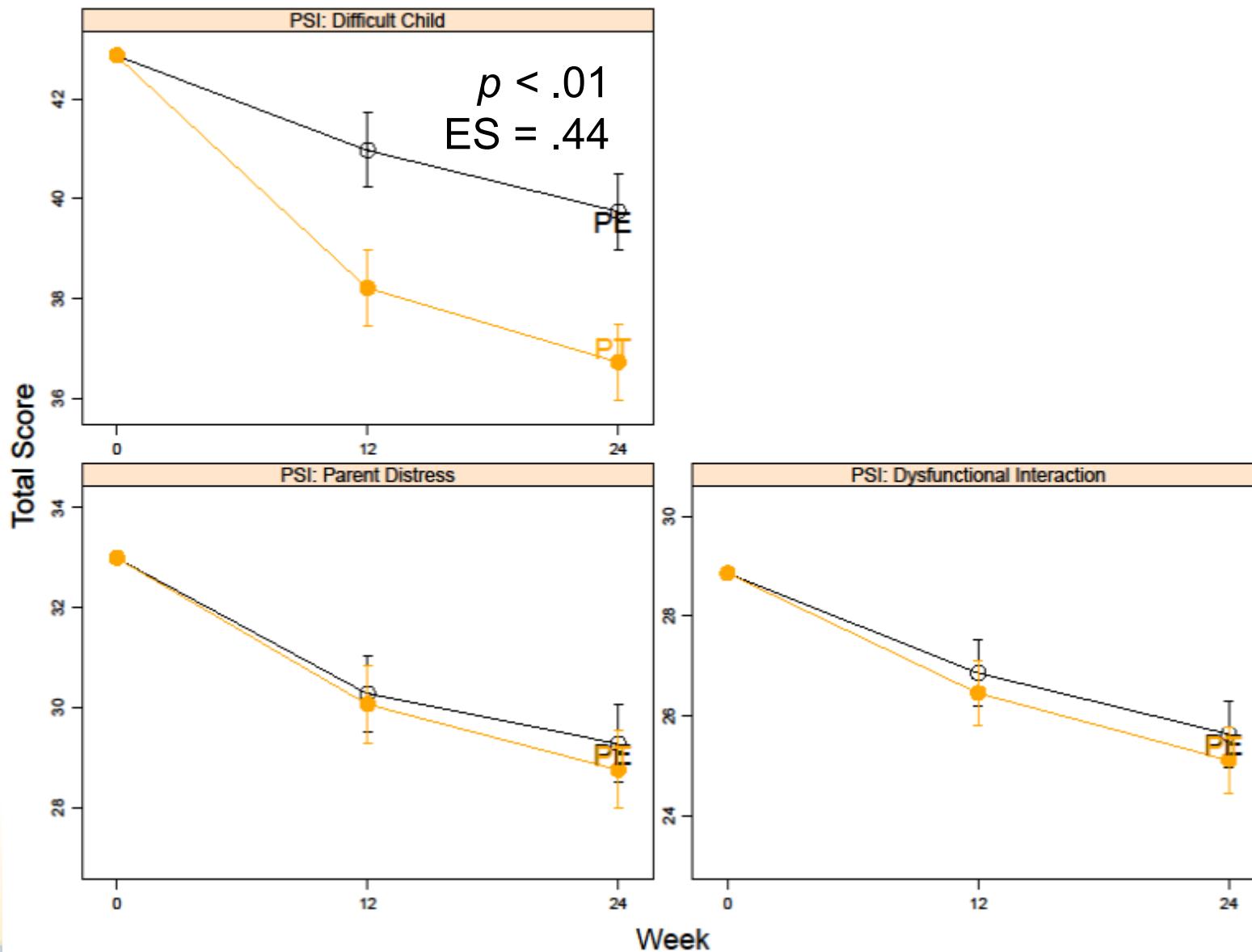
$p = .07$
ES = .25

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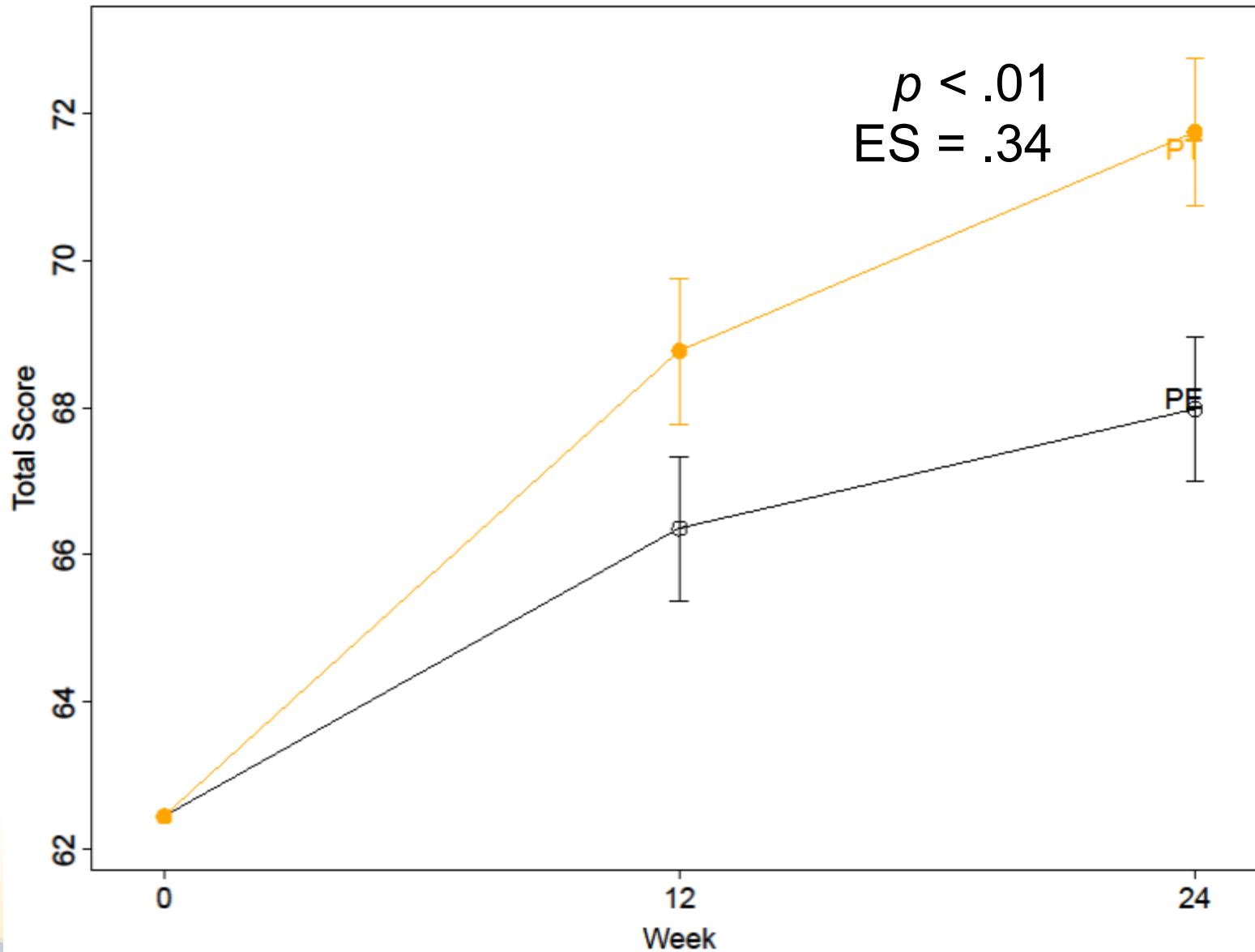
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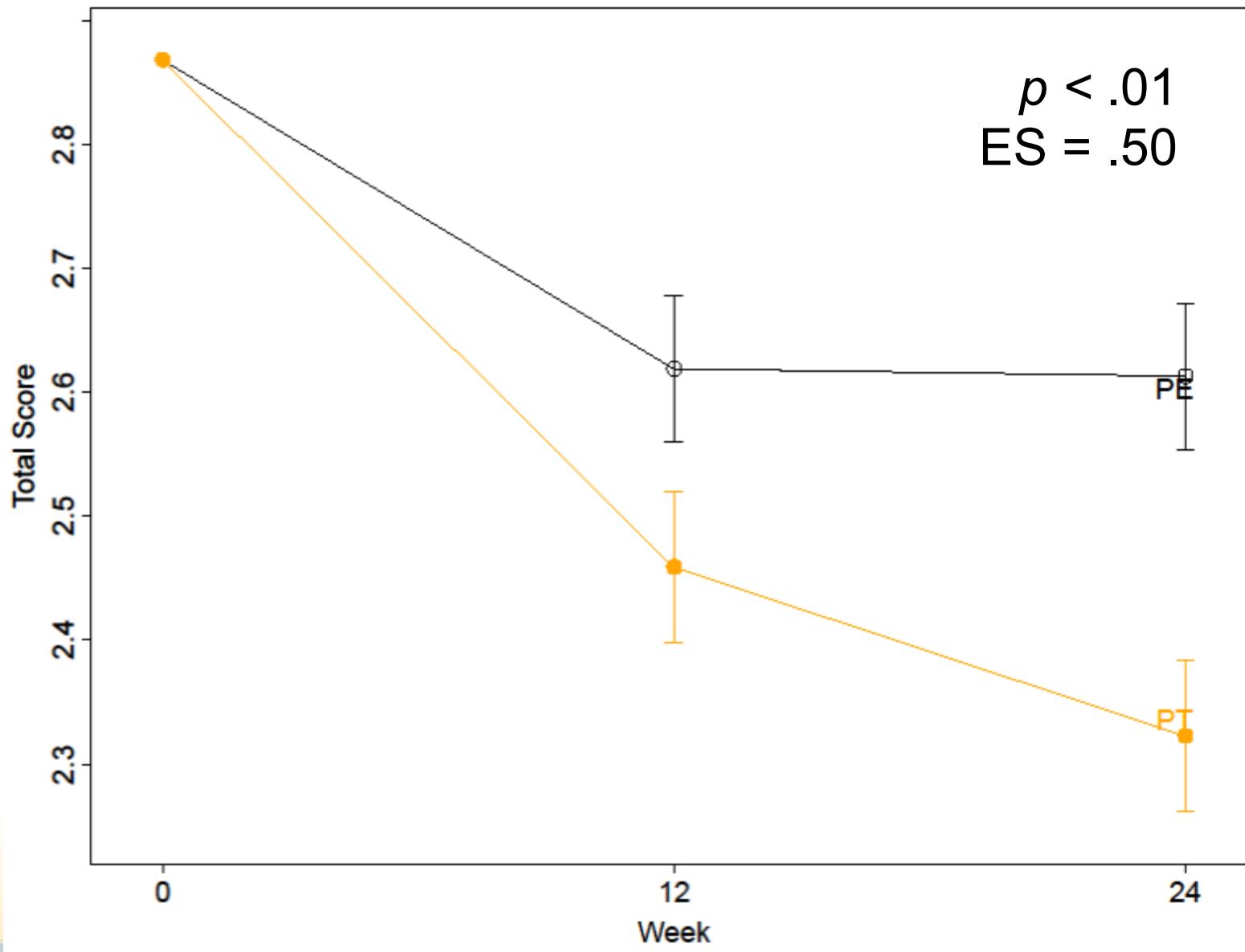
Parenting Stress Index: Subscales



Parent Sense of Competence: Total



Caregiver Strain: Total



How did PT help parents: Conclusions

Marginally significant effect on Parenting Stress Index

- *But* clear effect on Difficult Child Subscale

Clear effects, with small to medium effect sizes, on:

- Parent Sense of Competence
- Caregiver Strain
- 4 of 5 subscales of these measures

Overall, PT appears to have improved parents' perceptions of ability to manage day-to-day strain with children

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Atomoxetine, Parent Training, and Their Combination in Children With Autism Spectrum Disorder and Attention-Deficit/Hyperactivity Disorder

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Atomoxetine and Parent Training for Children With Autism and Attention-Deficit/Hyperactivity Disorder: A 24-Week Extension Study

Tristram Smith, PhD, Michael G. Aman, PhD, L. Eugene Arnold, MD, Laura B. Silverman, PhD,
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Xueliang Pan, PhD, Benjamin L. Handen, PhD

Implications

ABA techniques can be packaged for testing in large-scale studies, comparable to RCTs in medicine

- Package may be suitable for use by a wide range of clinicians in diverse community settings

Brief, structured parent training on ABA techniques to reduce disruptive behavior appears efficacious for young children with ASD

Future Directions

Dissemination of manual, videos, and assessment tools through non-profit organization

- www.rubinetwork.org

Possible effectiveness trial of PT conducted by community providers (if funded)

Adaptation of PT to other clinical problems in ASD

- Sleep (Johnson)
- Toileting (Mruzek)
- Elopement (McAdam)
- Feeding disorders (Johnson, Smith)

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