

# Implementation of an Evidence-based Program for Aggressive Children: *Dissemination and Variations in Response*

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# Agenda

- Coping Power (Lochman & Wells 1996): model and program
- Examples of efficacy and effectiveness studies
- Dissemination: Barriers and important issues
- Variation in response to program delivery in small groups versus individually
  - What can group therapists do?

# Coping Power Child Component

- 34 sessions
- Weekly meetings, typically 45 – 60 minutes
- 4 to 6 children and 1 to 2 leaders per group recommended
- Periodic 1-to-1 sessions
  - Reinforce generalization of skills to other settings
  - Tailor goal setting and problem-solving
  - Enhance relationship with adult co-leaders

# Foci for Coping Power Child Component

- **Behavioral and personal goal setting**
- Organizational and study skills
- Accurate awareness feelings related to anger and vulnerability
- Anger management training, including methods for self-instruction, distraction, and relaxation
- Perspective-taking and attribution retraining
- Social problem-solving in a variety of situations (peer, teacher, family)
- Resistance to peer pressure, and focus on involvement with non-deviant peer groups



# Short Term and Long Term Goals

Keep my cool during P.E. when I don't agree with a call or play

Get in fewer fights this week

Resolve problems without fighting

Reduce suspensions so eligible to play

Make the basketball team





## SCHOOL GOAL SHEET

Name: \_\_\_\_\_

Week of: \_\_\_\_/\_\_\_\_/\_\_\_\_

GOAL: \_\_\_\_\_



Monday Yes No \_\_\_\_\_

Tuesday Yes No \_\_\_\_\_

Wednesday Yes No \_\_\_\_\_

Thursday Yes No \_\_\_\_\_

Friday Yes No \_\_\_\_\_

### Points

**You can earn 1 point for each day your teacher circles "Yes" that you met your goal and signs on the line.**

Teacher: Each day the student brings you this form, please sign your name on the line and indicate whether or not the goal was met by circling Yes or No. If the child did not meet the goal, please provide a brief explanation as to why.

I, \_\_\_\_\_, have chosen the above goal and am responsible for doing my best to meet this goal and having my teacher sign this sheet daily.

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# Awareness of Feelings and Anger Arousal

## Skills targeted:

- Feelings aren't good or bad, right or wrong
- Way we handle our feelings is what matters
- Learn to identify different types of feelings
- Learn to identify different levels of feelings
- Recognizing common triggers and bodily cues of anger as “clues” it is time to use coping strategy

# Identification of Feeling States:

## EMOTION = ANGRY

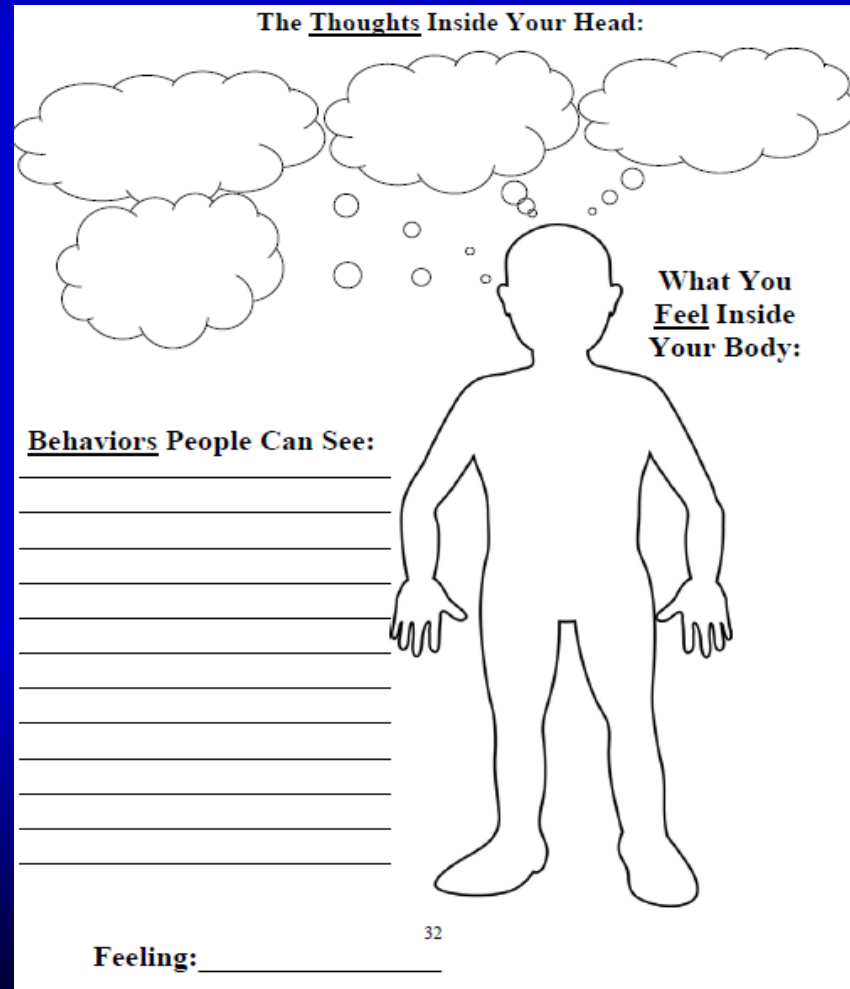
The Thoughts Inside Your Head:

What You Feel Inside Your Body:

Behaviors People Can See:

Feeling: \_\_\_\_\_

32



# Cues of Anger

- Review the physiological cues of anger

- ↳ How does your body feel when you become angry?

- ↳ What is the **first** thing you notice in your body when you are becoming angry?

- ↳ Can then use this cue as signal that are becoming angry, and to **stop and think** about how to handle the situation

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# Anger Coping – A Sequence of Activities

- **Memory Game** – using deck of playing cards
- **Dominoes** – build a tower using one hand
- **Puppet Exercise** – puppets tease each other
- **Self-control “taunting exercise”** – leader and child take turns coping with real teasing (Goodwin & Mahoney, 1967)
- **Relaxation** – teaching self-control through deep breathing

# Sample Coping Statements

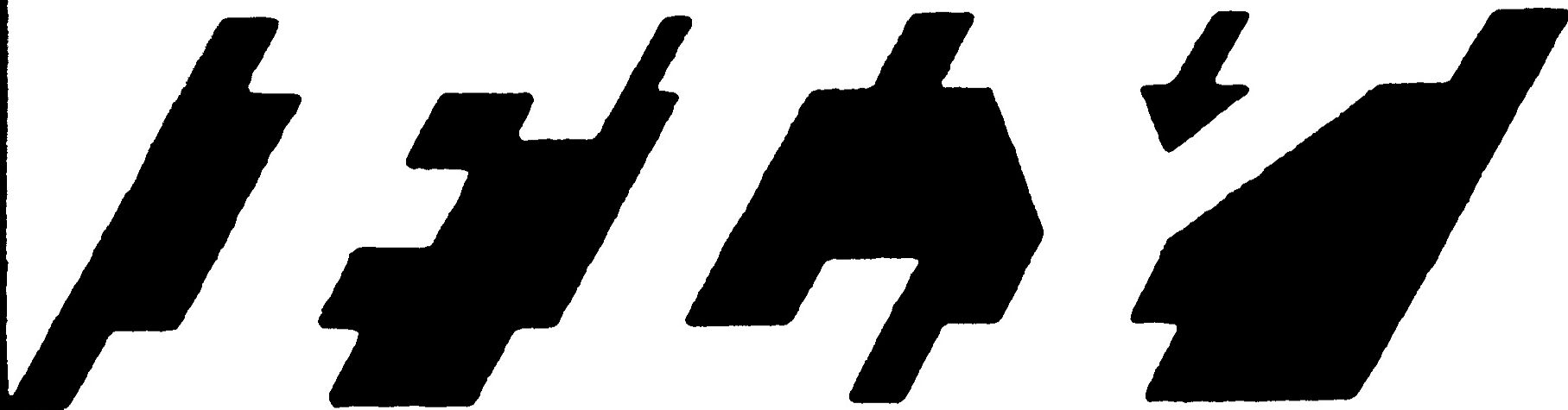
- Stay calm. Just relax.
- As long as I keep my cool, I'm in control.
- What she says doesn't matter.
- I'll grow up, not blow up.
- It's too bad he has to act like this.
- I don't need to prove myself to any one



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# Social Problem-Solving: The PICC Model

**P**roblem

**I**dentification

**C**hoices

**C**onsequences





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# **Efficacy and Effectiveness Studies of Coping Power**

# Prior Coping Power Intervention Research

- 2 efficacy controlled studies in Durham, NC (NIDA; CSAP)
  - Reduced externalizing problems, delinquency and substance through 1-3 year follow-ups

[Lochman & Wells, *Development & Psychopathology*, 2002; *Psychology of Addictive Behavior*, 2002; *Behavior Therapy*, 2003; *J. Consulting & Clinical Psychology*, 2004; *Lochman et al., Prevention*, 2013)
- Efficacy study with aggressive deaf children in a residential school in NC
  - Improved problem-solving and communicative competence

[Lochman, FitzGerald, Gage, Kannaly, Whidby, Barry, Pardini, & McElroy, *J. of American Deafness & Rehabilitation Association*, 2001]
- Efficacy study in Tuscaloosa, AL with abbreviated version of CP (CDC)
  - Reduced externalizing behavior, CU traits, Proactive and Reactive Aggression

[Lochman et al. *New Directions for Evaluation*, 2006; *J. Abnormal Child Psychology*, 2014]

# Abbreviated CP: Sample and Design

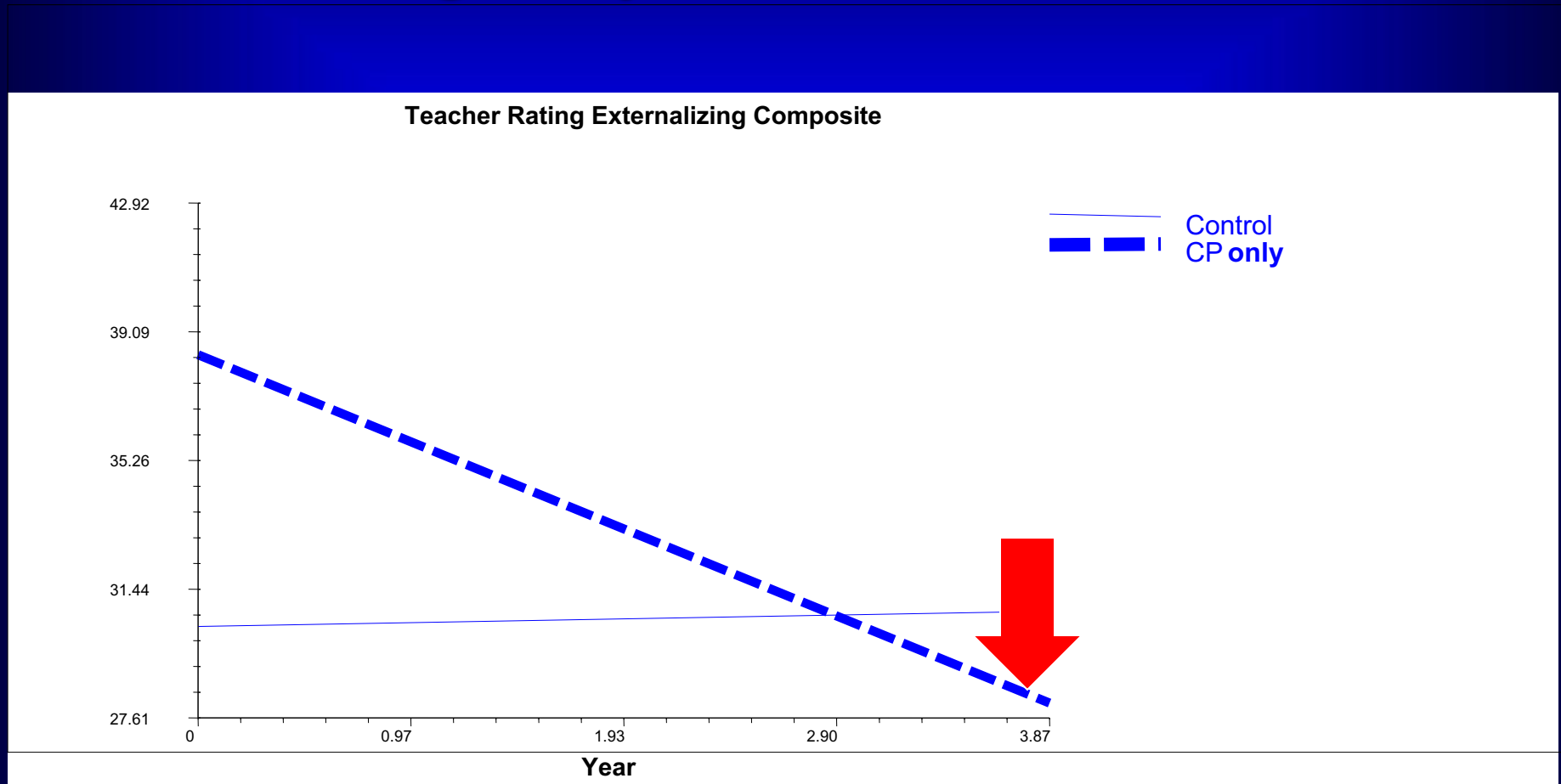
(Lochman, Boxmeyer, Powell, Roth & Windle, 2006, *New Directions for Evaluation*;  
Lochman, Baden, Powell, Boxmeyer, Qu, 2014, *Journal of Abnormal Child Psychology*)

- 240 children in 7 schools in Tuscaloosa
  - Selected for the study based on teacher ratings of aggression
  - Fell in top 30% on teacher-reported aggression
  - 64% boys; 69% African-American
- Randomly assigned to CP vs. Control
- CP intervention delivered during 5<sup>th</sup> grade
- CP children randomly assigned to Booster in 6<sup>th</sup> grade
  - Booster = monthly sessions for one year
- 5 assessment points: T1 (pre), T2 (post-intervention), T3 (post-Booster), T4 FU1, T5 FU2

# HLM Growth Curve Analyses Time 1-5

- Level 1 – time
- Level 2 – individuals and intervention condition
- Level 3 – nested within schools
- Quadratic effects not significant

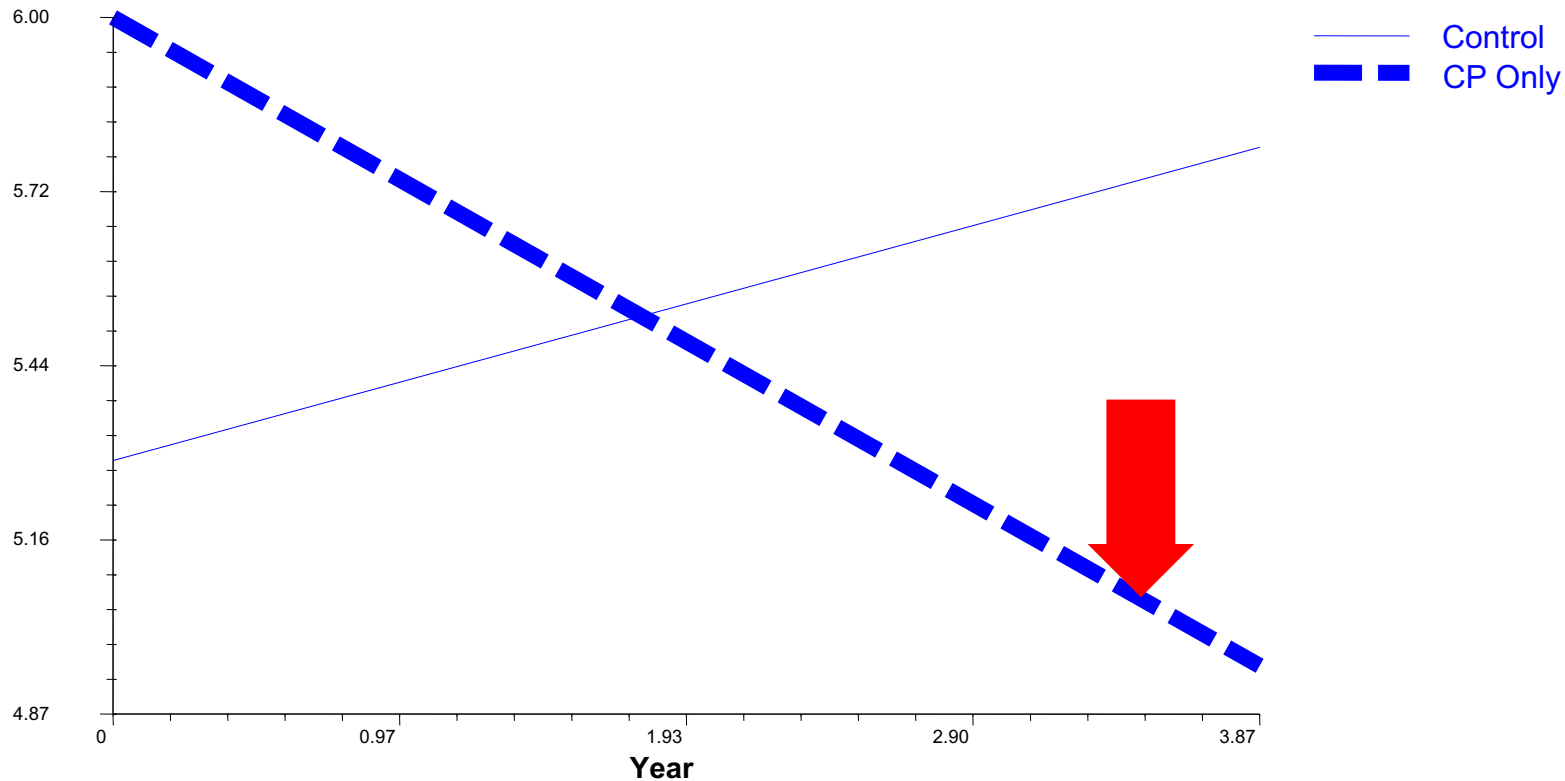
# Teacher BASC Externalizing Ratings by Condition ( $p=.016$ )



- Coping Power delivered during 5<sup>th</sup> grade (24 child sessions, 10 parent sessions)
- CP-Only:60; Control:120

# Teacher-rated CU traits by condition ( $p=.045$ )

CU Trail



- Coping Power delivered during 5<sup>th</sup> grade (24 child sessions, 10 parent sessions)
- CP-Only:60; Control:120



# Summary

- A briefer version of Coping Power can be effective
- Targeted preventive intervention for at-risk aggressive children can reduce children's CU trait scores across time through three year follow-up
  - CU traits are malleable in the preadolescent years with at-risk children

# Coping Power International Research

- Utrecht University, the Netherlands
  - Reduced substance use at 4 year follow-up for clinical sample in RCT vs CAU
  - Reduced teacher-rated externalizing behavior for aggressive children with mild intellectual disabilities using CP adapted for this population

[van de Wiel, Matthys, *Behavior Therapy*, 2003; van de Wiel et al, *Behavior Modification*, 2007; Zonneville-Bender et al *J. American Academy of Child and Adolescent Psychiatry*, 2007; Schuiringa et al, *Cognitive Therapy and Research*, 2017]
- University of Pisa, Italy
  - Reduced externalizing and internalizing behaviors, & CU traits, in clinical samples in RCT vs CAU
  - Decreased inattention-hyperactivity, increased prosocial, in adaptation for full classroom (universal prevention)
  - Decreased behavioral problems in an adaptation for preschool classrooms (universal prevention)

[Muratori et al, *Administration & Policy in Mental Health & Mental Health Services Research*, 2017; *Prevention Science*, 2015, 2017; *Early Intervention in Psychiatry*, 2017]
- Quaid-i-Azam University, Pakistan
  - Decreased aggression, increased anger control and problem-solving in school-based CP trial

[Mushtaq et al, *Prevention Science*, 2017]
- Carlos Albizu University, Puerto Rico
  - Decreased disruptive-distractible behaviors and depressed mood in RCT with clinical sample

[Cabiya et al., *Interamerican Journal of Psychology*, 2008]
- Karolinska Institute, Sweden
  - Decreased behavior problems and improved social skills, especially among more severe ODD children who had received CP Child program, as well as a parent program vs parent program alone

[Helander et al, *Behaviour Research and Therapy*, 2017]
- University of Toronto, Canada
  - Group-based Coping Power produced similar rates of parent efficacy to individualized parent-child Rx

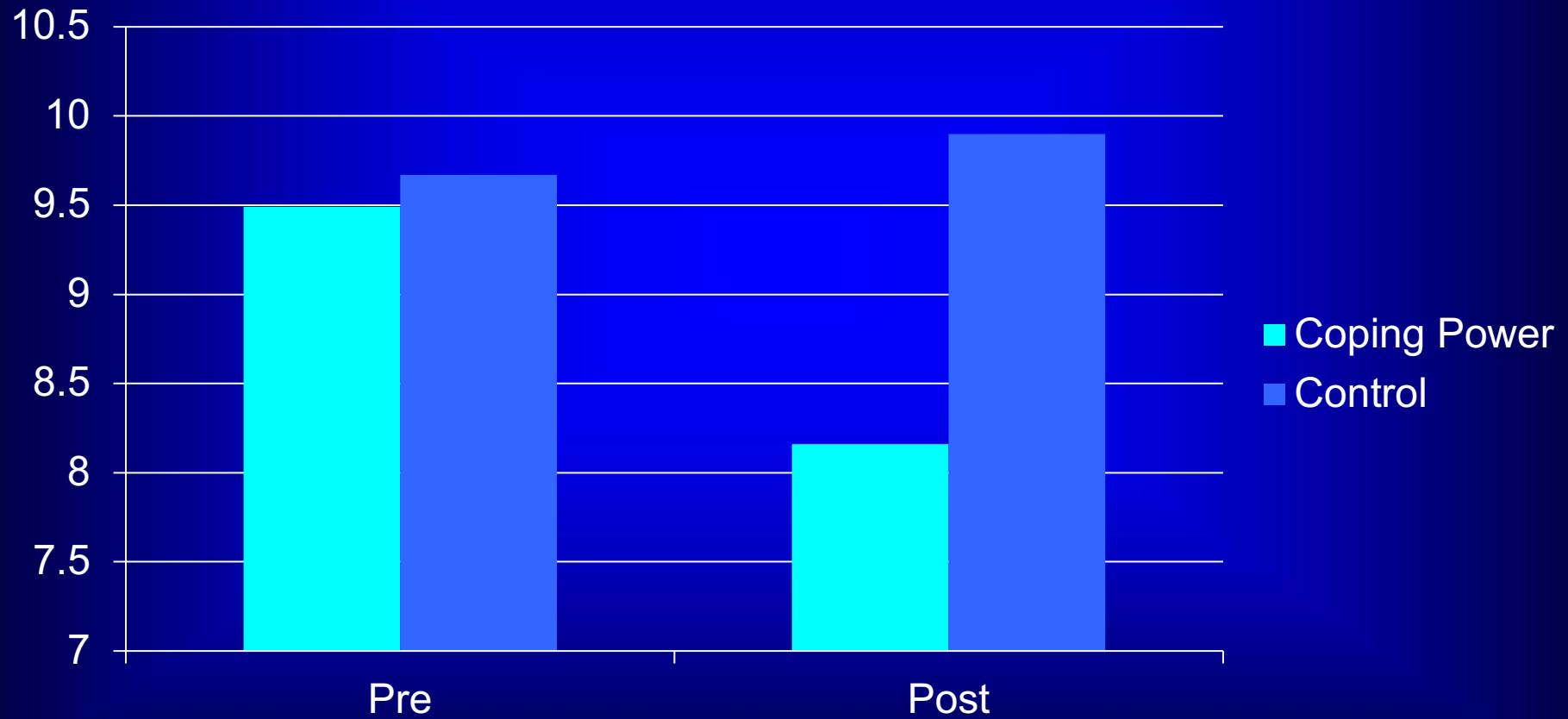
[Andrade et al, *Behavior Therapy*, 2015; Ludmer et al., *Child Psychiatry and Human Development*, 2017]

# Example of an International Effectiveness Study: Coping Power in Pakistan

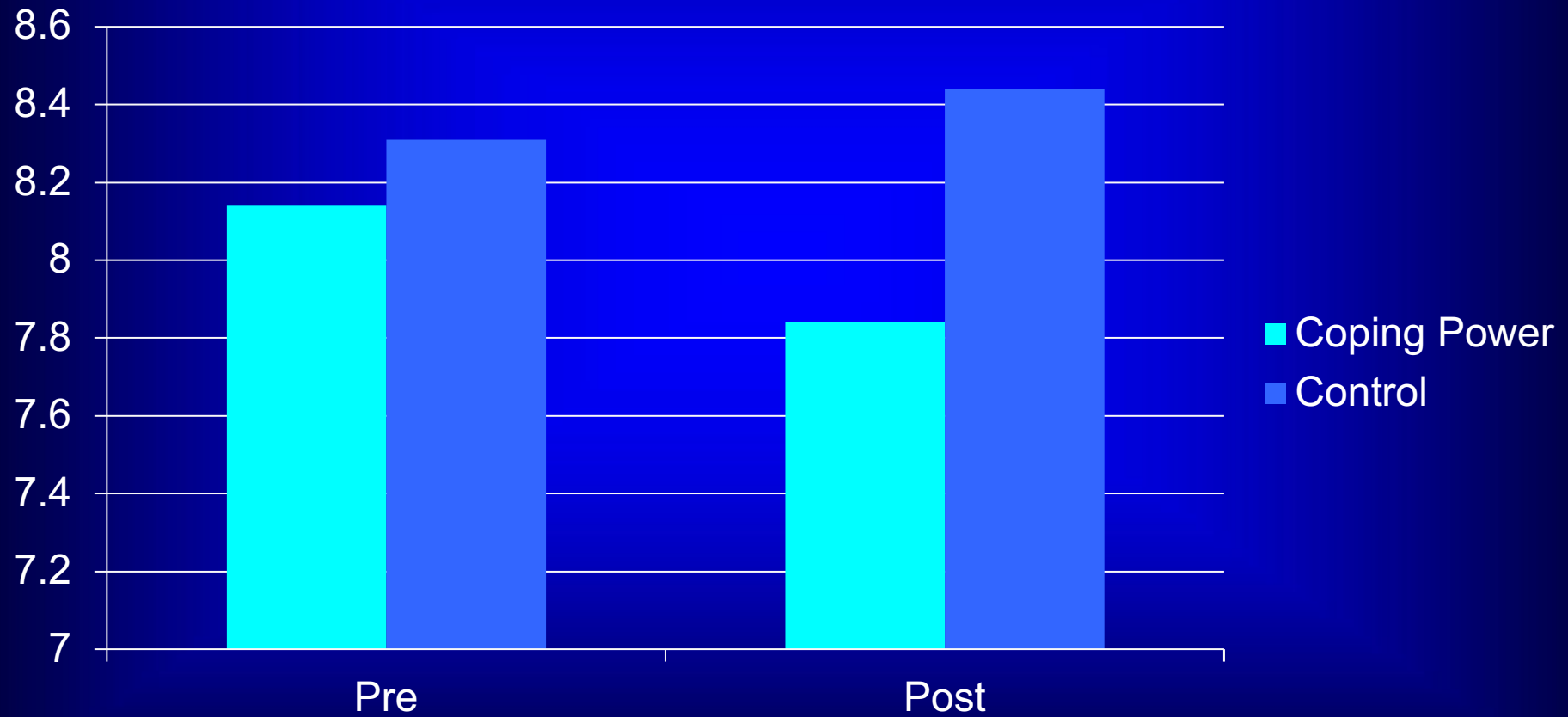
(Mushtaq et al, 2017, *Prevention Science*)

- Coping Power (child component only) translated to Urdu and adapted culturally (e.g. added Islamic teachings and practices)
- used with 5<sup>th</sup> grade children for 25 weekly sessions, with 5-7 children per group and 2 co-leaders
  - At-risk children in top 25% of aggressive students as rated by 4<sup>th</sup> grade teachers
- 113 at-risk boys were randomly assigned to CP or Control

# Pre-Post effects on parent-rated Reactive Aggression [F=86.66, p<.001]



# Pre-Post effects on parent-rated Proactive Aggression [F=7.72, p<.01]



# Coping Power in Pakistan

- Similar pattern of findings for teacher-rated proactive and reactive aggression, and for children's social information processing (improved problem-solving, outcome expectations, etc)

# Based on efficacy studies, CP on lists of evidence-based programs

- positive effects on externalizing behavior in the **What Works Clearinghouse** (Institute of Education Sciences)
- a “promising program” by **Blueprints for Healthy Youth Development**
- A “promising Program” by **CrimeSolutions.gov** (National Institute of Justice)
- a “well-supported program” by the **California Evidence-Based Clearinghouse for Child Welfare**

# Psychologists as engineers: Optimizing Intervention Outcomes

- Moving beyond efficacy and effectiveness in child intervention research (La Greca, Silverman & Lochman, 2009)
  - Identifying barriers
  - Investigating dissemination and transportability of evidence-based interventions
  - Identifying weak responders to group-based (vs individual format) intervention: Child & Therapist factors



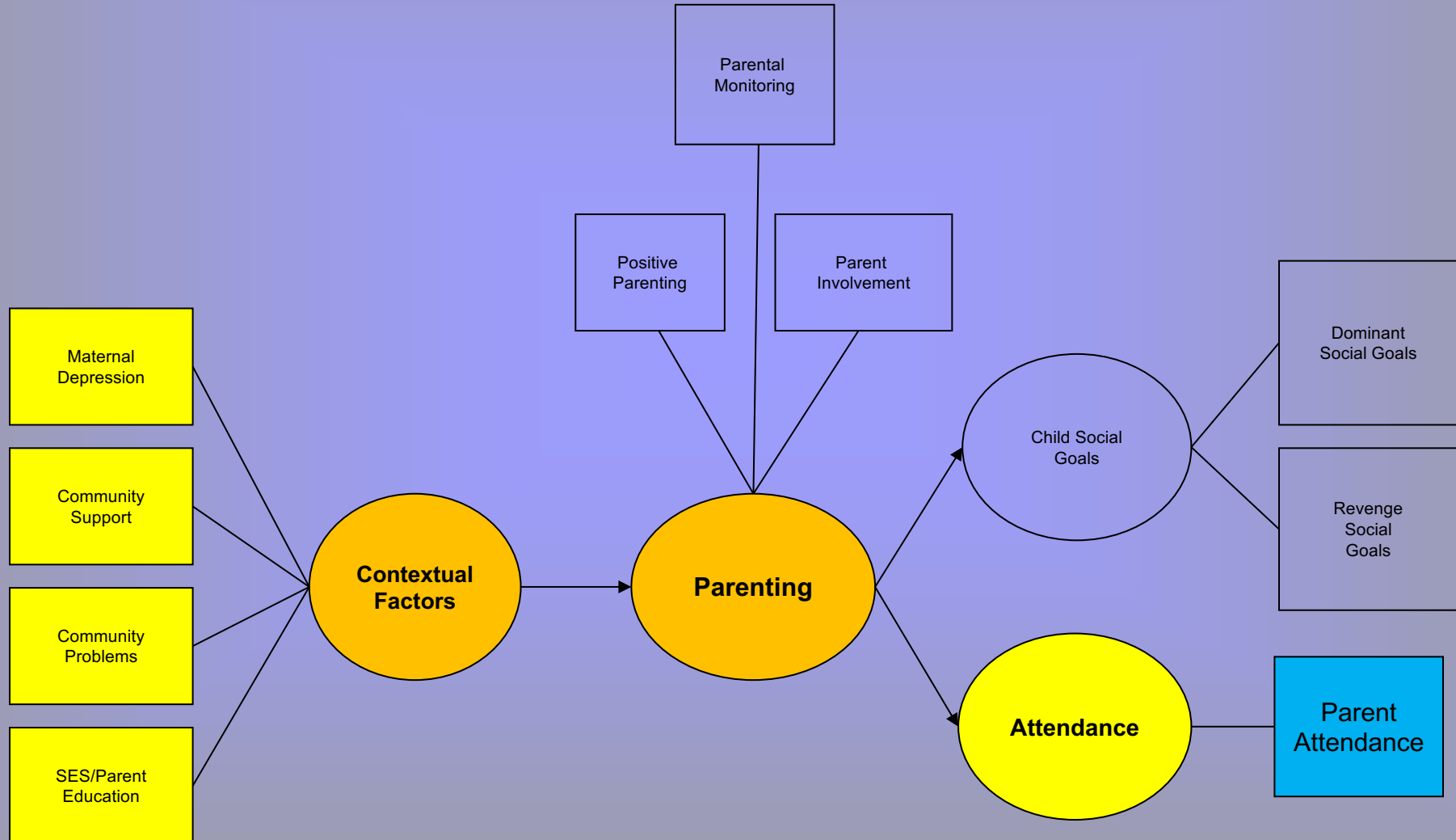
# Optimizing Intervention Outcomes: Barriers

- Significant positive outcomes for Coping Power, though outcome effect sizes are typically in moderate range, indicating variability in outcome, and can be related to...
- Parent attendance is typically limited, in 30-50% range
- Key public health concern is difficulty in engaging some parents
  - CACE and propensity score analyses have indicated that dosage of parent attendance affects significance of outcome  
(Lochman, Boxmeyer et al, *New Directions for Evaluation*, 2006)
  - Generally parents with better parenting and fewer family risk factors have higher attendance (Ryan et al., *Behavioral Disorders* 2009; Minney et al., *Prevention Science*, 2015))

# Parenting Practices Mediate Effect of Family Context on Parent Attendance at CP Parent Sessions:

**Best with positive parenting and fewer negative contextual factors**

Ryan, Boxmeyer & Lochman, Behavioral Disorders, 2009



# ● What can affect parent engagement?

Transportation

Hours of sessions

Child care

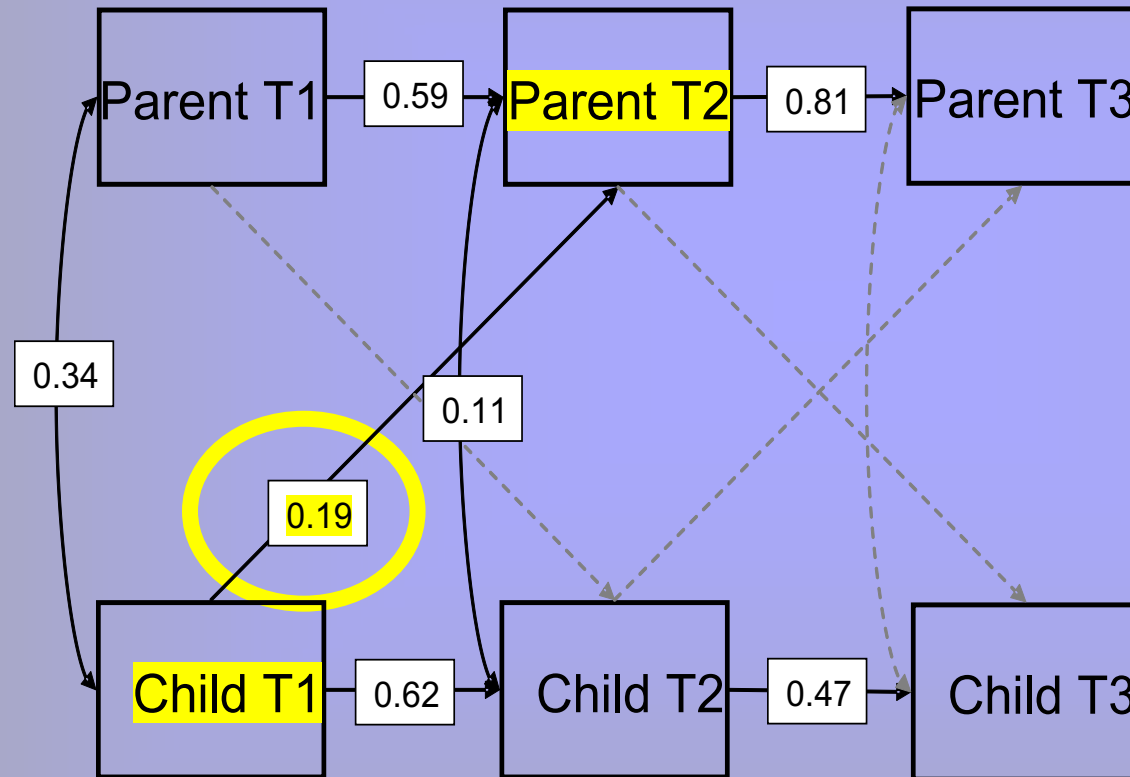
Meals and snacks

- What else can affect parent engagement?

Child engagement

# Parent and Child Engagement Across Early (child sessions 1-8, parent sessions 1-3), Middle (9-16; 4-6) and Late (17-24, 7-10) Intervention

Ellis, Lindsey, Barker, Boxmeyer & Lochman, 2013, *Prevention Science*



- **Parent engagement:**  
*attendance*

- **Child engagement:**  
*attendance, goal points earned, group points earned*

# What else can affect likelihood of engagement? Length of intervention?

- A central barrier to intervention engagement is that intervention can be perceived by practitioners and participants as being **too demanding and too lengthy**
- Lengthy interventions in clinics can interfere with insurance limits, & in schools can be perceived to interfere with school policies & academic demands (Forman et al., 2009)
- Meta-analysis has found that briefer parent interventions can be more engaging and at least as effective as long ones (Maughan et al., 2005)
  - With Coping Power, have found that an abbreviated version of the program (24 child sessions, 10 parent sessions) can have long-term, 3-year later, effects on teacher-rated externalizing behavior (Lochman et al., 2014, *Journal of Abnormal Child Psychology*) similar to the longer version of CP
  - and an even briefer version of CP be feasible....

# Coping Power – Internet Enhanced (CP-IE): A Feasibility Study

- In a NIDA-funded R34 we have augmented brief CP with webpages for children, parents, teachers and counselors
- CP-IE has 12 twice-monthly group sessions for children, 7 group sessions for parents
  - Thus cut over 60% of the sessions from full CP
  - Still lasts for 6 months, based on an important assumption that need a lasting period of time to reinforce nascent behavior changes when dealing with children with chronic externalizing behavior problems
  - All of the essential content is retained through the use of webpages accessible to children and parents
  - Produced significant reductions in children's conduct problems, in comparison to a control group (Lochman et al., *Journal of School Psychology*, 2017)

# Optimizing Intervention Outcome

- Dissemination research: how training and clinician characteristics affect taking a program to the “real world”



# Dissemination Issue #1

- **Is a good basic workshop sufficient training for school and clinical staff to implement intervention programs?**

# Coping Power Field Trial in 57 Schools

Lochman, Boxmeyer, Powell, Qu, Wells, & Windle (2009). *Journal of Consulting and Clinical Psychology*

Training process for school counselors (randomly assigned to receive Basic Training or Intensive Training):

- (1) 3 days of workshop training
- (2) Monthly meetings (2 hours) while intervention underway

***For CP-IT counselors only:***

- (3) Individualized feedback on audiotaped sessions
- (4) Technical assistance from trainers via telephone and email contacts

## NIDA-BIRM - Coping Power Program - Cohort 2

### Audiotape Coding Questions For Parent Groups

School Code: Counselor Code: Session Number: Coder ID: 

- |  |                       |                       |                                 |                                  |
|--|-----------------------|-----------------------|---------------------------------|----------------------------------|
| 1. Lesson proceeds in an orderly fashion.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>           | <input type="radio"/>            |
| <input type="radio"/> Not at All   |                       |                       | <input type="radio"/> Sometimes | <input type="radio"/> Very Often |
| <hr/>  |                       |                       |                                 |                                  |
| 2. Discussion strays from manualized topics onto unrelated tangents.                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>           | <input type="radio"/>            |
| <input type="radio"/> Not at All   |                       |                       | <input type="radio"/> Sometimes | <input type="radio"/> Very Often |
| <hr/>  |                       |                       |                                 |                                  |
| 3. Discussion is elaborated beyond manualized material.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>           | <input type="radio"/>            |
| <input type="radio"/> Not at All   |                       |                       | <input type="radio"/> Sometimes | <input type="radio"/> Very Often |
| <hr/>  |                       |                       |                                 |                                  |
| 4. Counselor encourages group to discuss questions posed by parents.                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>           | <input type="radio"/>            |
| <input type="radio"/> Not at All   |                       |                       | <input type="radio"/> Sometimes | <input type="radio"/> Very Often |
| <hr/>  |                       |                       |                                 |                                  |
| 5. Counselor stimulates discussion.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>           | <input type="radio"/>            |
| <input type="radio"/> Not at All   |                       |                       | <input type="radio"/> Sometimes | <input type="radio"/> Very Often |
| <hr/>  |                       |                       |                                 |                                  |
| 6. Parents ask appropriate questions.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>           | <input type="radio"/>            |
| <input type="radio"/> Not at All   |                       |                       | <input type="radio"/> Sometimes | <input type="radio"/> Very Often |
| <hr/>  |                       |                       |                                 |                                  |
| 7. Parents share personal examples related to the topic.                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>           | <input type="radio"/>            |
| <input type="radio"/> Not at All   |                       |                       | <input type="radio"/> Sometimes | <input type="radio"/> Very Often |
| <hr/>  |                       |                       |                                 |                                  |
| 8. Parents do not attempt to change the subject.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>           | <input type="radio"/>            |
| <input type="radio"/> Not at All   |                       |                       | <input type="radio"/> Sometimes | <input type="radio"/> Very Often |
| <hr/>  |                       |                       |                                 |                                  |
| 9. The emotional tone of the parents' responses indicates enthusiasm about the session.        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>           | <input type="radio"/>            |
| <input type="radio"/> Not at All   |                       |                       | <input type="radio"/> Sometimes | <input type="radio"/> Very Often |
| <hr/>  |                       |                       |                                 |                                  |
| 10. Counselor stops to clarify material.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>           | <input type="radio"/>            |
| <input type="radio"/> Not at All   |                       |                       | <input type="radio"/> Sometimes | <input type="radio"/> Very Often |
| <hr/>  |                       |                       |                                 |                                  |
| 11. Counselor attempts to provide examples that are relevant to the group.                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>           | <input type="radio"/>            |
| <input type="radio"/> Not at All   |                       |                       | <input type="radio"/> Sometimes | <input type="radio"/> Very Often |
| <hr/>  |                       |                       |                                 |                                  |
| 12. Counselor's presentation seems rigid.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>           | <input type="radio"/>            |
| <input type="radio"/> Not at All   |                       |                       | <input type="radio"/> Sometimes | <input type="radio"/> Very Often |
| <hr/>  |                       |                       |                                 |                                  |
| 13. Counselor speaks clearly and intelligibly and has a generally good manner of presentation. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>           | <input type="radio"/>            |
| <input type="radio"/> Not at All   |                       |                       | <input type="radio"/> Sometimes | <input type="radio"/> Very Often |
| <hr/>  |                       |                       |                                 |                                  |
| 14. Counselor's tone is warm and positive.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>           | <input type="radio"/>            |
| <input type="radio"/> Not at All   |                       |                       | <input type="radio"/> Sometimes | <input type="radio"/> Very Often |
| <hr/>  |                       |                       |                                 |                                  |
| 15. Counselor's tone is frustrated or irritable.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>           | <input type="radio"/>            |
| <input type="radio"/> Not at All   |                       |                       | <input type="radio"/> Sometimes | <input type="radio"/> Very Often |

# Field Trial Methods

## Participant selection:

- Teacher screening for “at-risk” youth
  - Rated proactive and reactive aggressive behavior of all 3<sup>rd</sup> grade students
  - 3,774 3<sup>rd</sup> graders screened
  - 30% most aggressive eligible for participation
  - 531 participating students (79% of 670 contacted):
    - 183 CP-BT schools; 168 in CP-IT; 180 in C
    - 84% Af Am; 14% Cauc; 2% Other
    - 95% retention at post-intervention (2 yrs after baseline)

# Field Trial Methods

## Counselor characteristics:

- 49 counselors
  - 17 in CP-BT, 15 in CP-IT, 17 in C
  - 8 counselors served 2 of the participating schools
- 96% Female, 4% Male
- 51% Af Am, 49% Caucasian
- 18% Doctoral level, 80% Master level, 2% BA
- Years experience:
  - 9.9 in CP-BT, 11.9 in CP-IT, 8.8 in C

<p><b>**p&lt;.01, *p&lt;.05,</b></p>		<p><b>CP-Intensive vs Control</b></p> <p><b>Estimate (SE)</b></p>
	<b>Behavior Problems</b>	
	<i><b>BASC Externalizing (teacher-report)</b></i>	<b>-.41* (.11)</b>
	<i><b>BASC Externalizing (parent-report)</b></i>	<b>-.23* (.12)</b>
	<i><b>NYS Minor Assault (child-report)</b></i>	<b>-.25** (.12)</b>
	<b>Targeted Processes</b>	
	<i><b>BASC Social/Academic (teacher)</b></i>	<b>.35* (.13)</b>
	<i><b>BASC Social (parent)</b></i>	
	<i><b>Outcome Expectations (child)</b></i>	<b>-.24* (.08)</b>
	<i><b>APQ Inconsistent Discipline (parent)</b></i>	

<p><b>**p&lt;.01, *p&lt;.05, +p=.06</b></p>		<p><b>CP-Intensive vs Control</b></p> <p><b>Estimate (SE)</b></p>	<p><b>CP-Basic vs Control:</b></p> <p><b>Estimate (SE)</b></p>
	<b>Behavior Problems</b>		
	<i><b>BASC Externalizing (teacher-report)</b></i>	<b>-.41* (.11)</b>	
	<i><b>BASC Externalizing (parent-report)</b></i>	<b>-.23* (.12)</b>	
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	<i><b>Outcome Expectations (child)</b></i>	<b>-.24* (.08)</b>	
	<i><b>APQ Inconsistent Discipline (parent)</b></i>		

# Conclusions/Implications for Training

- Evidence-based prevention programs such as Coping Power can be disseminated effectively to counselors in real-world settings, although:
  - The **intensity of training** makes a difference in whether improvements in children's behavioral and academic outcomes and mediating processes occur
  - **Ongoing supervisory feedback** about program implementation (particularly to foster client engagement) may be critical to promoting positive outcomes



# Dissemination Issue #2

- **Are social-emotional intervention programs likely to have effects on academic grades of students, including special education students?**

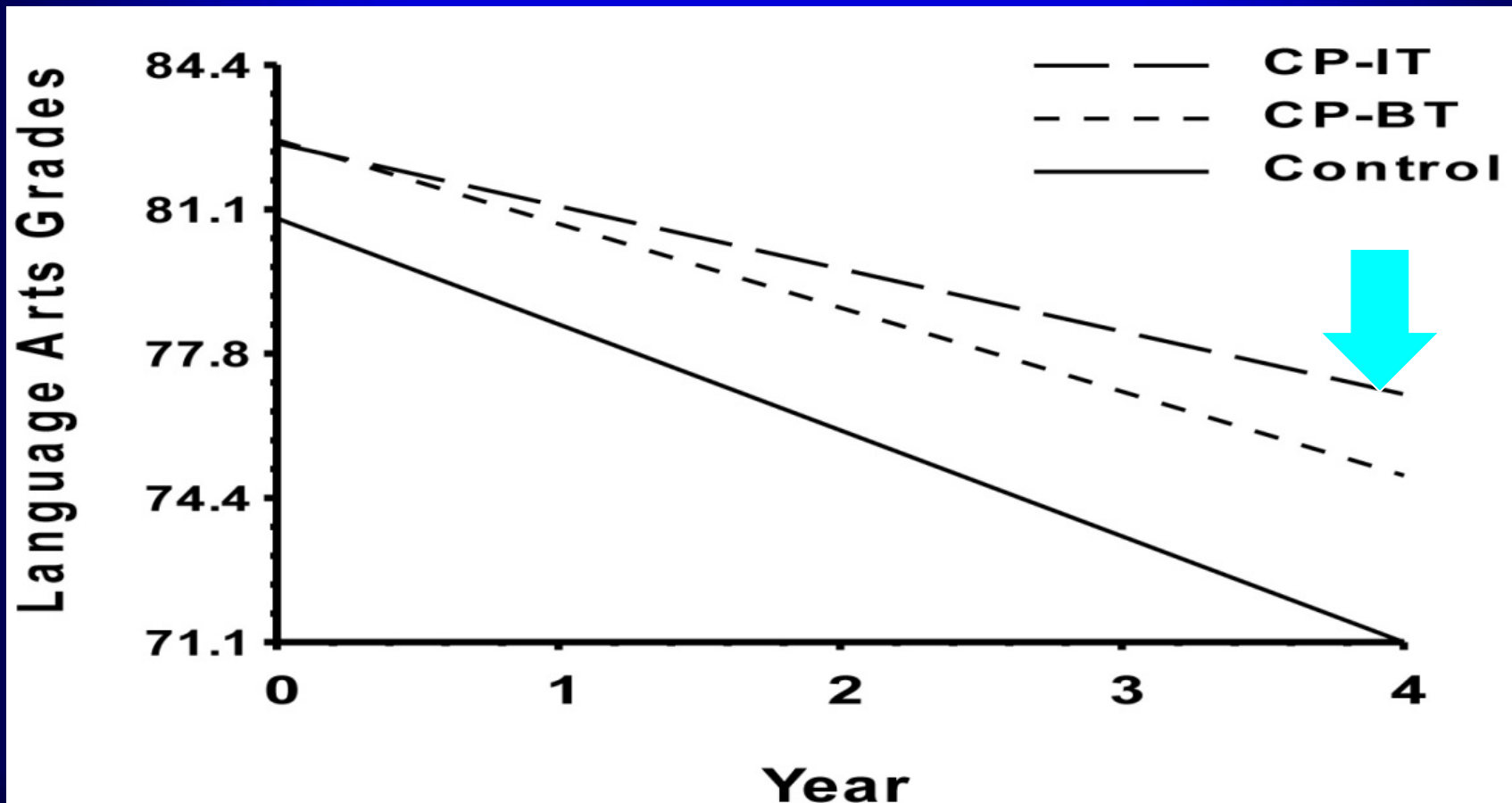
(Lochman, Boxmeyer, Powell, Qu, Wells & Windle, 2012, *Behavioral Disorders*)

# Special Education, Prevention and Academic Achievement

- Examined language arts and math grades for the CP-IT, CP-BT and Control students from Lochman et al (2009)
- School records collected from 3<sup>rd</sup> (baseline), 4<sup>th</sup> (during intervention), 5<sup>th</sup> (post-intervention), 6<sup>th</sup> (1 year follow-up), and 7<sup>th</sup> (2 year follow-up) grades
- School records were obtained for 72% of the five possible data points for each of the 531 participants

# Language Arts Grades: CP-IT vs Control,

$t(36)=-2.13, p=.04$



# Dissemination Issue #3

- **Can the characteristics of schools and school staff affect the sustained use of evidence-based programs?**

# Counselor and School Characteristics Predicting Sustained Use 2 Years After Training

Lochman, Powell, Boxmeyer, Qu, Sallee, Wells, & Windle (2015)  
*Prevention Science*

		CP Child Component	CP Parent Component
	<i>Agreeableness</i>		.32+
	<i>Conscientious</i>	.34*	
	<i>Perceived Teacher Support</i>		.49*
	<i>Perceived Effectiveness</i>	.41*	.39*
	<i>Actual Change in Child Conduct Problems During Training</i>	.38*	.34+

# Conclusions About Counselor and School Characteristics

- Degree and quality of implementation and of sustained use of a program can be influenced by agreeableness and conscientiousness of counselors, by their experience and success in implementing the program, and by the perceived characteristics of the school setting

# Optimizing Intervention Effects: Deviant Group Effects

- Children's association with deviant peers becomes one of the strongest proximal risk predictors for growth in aggression and subsequent substance use and delinquency (Disihon & Patterson, 2016; Barth et al, 2004; Miller-Johnson et al., 1999; Patterson, 1993; Tremblay et al., 1995; Wills et al, 1996).
- And does this deviant peer effect translate into interventions? .....

# Intervention Research and Deviant Group Effects

- Dishion and Andrews (1995) found that by a 1-year follow-up, the youth who had received youth sessions in the Adolescent Transition Program had higher rates of tobacco use and of teacher-rated delinquent behaviors than did the control children, and these iatrogenic effects were evident even if the parents had also received intervention in the combined condition.
  - At a 3-year follow-up, the teen intervention conditions continued to have more tobacco use and delinquency (Poulin et al., 2001).
  - Analyses of the iatrogenic group conditions revealed that subtle dynamics of deviancy training during unstructured transitions in the groups predicted growth in self reported smoking and teacher ratings of delinquency (Dishion et al., 2001).



# So, why use Group Formats?

- working with children in groups is **less costly** than individually-delivered intervention (Mager et al., 2005; Manassis et al., 2002), and can provide greater **“reach”**.
- **group reward systems** and **peer reinforcement** can play an important role in assisting children to attain intervention-related goals and thus to generalize behavioral improvements resulting from intervention to children’s real-world school and home settings (Poulin et al., 2001).
- the group format permits children to **practice learned skills** (Poulin et al., 2001) and the small group format has been considered better than individual formats for skills training (Landau et al., 1998).

# Deviant Group Effects?

- Although the group-based Coping Power program has significantly reduced children's problem behavior through long-term follow-ups, it is plausible that the degree of positive effects *may be reduced or truncated* by deviant peer effects and other behavioral management problems with groups of children.
  - So, experimentally test this possibility
  - And, determine if there are moderators

# Coping Power as a laboratory for...

- ❖ **Delivery Format**, in 4 unfolding sets of analyses, exploring intervention context (group vs individual intervention) interacting, in separate analyses, with person-level moderators
  - ❖ With *baseline child level moderators*
    - ❖ (1) Inhibitory control
    - ❖ (2) Oxytocin receptor gene
    - ❖ (3) Autonomic nervous system (baseline RSA)
      - ❖ These will be examined separately. No relations among these except for a trend for: OXTR and inhibitory control (A allele: 2.8, G: 2.6)
  - ❖ (4) With *child and therapist in-session behaviors*

# SET #1: Group versus individual format for interventions with preadolescent aggressive children

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*Funding from:*

*National Institute on Drug Abuse & National Institute for Child Health and Human Development*

*Journal of Consulting and Clinical Psychology, 2015, 83, 728-735.*

# Design

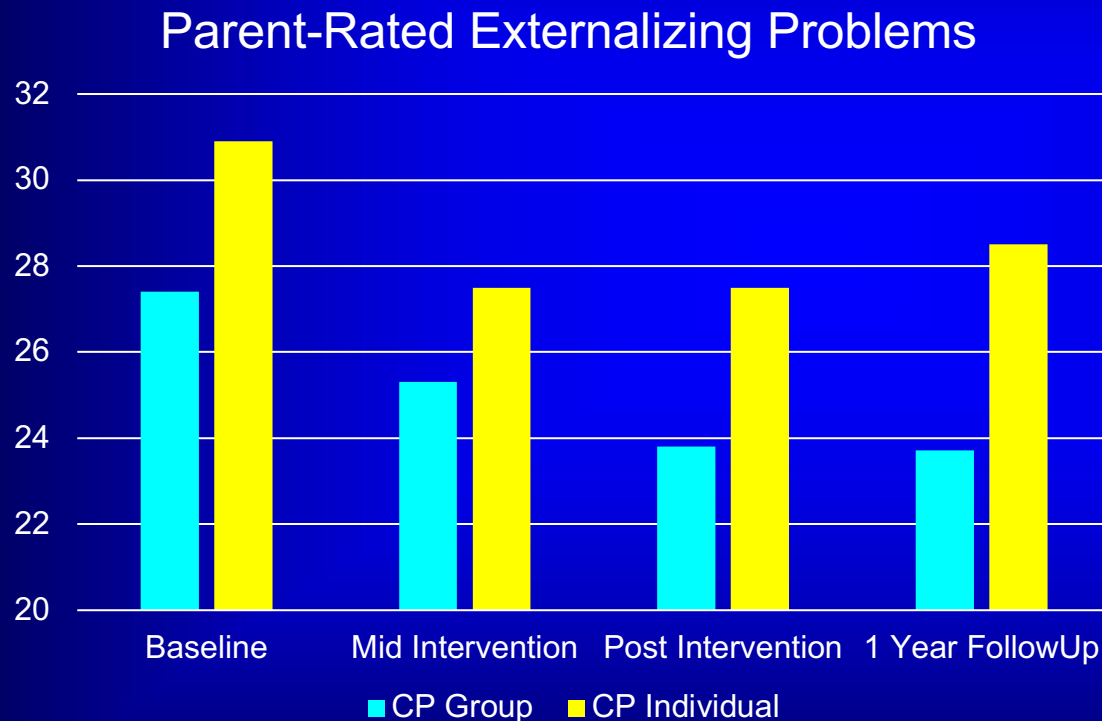
- 360 fourth grade children screened for aggressive behavior with double gate procedure (teacher: top 25% aggression; parent: child not in the nonaggressive range)
- **20** schools randomly assigned to either the **ICP** (individually delivered Coping Power) or **GCP** (group delivered Coping Power) condition
- CP Interventions (*Child Component only*) delivered from spring of 4<sup>th</sup> grade through spring of 5<sup>th</sup> grade (33 sessions)
- 3 annual cohorts
- Assessments: **T1**, **T2** (after 5 sessions), **T3** (post), **T4** (1 yr FU)
- Retention rate was 99% at T2, 92% at T3, 86% at T4

# Sample

	<u><i>N</i></u>	<u><i>% Male</i></u>	<u><i>% African American</i></u>	<u><i>Aggression screen score</i></u>	<u><i>Median Family Income</i></u>
<u><i>GCP</i></u>	180	69%	79%	18.5 (5.3)	\$20,000- 25,000
<u><i>ICP</i></u>	180	61%	75%	19.4 (5.1)	\$20,000- 25,000

- Three-level HLM analyses through 1 year follow-up:
  - Time nested within children; children nested within their intervention unit at their school
  - Moderator:
    - Inhibitory control (parent rating, Early Adolescent Temperament Questionnaire)

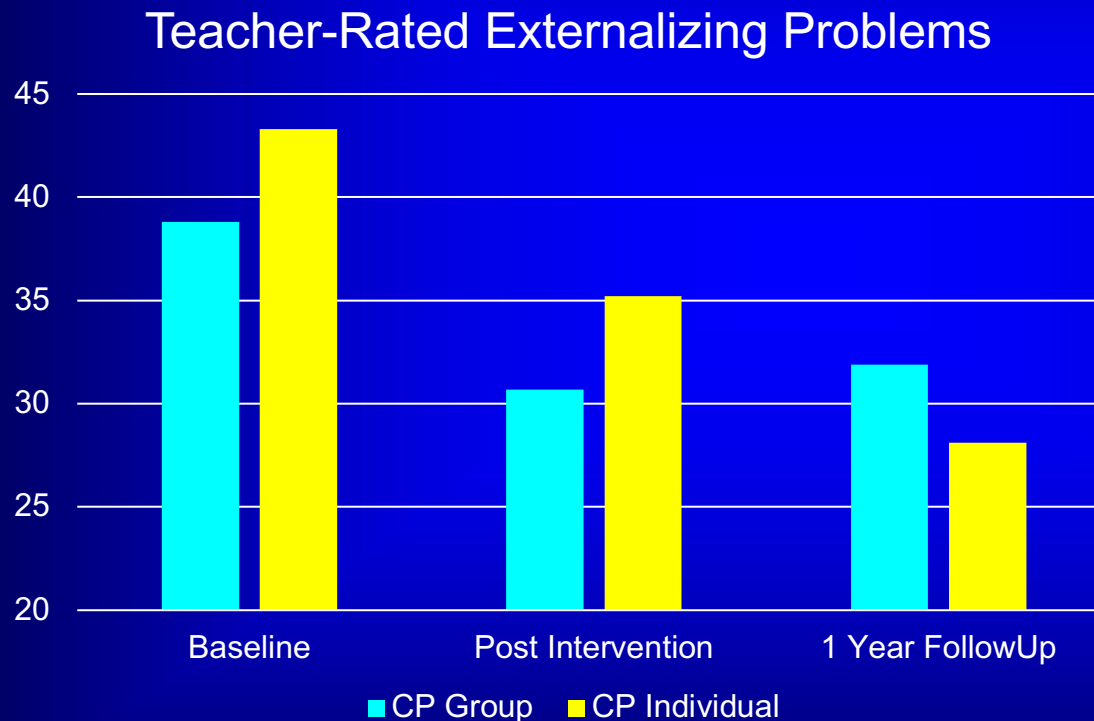
# Group vs Individual Format: Parent Report



- Significant reduction in parent-rated externalizing problems across **both** conditions,  $t=4.26$ ,  $p<.001$
- **No** significant difference between the 2 formats,  $t=0.55$ , ns

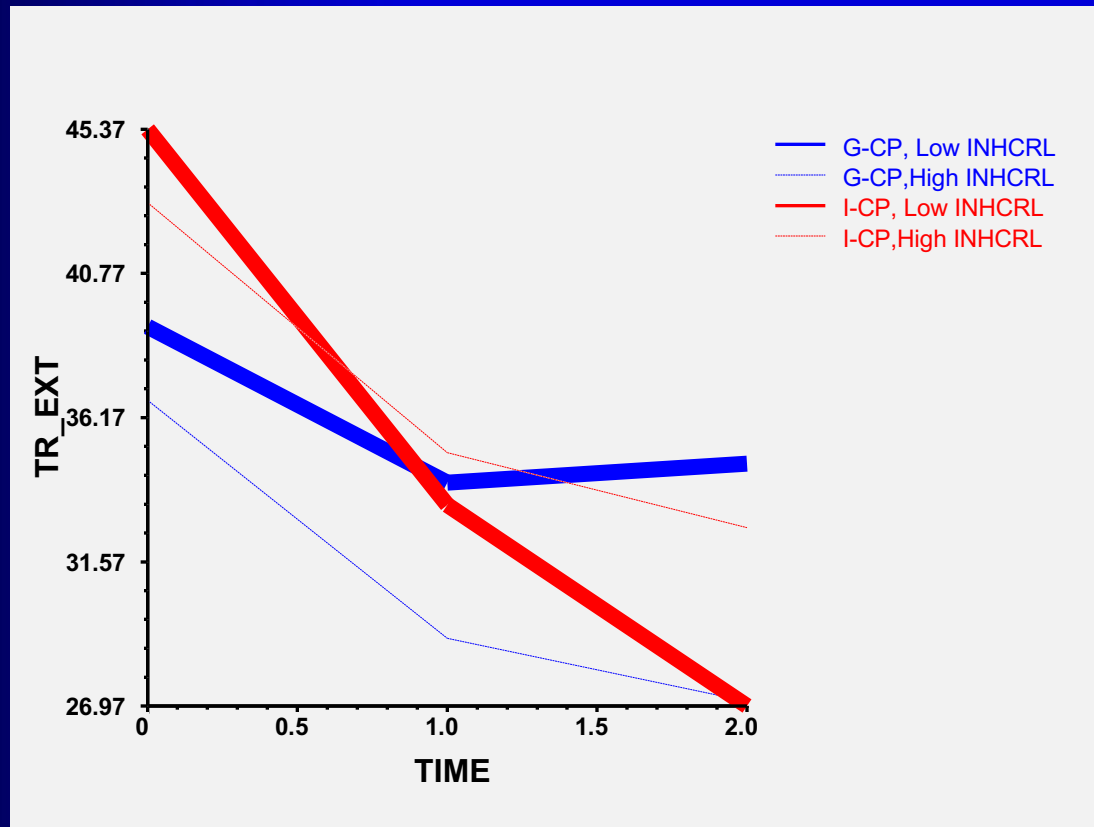


# Group vs Individual Format: Teacher Report



- Significant reduction in teacher-rated externalizing problems **within each** condition,  $p < .01$
- **Significant** difference between the 2 formats,  $t = 2.31$ ,  $p < .03$

# Group vs Individual Format: Teacher Report – Moderation by Inhibitory Control



- Significant moderation of format effect, by inhibitory control,  $p < .03$
- *ICP led to greater reduction in externalizing than ICP when children have lower inhibitory control*

# SET #2: Oxytocin Receptor Gene interacts with group based interventions for conduct problems

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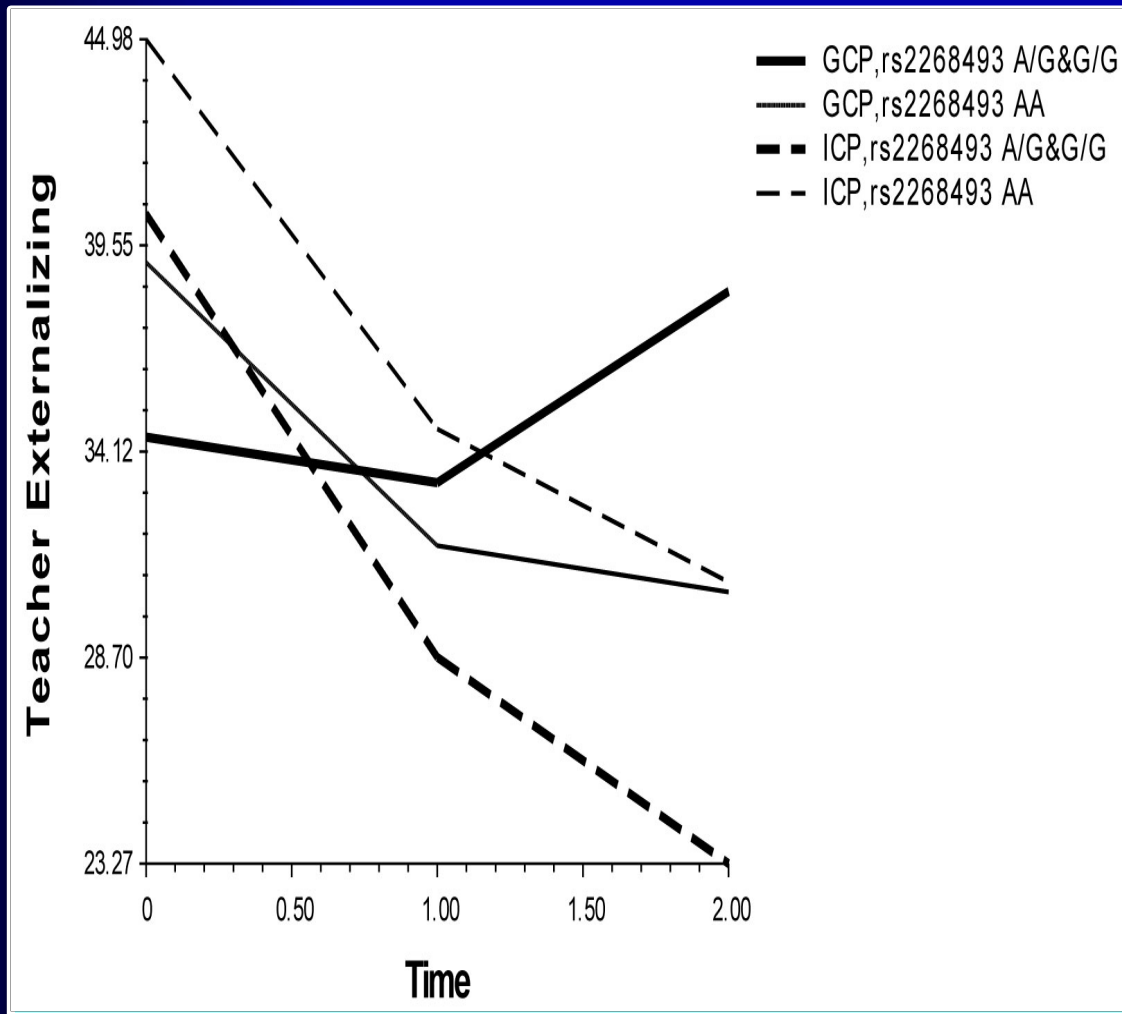
*(in press) Prevention Science*

*Funding from: National Institute on Drug Abuse, & National Institute for Child Health and Human Development*

# Genetic moderators in HLM analyses

- **Outcome** is *teacher* report across time of
  - BASC Externalizing Behavior Problems
- The HLM analyses indicate whether the genetic polymorphism was a ***moderator*** of the intervention condition (individual vs group) effect
- Provide suggestions about mechanism of action

# Oxytocin *moderation* of condition for *teacher-rated externalizing behavior*



OXTR1 x Condition:  $F=1.94$ ,  $p=.05$

## Group format:

- **Poorer outcome for children with G/A & G/G alleles**
- **Best with A/A allele**
  - A allele associated with CU traits (Beitchman et al., 2012), autism diagnosis (Campbell et al., 2011; Yrigollen et al., 2008), reduced activity in reward-related brain regions (Damiano et al., 2014)
  - *Youth with A allele may be less sensitive to social rewards and less affected by deviant peers and by in-group vs out-group dynamics, than those with G allele; they may be more in need of the CP skills*

## Individual format:

- No effect of genotype

OXTR1 = rs2268493 (receptor gene snp)

# SET #3: Autonomic Nervous System Predictors of Response to Group versus Individual Formats

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(with: Thomas Dishion, Nicole Powell, Caroline Boxmeyer,  
Lixin Qu, Francesca Kassing)

*Paper under review*

*Funding from: National Institute on Drug Abuse, & National Institute for Child Health and Human  
Development*

# Autonomic Nervous System

- ANS indicates regulation of arousal
- Parasympathetic Nervous System (PNS) is a branch of the Autonomic Nervous System (ANS), linked to heart functioning
  - PNS conserves and restores energy, activation involves reduction in physiological arousal
    - Indexed by respiratory sinus arrhythmia (RSA), a measure of vagal tone
    - High baseline scores are an indicator of greater emotional regulation

# RSA as possible moderators of intervention format effects

- Baseline RSA (collected during 60 second period)
- Two 3-level HLMs, examining interaction of RSA with format condition (group vs individual), using the Lochman et al. (2015) sample, on children's teacher-rated:
  - Proactive and Reactive aggression (Dodge and Coie)



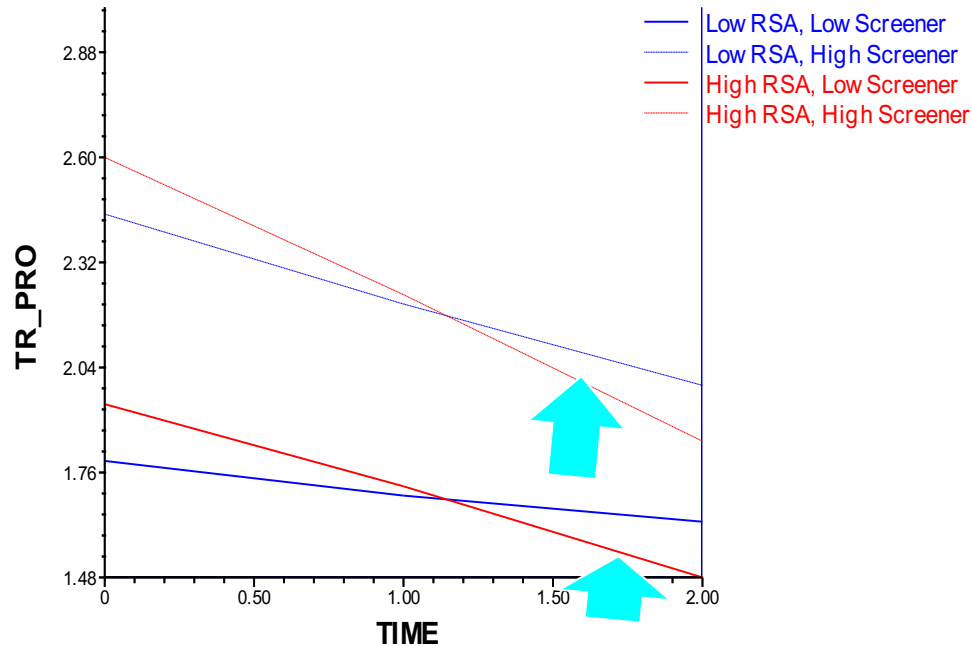
# Teacher-rated Proactive Aggressive Behavior & RSA

Fixed effect	Coeff	SE	Df	p
INTERCEPT				
RSA	.06	.05	202	ns
TIME SLOPE				
RSA	-.04	.05	202	ns
X SCREEN	-.03	.01	202	.022
<b>X IGCP X SCREEN</b>	.03	.01	202	<b>.021</b>

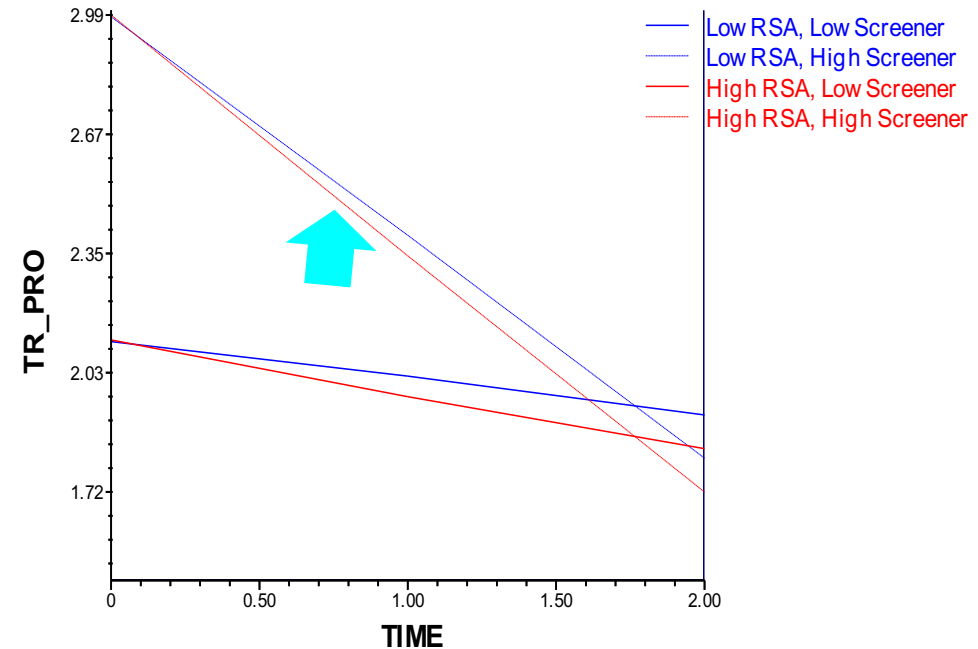
- RSA unrelated overall to proactive aggression at baseline and no main effects over time
- Significant 3-way interaction between RSA, screener score, and condition

# Teacher-rated Proactive Aggressive Behavior & RSA

## ● GCP



## ● ICP



● **Greater decline with high RSA**

● Greater decline with higher screen

# SET #4: Variation in Response to Evidence-Based Group Preventive Intervention for Disruptive Behavior Problems: A view from 938 Coping Power sessions

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*(in press) Journal of Abnormal Child Psychology*

*Funding from: National Institute on Drug Abuse & National Institute for Child Health and Human Development*

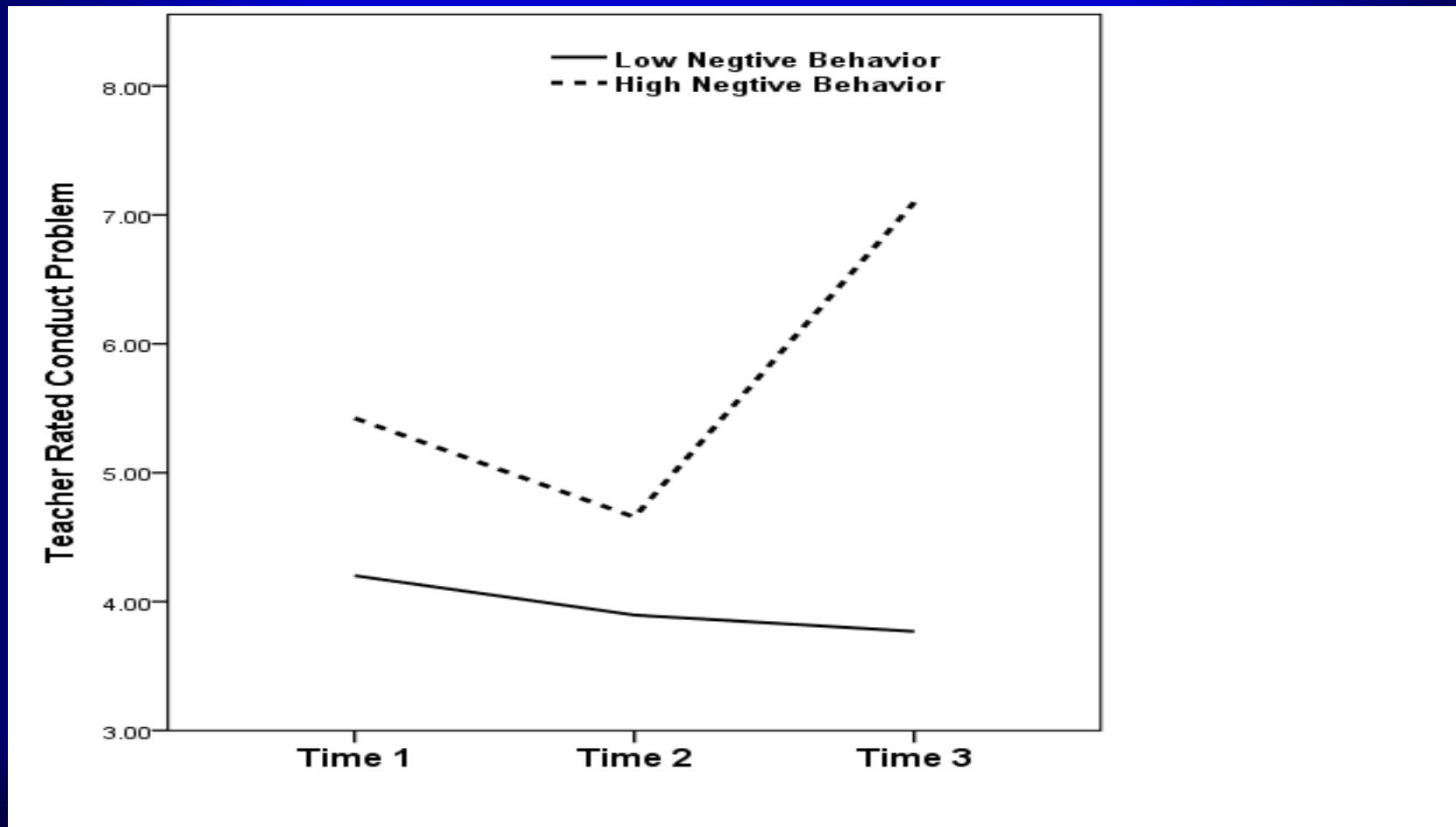
# Behavioral Coding System

- Uses a macro rating scale to code child and group leader behavior in three 10-minute periods (beginning; middle; end) for each session
- Child behavior codes
  - Positive (5 items: involvement; initiate positive interactions)
  - Negative (14 items: off-task, inattentive, disruptive, aggressive, deviant talk about aggression or substance use)
- Leader behavior codes
  - Group management (15 items: behavioral management, teaching strategies)
  - Clinical skills (4 items: warmth, not angry, flexible)
- Training: to 80% agreement; 15% of sessions double-coded
- Internal consistency ok (.7-.9)

# Summary of HLM Growth Curve Analyses (with Spline modeling) of Teacher-Rated Conduct Problems

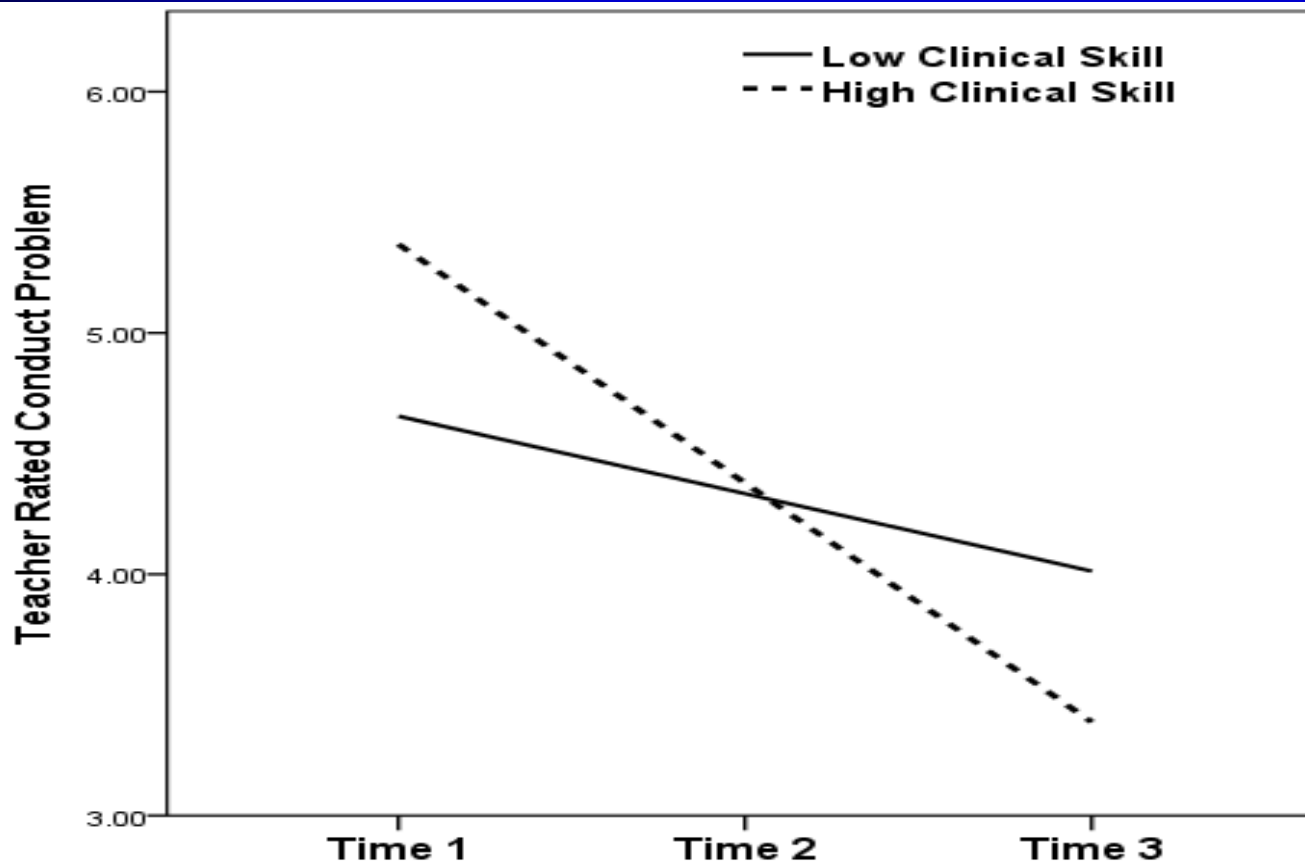
		Conduct Problems		
		Coef.	SE	P-Value
Time Slope				
overall slope		-0.58	0.31	0.068
Leader's Behavior	Group Management			
	Clinical Skill	-0.49	0.22	0.035
Children's Behavior	Positive			
	Negative	-0.38	0.53	0.474
	Spline 2	2.47	0.87	0.006

# Child Negative In-Session Behavior Predicting Teacher-rated Conduct Problems (Spline 2 effect)



# Leader In-Session Clinical Skills

## Predicting Teacher-rated Conduct Problems



# Summary: In-Session Behaviors that Predict Outcomes in Groups

- Child behaviors
  - More negative behavior and deviant talk in session, then more teacher-rated conduct problems, and parent-rated aggression and conduct problems
- Leader behaviors
  - Higher clinical skills, then lower teacher-rated conduct problems
    - Modeling greater emotional regulation
    - More social reinforcement
    - Enhanced therapeutic alliances
    - *Therefore, need for training for group therapists*



# Child Interventions: Group Format – *conclusions*

- What we have learned so far:
  - Findings of moderation depends on outcome source and setting (more evident in school setting than in home setting)
  - We can identify some aggressive children who are not likely to have strong outcomes in the school setting if they receive this structured intervention in a group format:
    - children with *lowest inhibitory control*
    - children with G genotype of Oxytocin receptor gene, and thus more oriented to *social bonding*
    - Children with low RSA, and thus *lowest emotional regulation*
    - Children engaged in *high rates of negative behavior and deviant talk* in sessions, and group leaders had *low levels of clinical skills*

So, what can group therapists  
do.....

# Group leader strategies that can moderate outcomes

- Redirecting attention
- Use of tight time schedules that don't permit time for deviant talk
- Re-establishing appropriate group norms
- Use of rewards and punishments; praise for compliance
- Use of specific teaching strategies
  - Praise for cooperative behaviors
  - Introduction of, and review of, activity
  - Clear directions for activities, with examples

## Encouragement of Positive Behavior and Therapeutic Alliance

- **Develop positive rapport with students** (e.g., individual sessions, learning likes and dislikes, etc.): though not at the expense of monitoring child behavior and providing strikes and other consequences.
- **Therapeutic bond in early sessions** with aggressive children predicts degree of reduction in aggression and conduct problems following intervention (Qshequilla Mitchell)

# Group Behavior Management

1. Real teachers dress the part.
2. Real teachers give a “rules” speech.
3. Real teachers are decisive.
4. Real teachers use textbooks.
5. Real teachers are direct and to the point.
6. Avoid confrontation. *Never correct in front of the group.*
7. Ignore selectively.

From: Rubinstein (1999). *Reluctant disciplinarian*.

# Group Behavior Management

## General Behavioral Management

- Be prepared!
- Brainstorm possible problems and solutions ***before*** group sessions, when are preparing for group activities and materials (***And debrief at the end***)
- Be consistent with starting and ending times

# Group Management Issues – Start Up

- Assigned seating
- Send letter home to parents and follow up with phone call.
- Connect with students.
  - Chat before and after group
  - Likes/dislikes
  - Activities/hobbies/etc.
- Predict children will have some resistance (“questions about...”) to group activities and the leaders’ group management (due to lack of understanding, may not agree, boredom, other pressing needs)
- Predict positive changes and success

# Group Behavior Management

## General Behavioral Management

- Design a plan for gathering students to and from classroom or waiting room
  - Children arrive on own?
  - Model and practice how you would like children to arrive and leave
  - Restroom visits?



# Group Management Issues

## General Behavioral Management

- Review rules as needed; clearly indicate when rules are in effect
- Gain attention of group before speaking
- Attend to tone of voice, eye contact, verbal and visual cues (range from positive to authoritative but calm, no yelling)

# Minor Behavioral Management of Individual Group Members

- Physical proximity, e.g. place active child next to self or between leaders
- Physical contact, e.g. hand on shoulder
- Planned seating arrangements
- In-room cooling-off

# Group Management Issues – Directions

- ▶ Give directions only when you have the attention of all students.
  - ▶ Make directions simple and specific.
  - ▶ Remember Coping Power Parent information on giving effective directions!
  - ▶ Ask one or 2 students to repeat directions.

# Group Management Issues - Praise

- Make sure to recognize appropriate behaviors.
- Praise **behavior** rather than students to decrease embarrassment/self-consciousness

*Instead of:*

“Thank you, Christopher, for listening.”

*Try:*

“I really appreciate all of you who are participating in the discussion.”

# Group Behavior Management: Positive Consequences

- Socially reinforce the “prosocial opposites”
  - Catch them being good
- Use “labeled praise” at a high rate
- Deliver bonus points contingent on good behavior
- Assign a title to student with best or most improved behavior each week (e.g., “Super Star”, “Super Kid”)
- Allow students with appropriate behavior to earn extra “privileges” (e.g., passing out handouts)

# Practices for Management of Inappropriate Behavior: Consequences

- **Deliver consequences quickly and without emotion.**
- OK to ignore some minor disruptive behaviors
- Divert group's attention to new interesting task
- Reinforce children who ignore attention-seeking behaviors of others
- **Process incidents of inappropriate behavior** with student and teach/model appropriate behavior.
  - Can meet individually outside of group time, to process problems and to promote relationship development

# Group Management Issues – Transitions

- Plan carefully for transitions between activities and prepare children.
- Close monitoring of group members' behavior (verbal and nonverbal) – anticipate that *deviancy training* can occur

# Group Management Issues – Side Conversations

- Different things will work for different groups
  - Be Creative!
  - Keep it Positive!
- Have students come up with a signal that you can use to get their attention (e.g. raise hand, chime)
- Practice using the signal
- Assign one student the role of “time keeper”
- Set up a contingency
- ***Other ideas?***



# Ongoing Behavior Problems

**Ongoing behavior problems may require more intensive intervention.**

- Individualized behavior plan.
- Meet with teacher, parents for insights and ideas for behavior management practices.
- Split group into 2 subgroups.
- Meet with very disruptive child individually; perhaps make return to group contingent on behavioral improvement.