

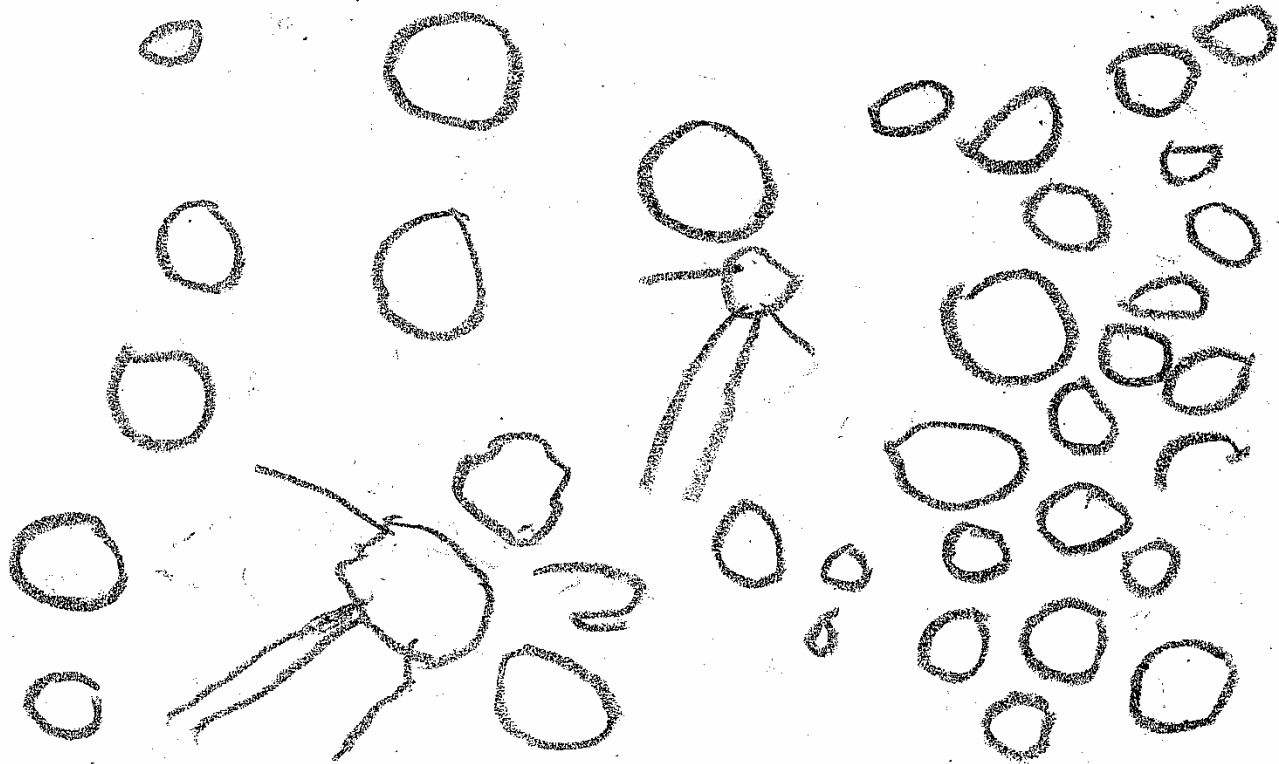
Toward Empirical Evidence of a New Treatment Approach – The Stanford Cue-Centered Treatment Protocol

Victor G. Carrion, M.D.

Stanford Early Life Stress Research Program
Lucile Packard Children's Hospital







Hurricane Katrina



www.KatrinaDestruction.com



Interpersonal Violence



The Problem

- 6,000 abuse cases reported to CPS annually in SF
- 1,000 cases substantiated; 1 million nationally
- More than one of four children, regardless of economic status, experiences a significant traumatic event before reaching adulthood.
- Child abuse; domestic, community or school violence.
- Disasters (natural and man-made).
- Medical traumas, war, terrorism, refugee trauma, the traumatic death of significant others, kidnapping and torture.

The Problem

- In California, African American/Black, Native American and Hispanic/Latino children have the highest rates of exposure to violence.
- They also have the highest high school dropout rates, lowest college preparatory course completion rates, and lowest high school exit math exam scores.
- Prevalence of PTSD; Significance of DX
- Chronic Threat

The need for treatment

- Without treatment, PTSD can potentially become a chronic condition
- Even those who recover from PTSD are likely to relapse
- Due to their developmental level, youth may be particularly vulnerable to trauma's effects
- Trauma can also result in many other symptoms, including depression and anxiety

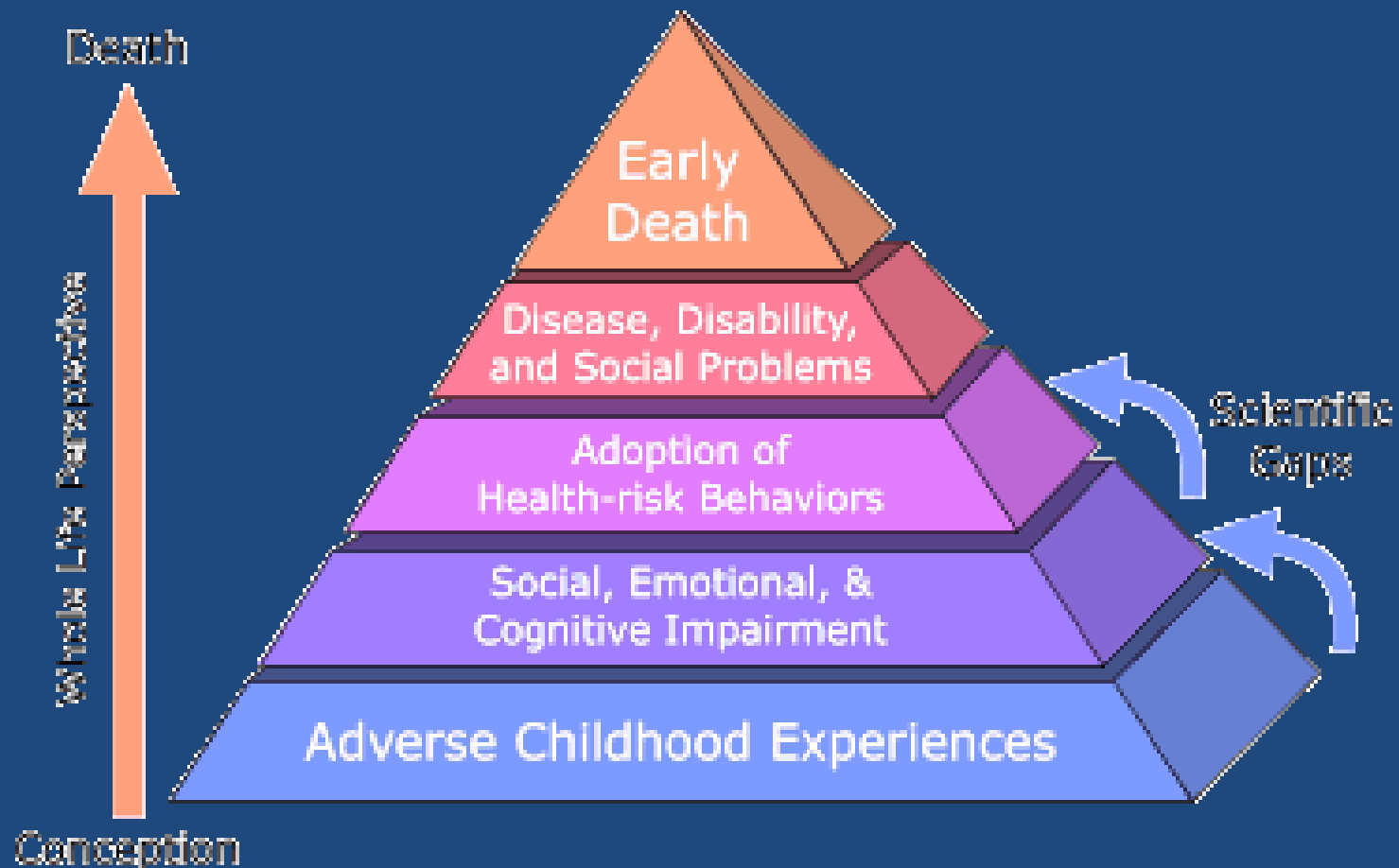
Cue-Centered Therapy

- A **short-term** (15-18 sessions), **psychosocial treatment** for children and adolescents who have experienced trauma
- **Multimodal**: combines different elements believed to be helpful in treating trauma
- **Flexible**: can be adapted based on youth's age, developmental level, background, and current functioning
- Designed to address trauma's impact on **four core domains**:
 - Cognition
 - Emotion
 - Behavior
 - Physiology

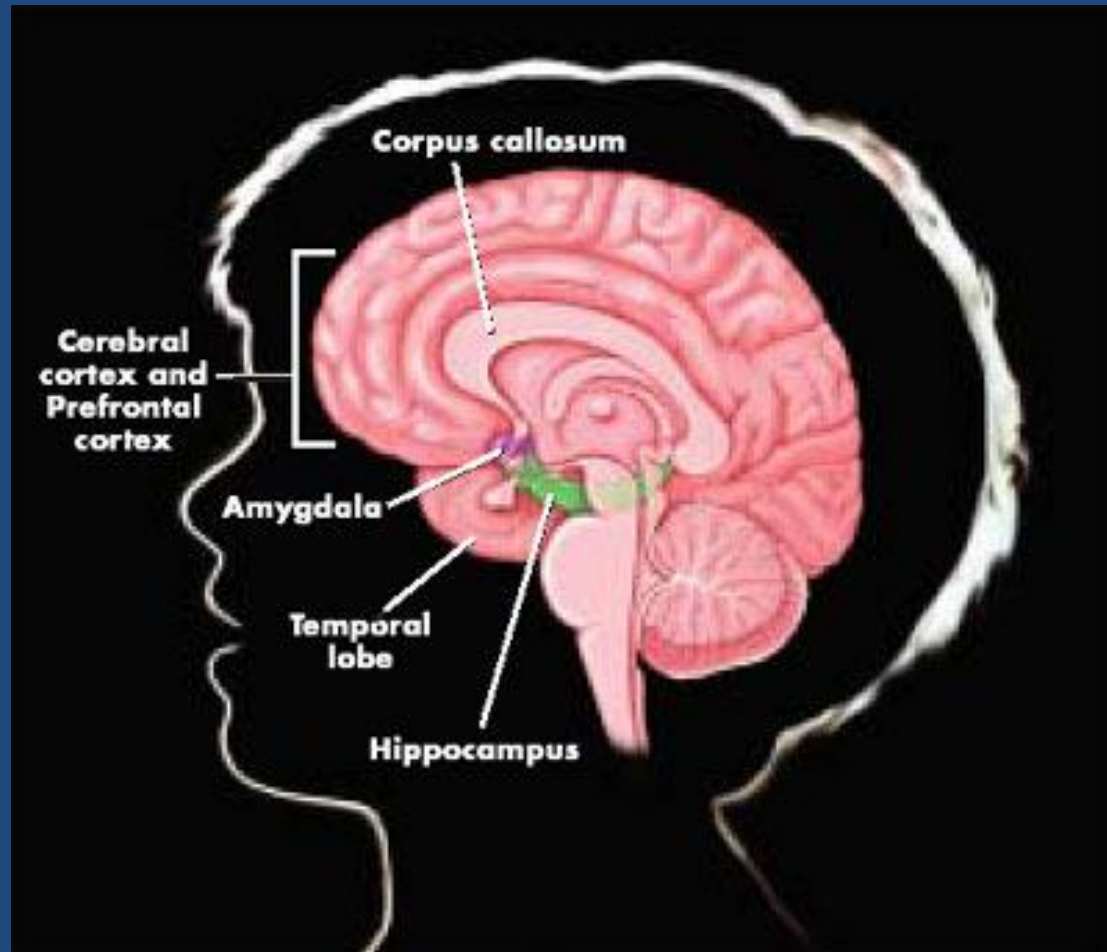
CCT aims to help youth:

- Reduce negative cognitions
- Express emotions regarding the trauma
- Identify and change trauma-related behavioral responses
- Gain empowerment through knowledge and skills
- Strengthen the relationship between caretaker and child

Adverse Childhood Experiences

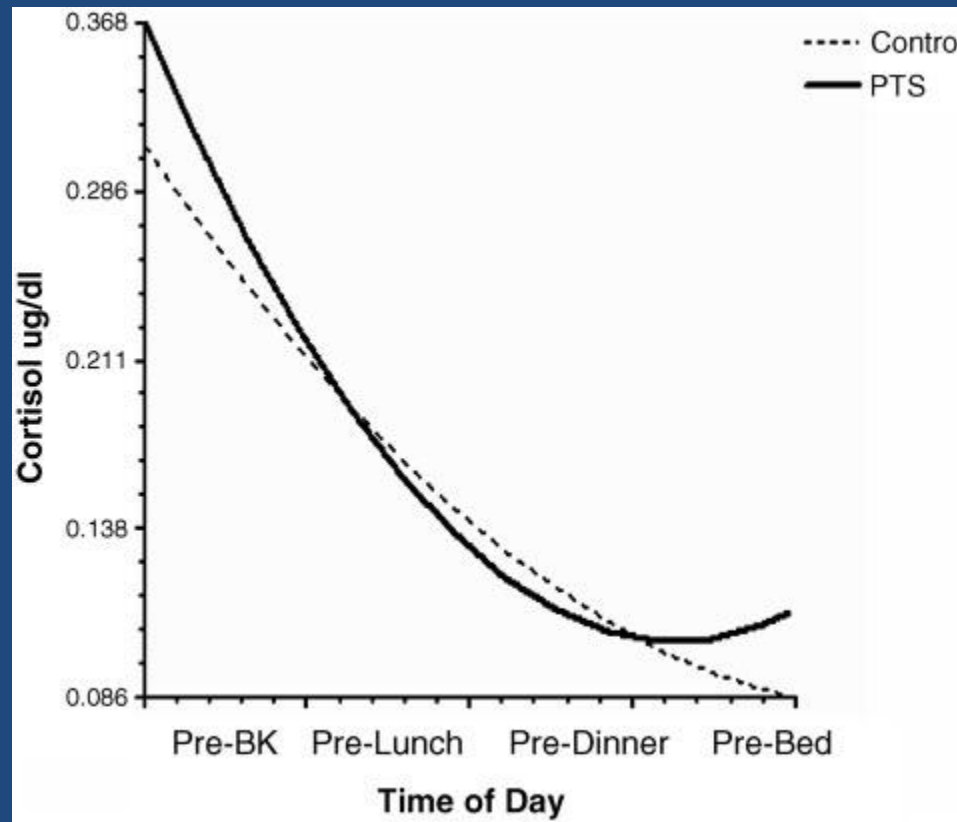


Processing a Traumatic Event

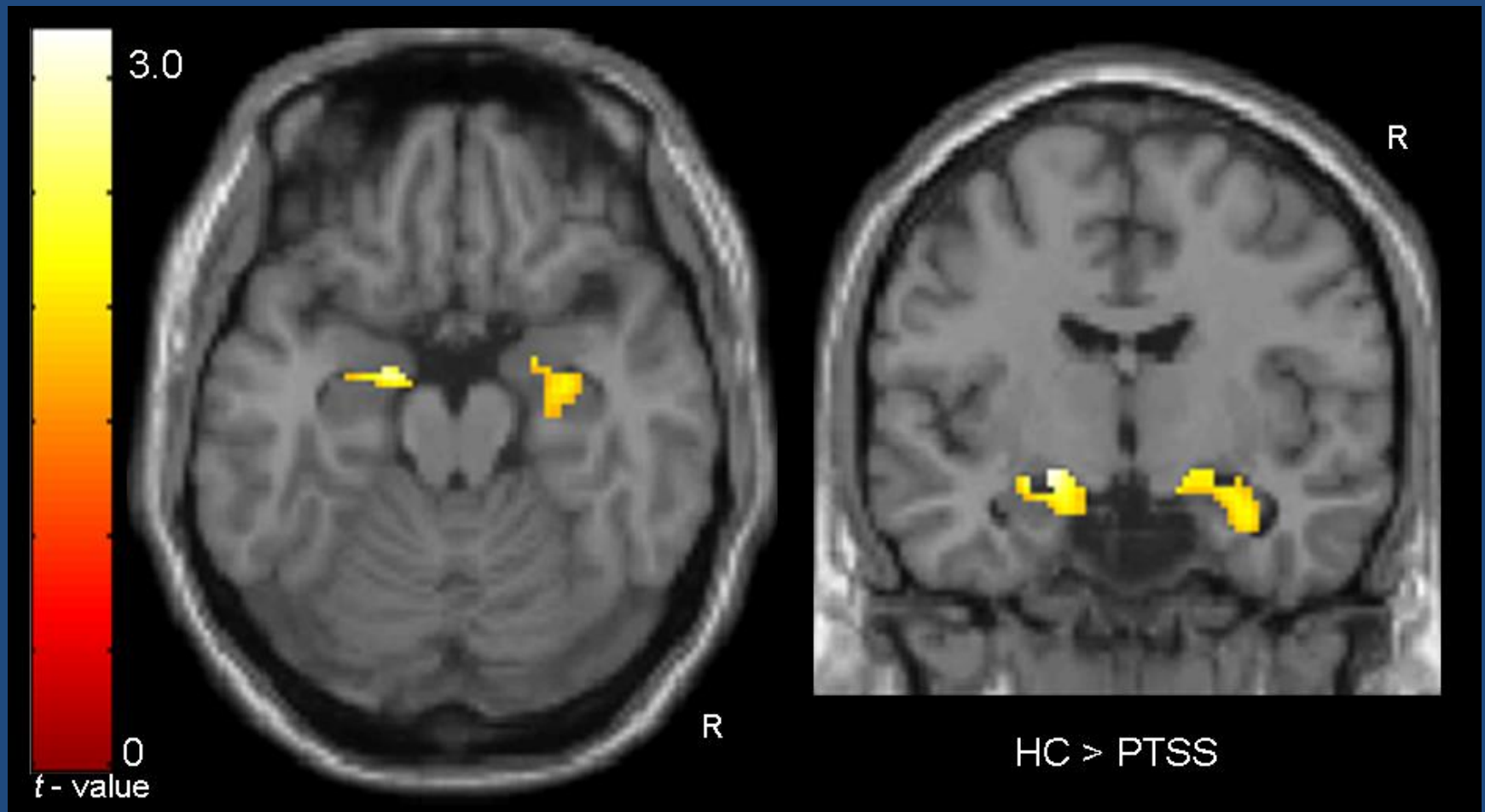


Trends in cortisol levels across time of day: HLM Analysis

Weems and Carrion 2009 Journal of Pediatric Psychology

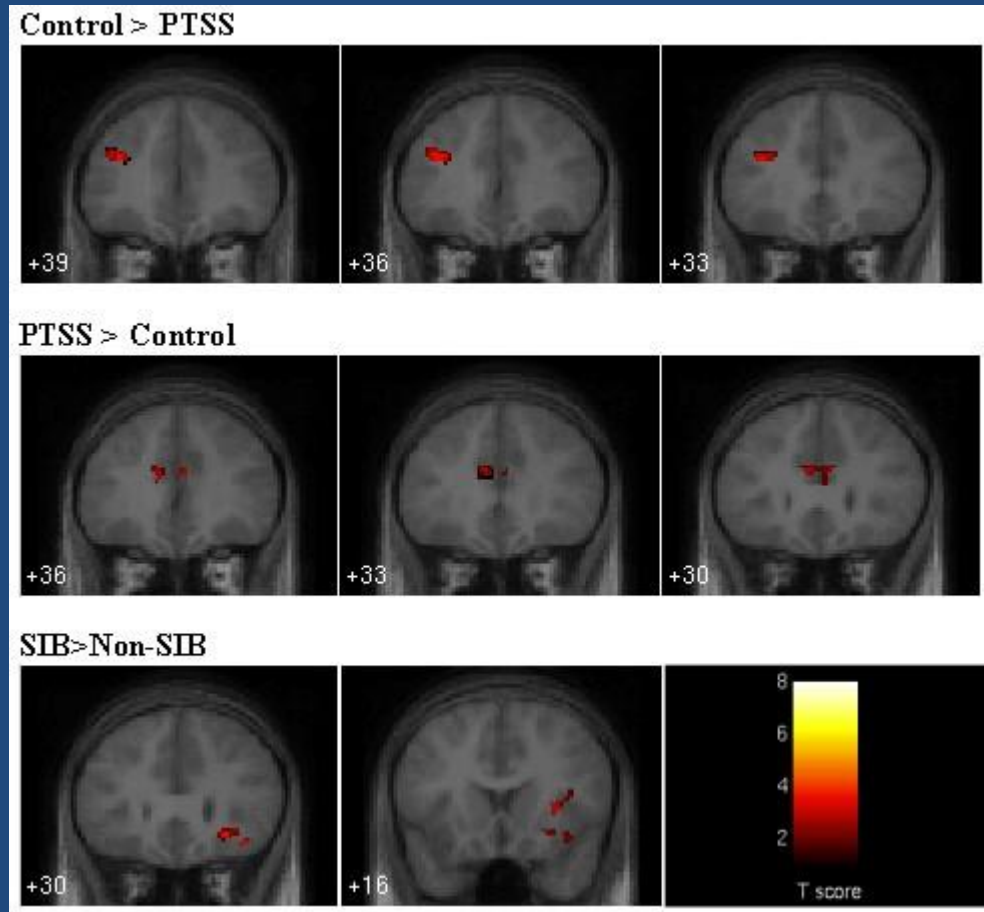


Left and right hippocampal activation during retrieval found to be greater in the HC group compared to the PTSS group. Clusters are overlaid upon a standardized template brain in an axial view (left: $z = -18$) and a coronal view (right: $y = -20$). Carrion et al. 2010 Journal of Pediatric Psychology

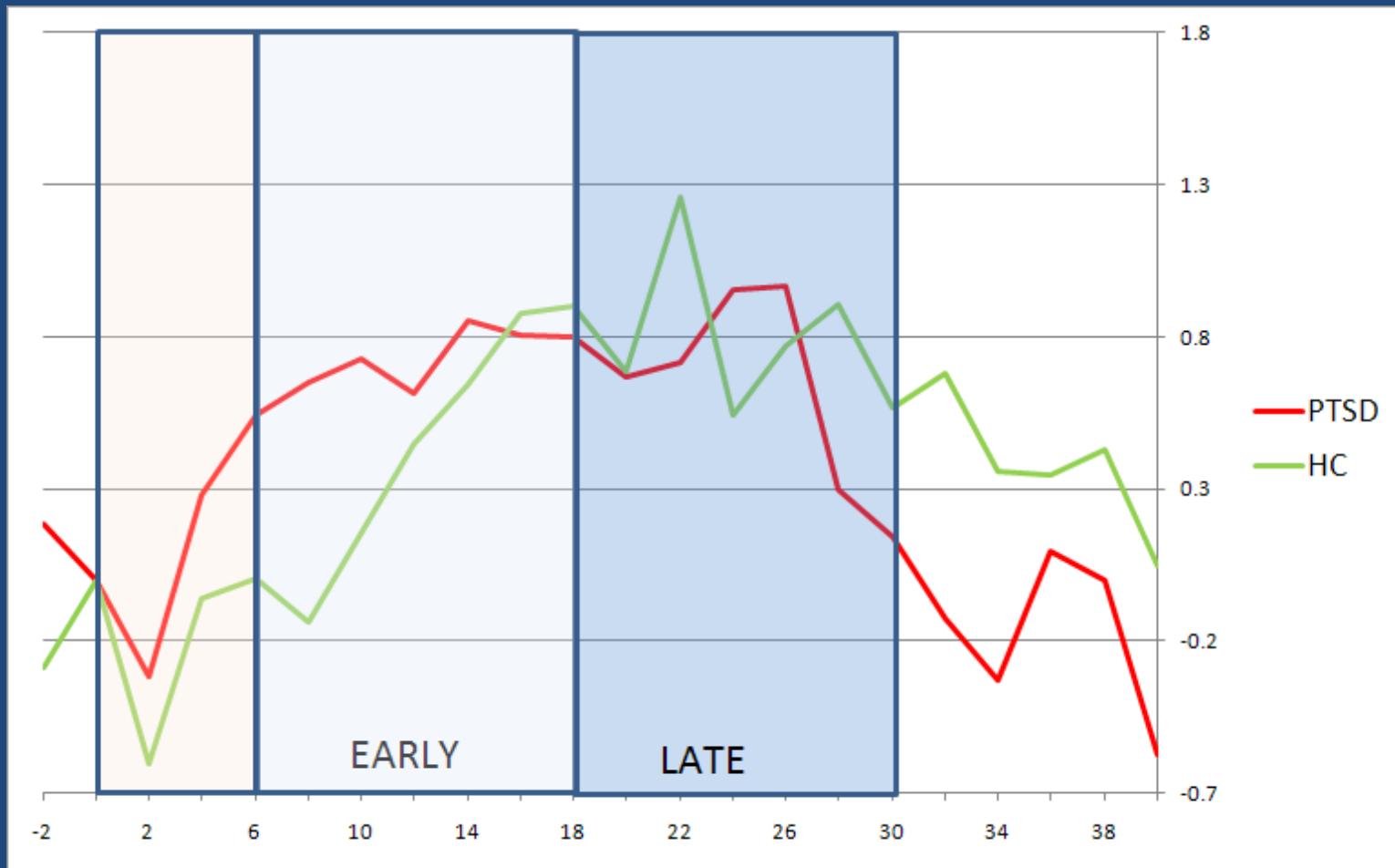


FMRI Findings for Response Inhibition.

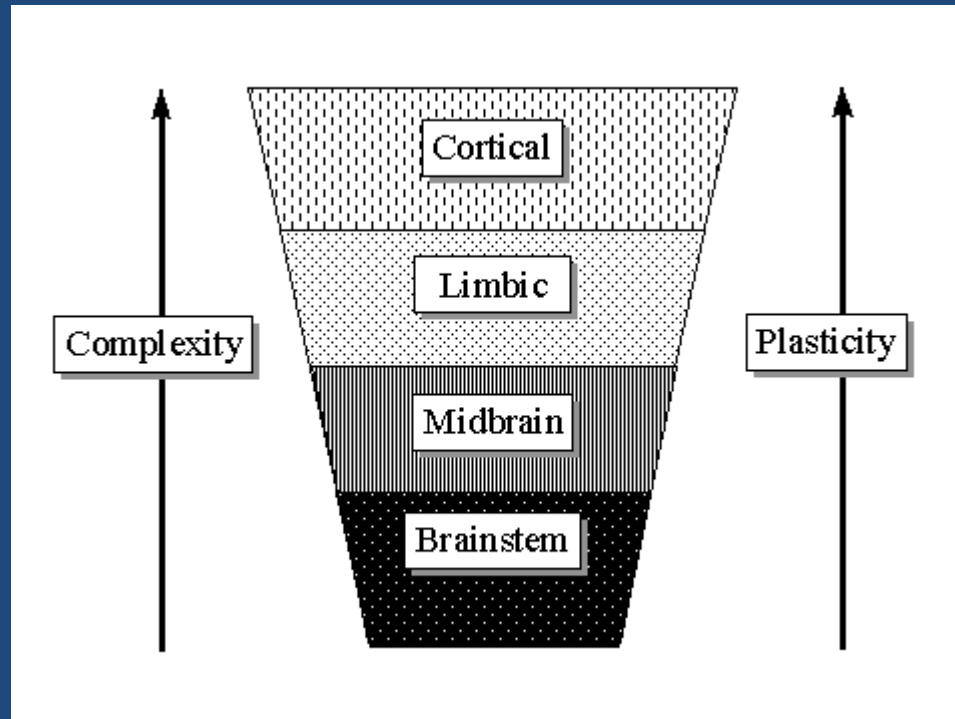
Carrion et al. 2008 Depression and Anxiety



Amygdala Early Activation



Strengthening the Child: Improving Brain Function



Rationale for new treatment

- Relevance of Classical Conditioning
- Limited responses
- Influence of Allostatic Load
- Compartmentalization
 - Insight Oriented Approach
- Order of sessions
 - What to do when
 - Not to intervene too early
- Self-empowerment
 - Identification of Cues
 - Updates
 - Strengthened through exposure

Stanford CCT - Multi-modal therapy

- Cognitive and Behavioral
- Insight oriented therapy
- ***Psychoeducation
- Self-empowerment

Treatment Outline for Cue-Centered Therapy

- | | |
|---|----------------------|
| 1. Psychoeducation | Child and Caretakers |
| 2. Relaxation/Cognitive Tools 1 | Child |
| 3. Relaxation/Cognitive Tools 2 | Child and Caretakers |
| 4. Trauma Narrative 1 | Child |
| 5. Trauma Narrative 2 | Child |
| 6. Reformulation of Trauma | Child |
| 7. Reformulation of Trauma | Child |
| 8. Midtherapy Session | Child and Caretakers |
| 9. Approaching Cues “Reminders” | Child and Caretakers |
| 10. Hypothetical Exposure to Cues “Reminders” | Child |
| 11. Within Session Exposure to Cues “Reminders” | Child |
| 12. Evaluation of In-Vivo Exposure Assignment | Child and Caretakers |
| 13. Trauma Narrative 3 | Child |
| 14. Closing Session 1 | Child and Caretakers |
| 15. Closing Session 2 | Child |

Cue Centered Therapy (CCT)

- Importance of cues in trauma
- Engaging the parent as coach
 - But individual main resource
- Therapist is a teacher and partner
 - Child is active in identifying cues/resources/responses
- The Square: Cognitions, Emotions, Physiological Reactions, Behavior

Session 1 - Example

Goals:

- Caretakers and youth acquire knowledge on the psychological aftermath of trauma, the long-term consequences of not addressing the trauma, and the benefits of treatment.
- Provide a conceptualization of trauma and the treatment process. Explain the structure of treatment and hand out Caretaker and Youth Booklets.

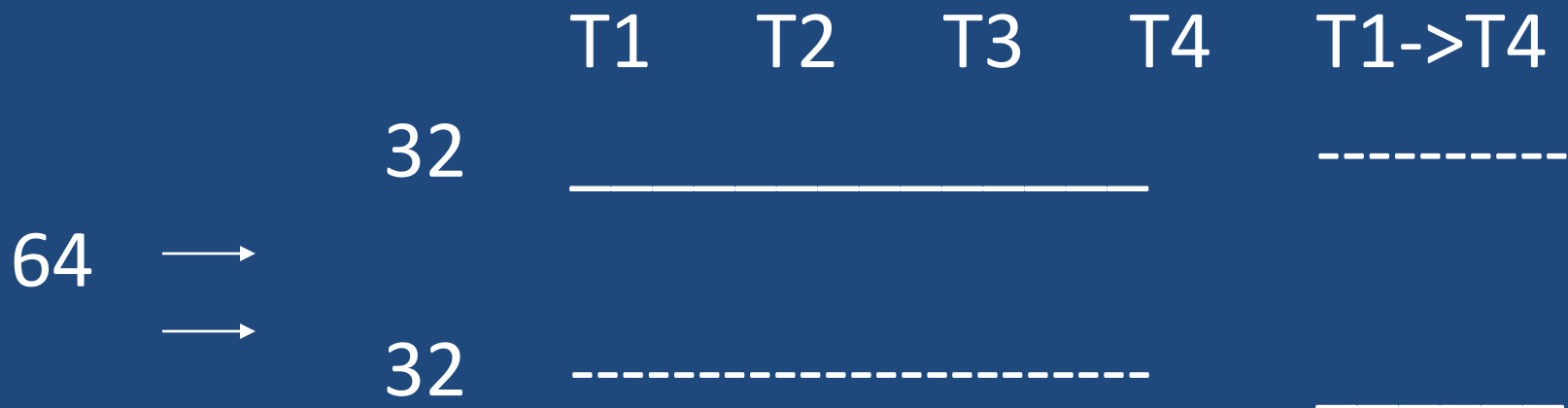
Therapist's role:

- Communicate this information in a clear manner.
- Build rapport and provide hope.

Session breakdown:

- Inform the youth and her caretaker(s) about normal reactions following trauma and the potential for ongoing or re-occurring problems if left untreated.
- Talk about research showing short-term psychotherapy to be an efficacious treatment for traumatized children and youth.
- Explain how trauma can cause effects in the four core areas and how this treatment attempts to address each one.
- Let youth know that a critical part of treatment will be confronting the trauma and traumatic reminders, that this can seem scary, but that it will eventually help her to manager her current difficulties.
- Introduce the term cues and explain how cues relate to behavioral responses.
- Explain the general format of therapy and give an overview of the phases of this therapy. Introduce the concept of take-home activities. Briefly go over the contents of the Caretaker and Youth Booklets, and describe the checklists and forms found within them.

School-Based RCT - Design



Jane

- 15 y.o. Latina girl, appearing 18
- History of physical abuse, domestic violence
- Step-Dad violence towards Mom
- At 9 Bio-Dad told her he was not going to see her anymore because he couldn't handle her Mom.
- Joined gang, using substances and involved in fights at school.

Michael

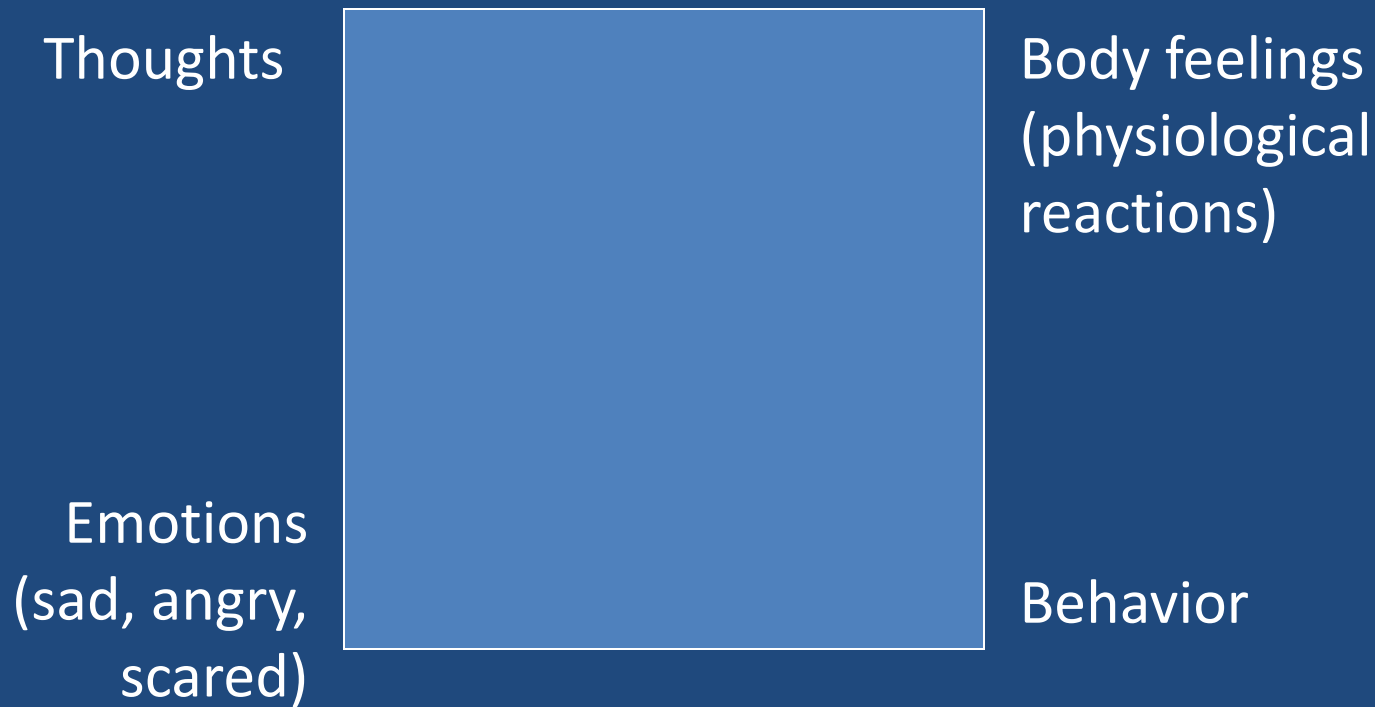
- 14 y.o. Biracial boy
- Born in a shelter
- History of physical abuse
- 11 – burnt by a gang, 3 months in burn unit with multiple surgeries
- Uncle murdered by gang
- Older brother had seen a gang murder, and they feared retaliation, house raided by PD on a “false tip”, no furniture, beds or kitchen utensils and apt. was roach infested.
- History of truancy and suspensions

Stanford Cue-Centered Treatment Protocol

- Development
- Implementation
- Preliminary Results
- Dissemination

The Square

- Change one corner – everything changes!



Four parts to the protocol

- First section: Assessment, psycho-education, coping tools
- Second section: Life narrative, cognitive distortions
- Third section: Parent update, cue identification, systematic desensitization
- Fourth section: Trauma narrative revisited, closure

Part 1 - **Assessment**, psycho-education, coping tools

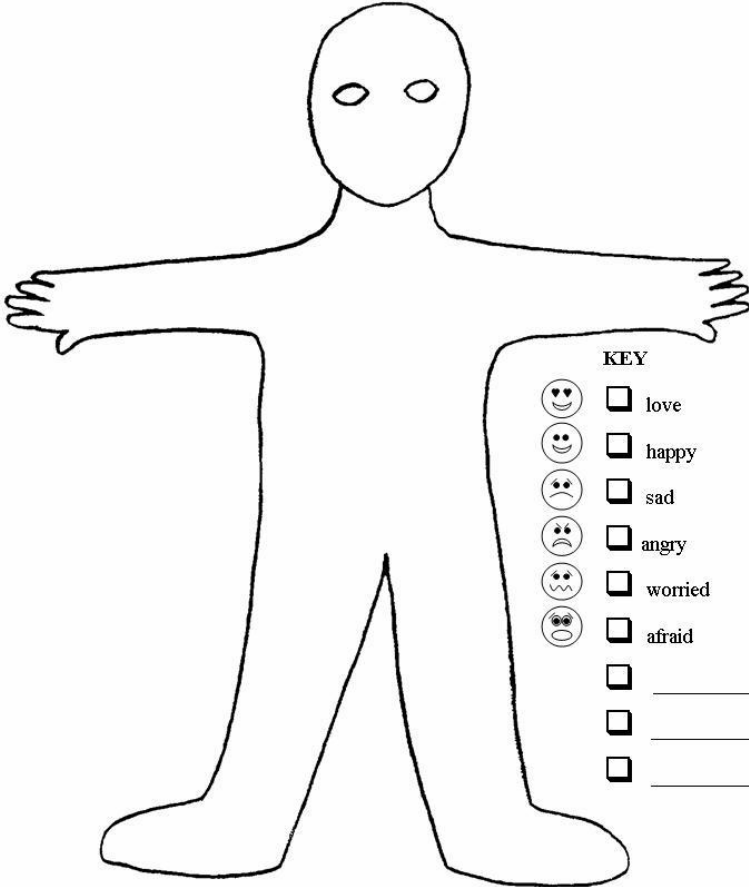
- Session A – assessment
 - Thorough, detailed
 - Therapist gets who, what, where, when, functioning before, during and after
 - Support analysis
 - Instruments
 - Parent: BAI, BDI, UCLA-PTSD Index (parent)
 - Child: CTQ, VEX-R, CDI, RCMAS, UCLA-PTSD (child)

Part 1 - **Assessment**, psycho-education, coping tools







- Session A – assessment
 - Body Map (Kara Grief Support)

Body Map of Feelings—Where do your feelings live?
Choose a different color for each feeling, and color the Key first. Feel free to add extra feelings to the key. Then color the body with where and how much of each feeling is there.

Name: _____
Date: _____



KEY

	<input type="checkbox"/>	love
	<input type="checkbox"/>	happy
	<input type="checkbox"/>	sad
	<input type="checkbox"/>	angry
	<input type="checkbox"/>	worried
	<input type="checkbox"/>	afraid
<input type="checkbox"/>		_____
<input type="checkbox"/>		_____
<input type="checkbox"/>		_____

Body Map courtesy of Kara Grief Support, Palo Alto, CA

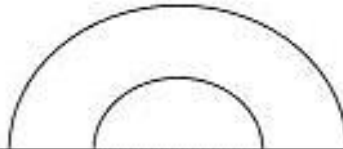
Part 1 - Assessment, **psycho-education**, coping tools

- Session 1 - done with caretaker and child
- Important to do thorough education
 - Normalize PTSD – disorder of fear extinction
 - Normalize symptoms – hyper-arousal, dissociation, re-experiencing (flashbacks)
 - Fight/Flight reaction
 - Explain cues – neutral objects present during the trauma(s)– could be triggering child

Tool Box

Tool Box Worksheet

Tools developed during treatment:



1.

6.

2.

7.

3.

8.

4.

9.

5.

10.

A tool is anything that you can think or do that will help you develop a new response for your trauma-related cues/triggers. As we learn about tools together, you will be adding the ones you like to your tool box.

Feelings Thermometer

The Feeding Thermometer

The _____ Thermometer



10. Out of Control! Ballistic!
9. Can't Handle It.
8. Really Tough.
7. Pretty Tough.
6. Getting Tough.
5. Not too Good.
4. Starting to Bother.
3. Just a Little Uneasy.
2. A Little Twinge.
1. Piece of Cake!

Aureen P. Wagner Ph.D. Copyright 2001

Part 1 - Assessment, psycho-education, coping tools

- Sessions 2 & 3 – developing a coping tool box and practicing tools needed to tolerate anxiety of trauma narrative
 - Tool box
 - Feelings Thermometer (Aureen Wagner)
 - Long slow deep breathing
 - Progressive muscle relaxation
 - Guided imagery/visualization
- Body Mastery

Part 2 – Trauma (s) narrative, cognitive distortions

- Sessions 4 & 5 – Therapist as reporter, does not work on cognitive distortions to allow full narrative to emerge, tools as needed for stress
- Therapist writes down extensive timeline, includes negative/positive events
- Feeling sheets begin to connect past feelings with current behavior
- Narrative migrates trauma to prefrontal cortex from limbic system

Part 2 - Trauma narrative, **cognitive distortions**

- Sessions 6 & 7 – Therapist works to undo cognitive distortions
- Therapist reframes victim to survivor
- Examples: “If I was a better boy, my dad wouldn’t have been shot”, “I should have called 911”, “The world is a dangerous place”
- Now: “I had no control over my dad’s death”, “I was a small child; adults called 911”, “The world is sometimes dangerous, but mostly safe”

Part 3: **Parent update**, cue identification, systematic desensitization

- Session 8 – update on progress
 - Praise child's accomplishments (model)
 - Parent and child's assessment of progress
 - Discuss Timeline
 - Tools, Feeling Sheets, Thermometer
 - Cue List
 - Engage caretaker as coach

Part 3: Parent update, cue identification, systematic desensitization

- Session 9 – Cue response chart
 - Feedback on parent/child session
 - Identify cues
 - Cognitive, Emotional, Physical, Behavioral responses
 - Possible new responses
 - Temperature the cue causes – high is okay

Part 3: Parent update, cue identification, systematic desensitization

- Session 9 – sample cues

Shots, IVs

Police/Cars

Blood

Insects, Rats, Mice

Ambulance sirens

Black gate

Street intersections

Cotton

Specific car

Loud voices/yelling

Holidays

Wig

Cremation urn

Smell of gasoline

Thunder

Names

Pink flowers

Dark

Part 3: Parent update, cue identification, **systematic desensitization**

- Session 10 & 11 – In Vitro Cue exposure, use tool box when temp is too high
 - Session 10 – hypothetical cue exposure, measure temp before, during, after
 - Session 11 – role play cue exposure, measure temp before, during, after, assign in vivo exposure for coming week

Part 3: Parent update, cue identification, systematic desensitization

- Session 12 – evaluate In Vivo assignment
 - Did the child do it? How it went, tools used, thoughts, feelings, emotions during exposure
 - Roadblocks, new tools identified

Part 4: Trauma narrative revisited, closure

- Session 13 – revisit the trauma narrative
 - Have the child tell the narrative
 - Note the changes, feelings identified
 - Note “survivor” rather than “victim”
 - Further migrates trauma to prefrontal cortex
 - Check for the stability of the narrative

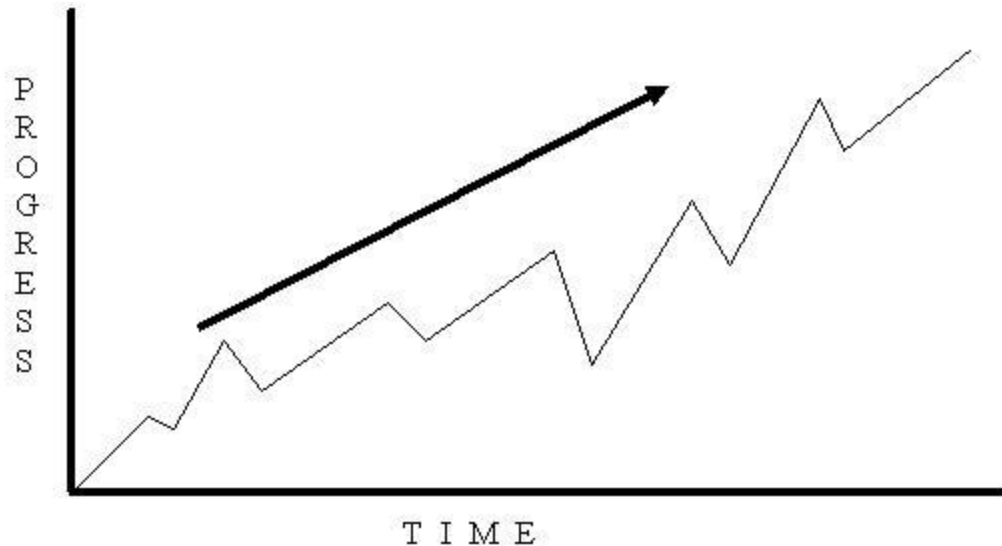
Part 4: Trauma narrative revisited, closure

- Session 14 – Closing session with parent and child
 - Review of strengths – praise child for work
 - Recommendations, referrals
 - Non-linear nature of progress
 - Parent and child feedback on progress

Part 4: Trauma narrative revisited, closure

- Session 14 – Non-linear nature of progress

Therapeutic gains tend to look like this. The overall direction is improving, but there are set backs from time to time. Sometimes during set backs the person feels they are not getting better, but actually they are not slipping lower than where they began.



Part 4: Trauma narrative revisited, closure

- Session 15 – Closure
 - Feedback on parent/child session
 - Another Body Map – compare
 - Answer remaining questions
 - Brainstorm future situations and new ways to handle them

Secondary vicarious trauma

- Important for therapists to have access to other practitioners and supervisors with whom they can immediately share about traumatizing events they have heard.
- Our group – weekly team meetings, frequent phone contact.
- Mindfulness meditation used at our team meetings.

DEVELOPMENT

- Schools and Communities
 - San Francisco
 - Visitacion Valley – Visitacion Valley
 - Center City
 - Willie Brown - Bayview
 - Roosevelt
 - Horace Mann – The Mission
 - East Palo Alto

DEVELOPMENT

- OFFER
 - Treatment
 - Consultation
 - Staff Workshops on Trauma/Violence effects on development and resilience
- ASK
 - One room
 - Contact Individual

DEVELOPMENT

- OBTAINED IRB APPROVAL
- DEVELOPED SPANISH AND CANTONESE CONSENT FORMS
- TRAINED STAFF AND THERAPISTS
- FINALIZED THE MANUAL
- MAINTAINED RELATIONSHIPS WITH SCHOOL DISTRICTS
- 91.5% FIDELITY ADHERENCE

Sample

- Includes Completed Subjects and Current Active Subjects
 - 37.5% African-American; 25% Hispanic; 2.5% Pacific Islander; Native American 2.5%; Other 5%; No answer 27.5%
 - 32.5% - less than 10K; 22.5% 10-20K; 2.5% 20-30K; 5% 30-50K; 7.5% 50-75K; 30% No answer
 - 2.5% - <7th grade; 7.5% -Junior HS; 2.5% -Partial HS; 15% HS Grad; 22.5% - Partial College; 7.5% College Grad; 42.5% No answer

Challenges

Record number of teachers likely to see pink slips

Jill Tucker, Chronicle Staff Writer

Saturday, February 26, 2011

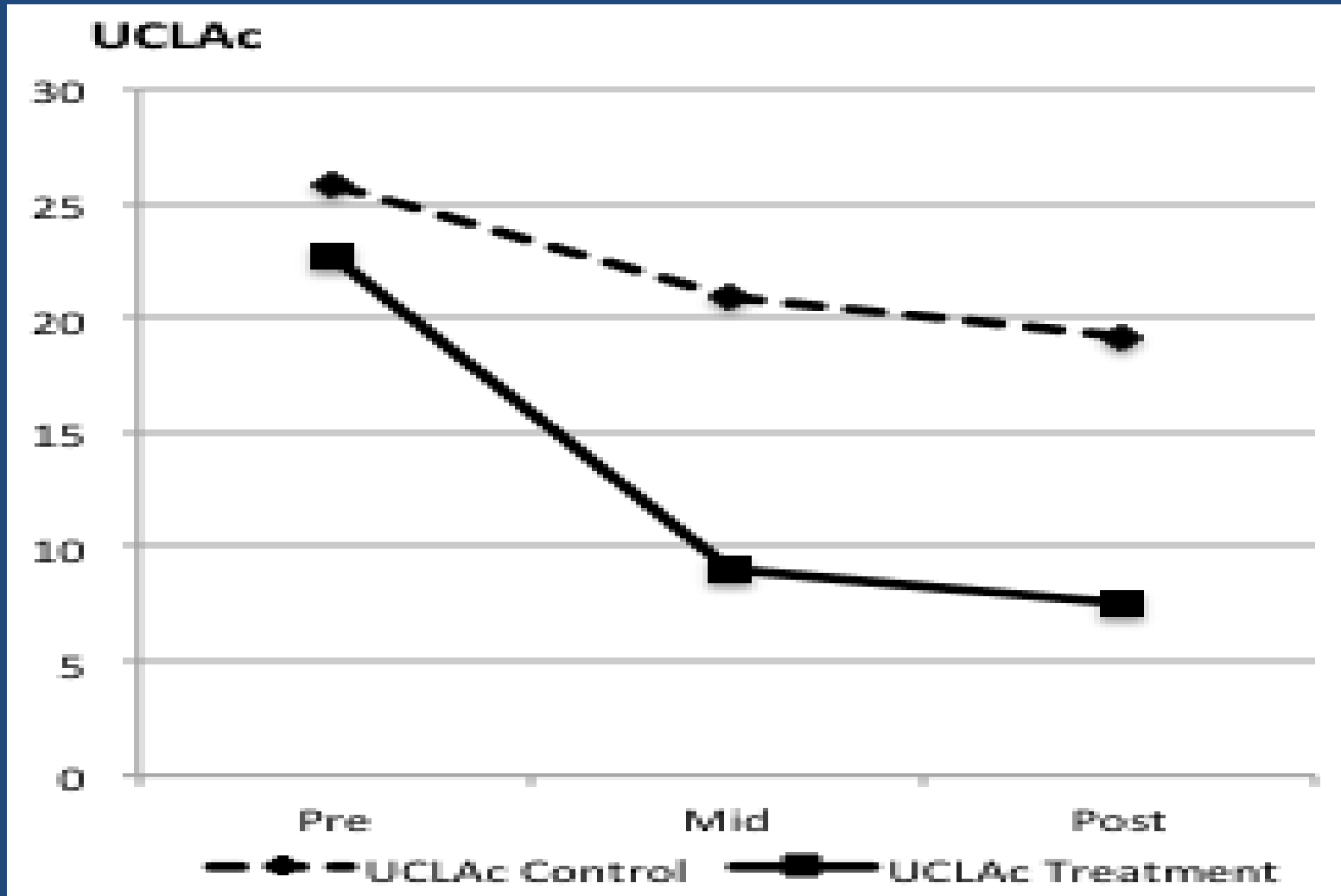


CHALLENGES - Families

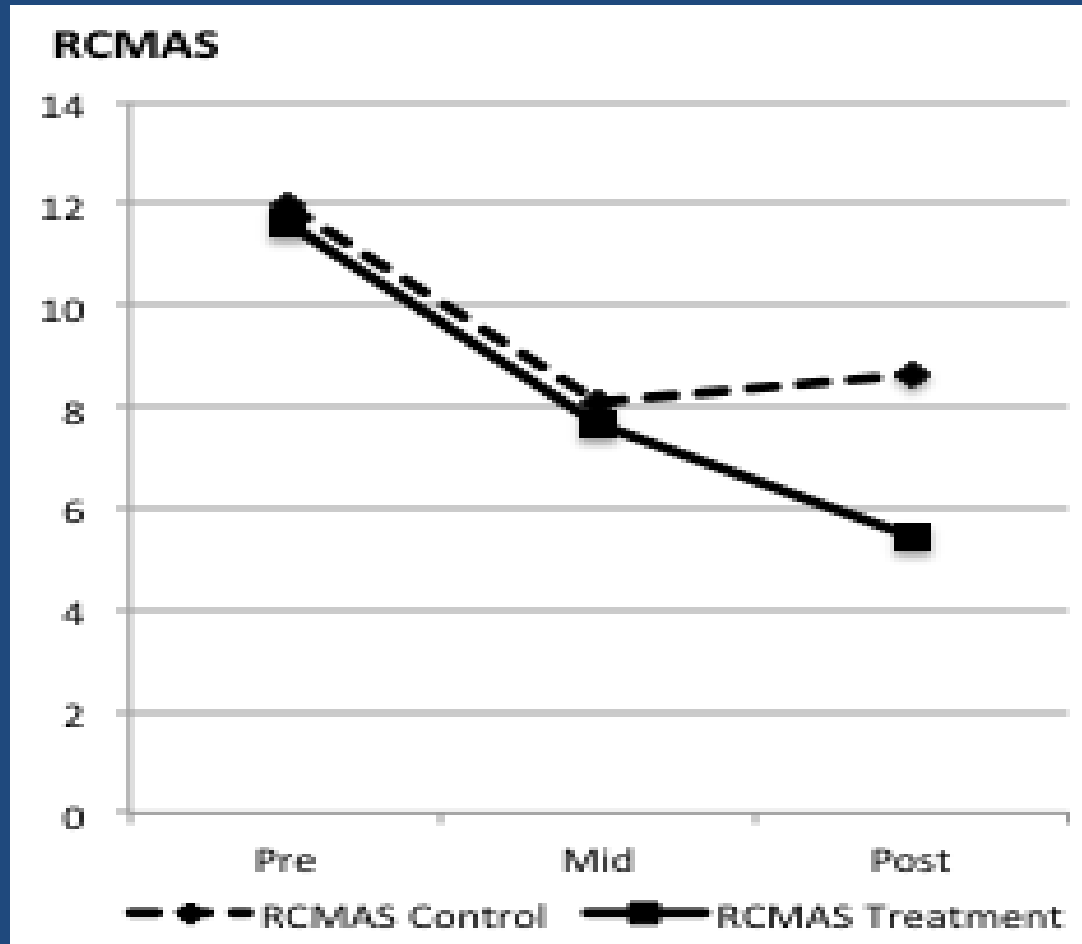
- Challenges with participating families:
 - Student incarceration, Parent incarceration, Running away from home, Student truancy, Substance abuse
 - Families moving, Students transferred to other schools, disconnected phone numbers, no voicemail and/or returned calls
 - High number non-English speaking families- Families lost during the during the wait-list period

MEASURE	GROUP	PRE-TX	POST-TX	EFFECT SIZE
		Mean (SD)	Mean (SD)	
1. PTSD (C)	IT	20.91 (10.69)	7.35 (9.29)	0.58
	WL	27.93 (18.14)	18.60 (15.03)	0.27
1. PTSD (P)	IT	22.95 (14.04)	15.40 (9.93)	0.20
	WL	18.79 (5.74)	20.36 (10.54)	0.01
1. CDI	IT	11.35 (7.11)	6.15 (7.12)	0.30
	WL	10.74 (6.40)	7.37 (7.34)	0.11
1. RCMAS	IT	11.72 (5.36)	5.44 (5.37)	0.46
	WL	11.84 (7.14)	8.63 (7.85)	0.18
Parent Symptoms				
1. BDI	IT	13.94 (10.48)	9.14 (9.45)	0.25
	WL	12.14 (11.40)	7.20 (6.37)	0.16
1. BAI	IT	12.36 (11.78)	8.96 (7.92)	0.21
	WL	8.50 (10.08)	9.80 (11.26)	0.12

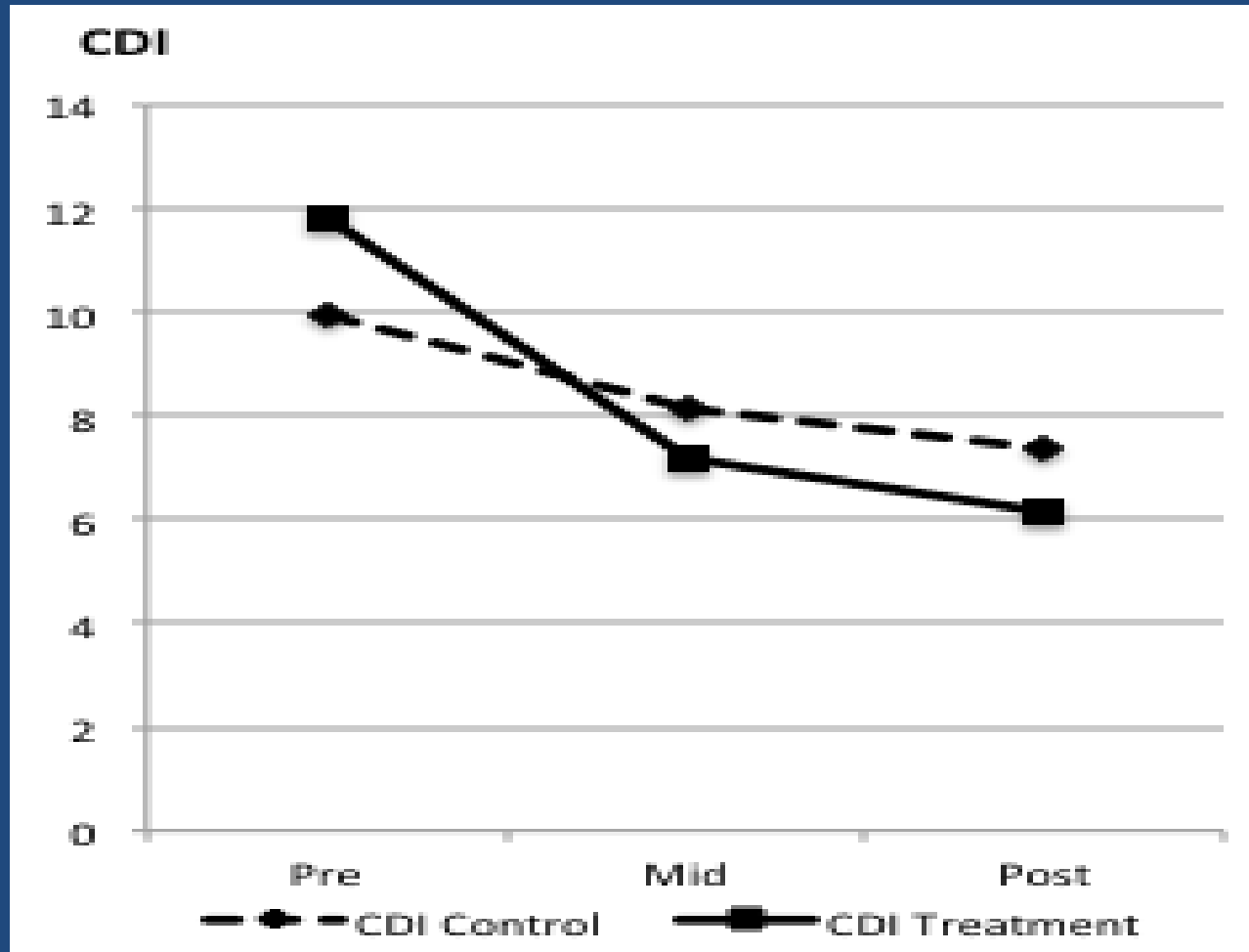
PTSD Symptoms – Child Report



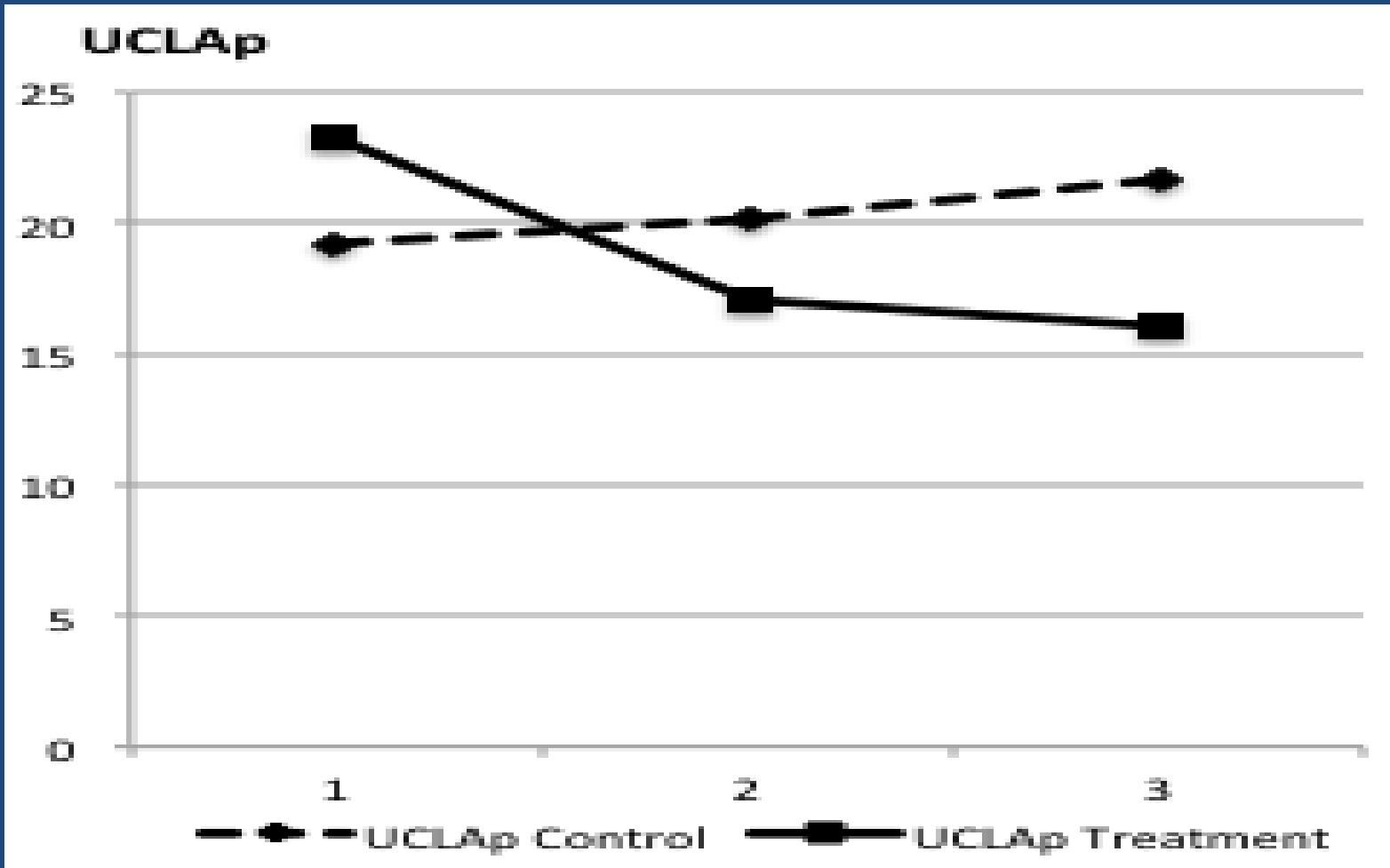
Anxiety – Child Report



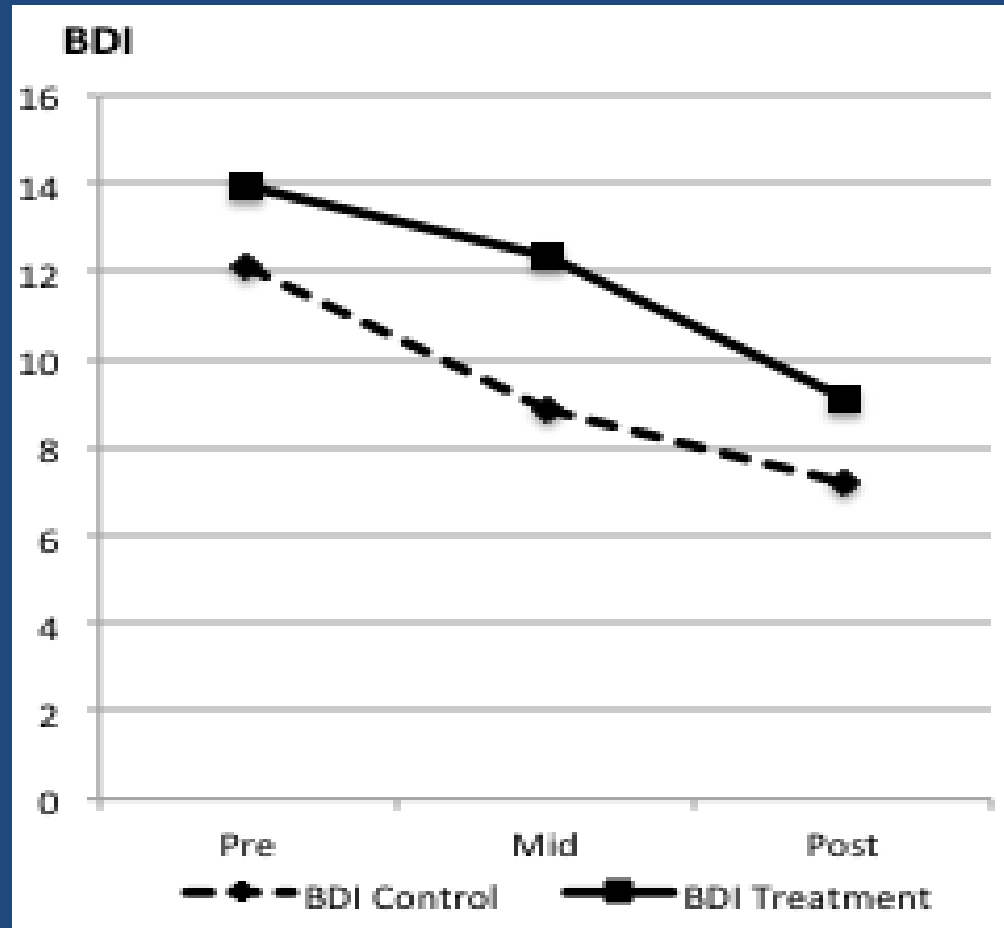
Depression – Child Report



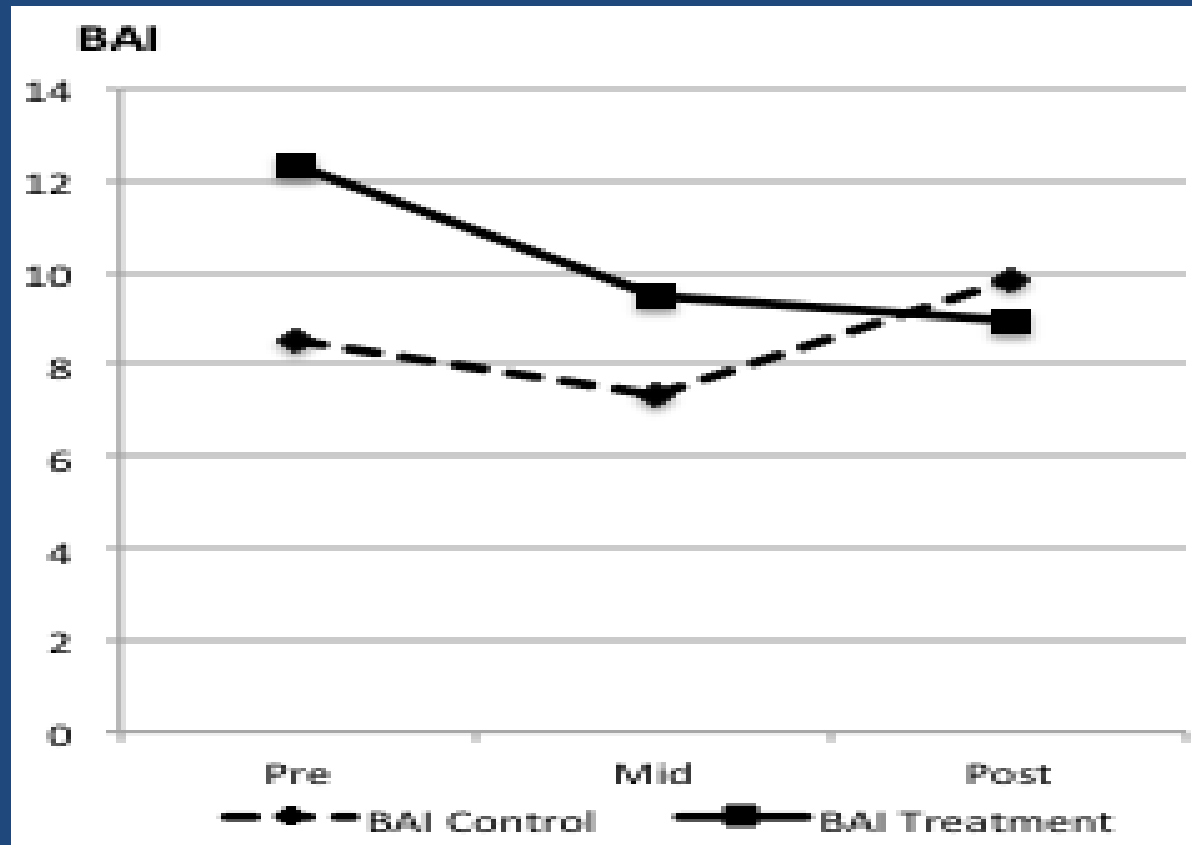
PTSD Symptoms – Parent Report



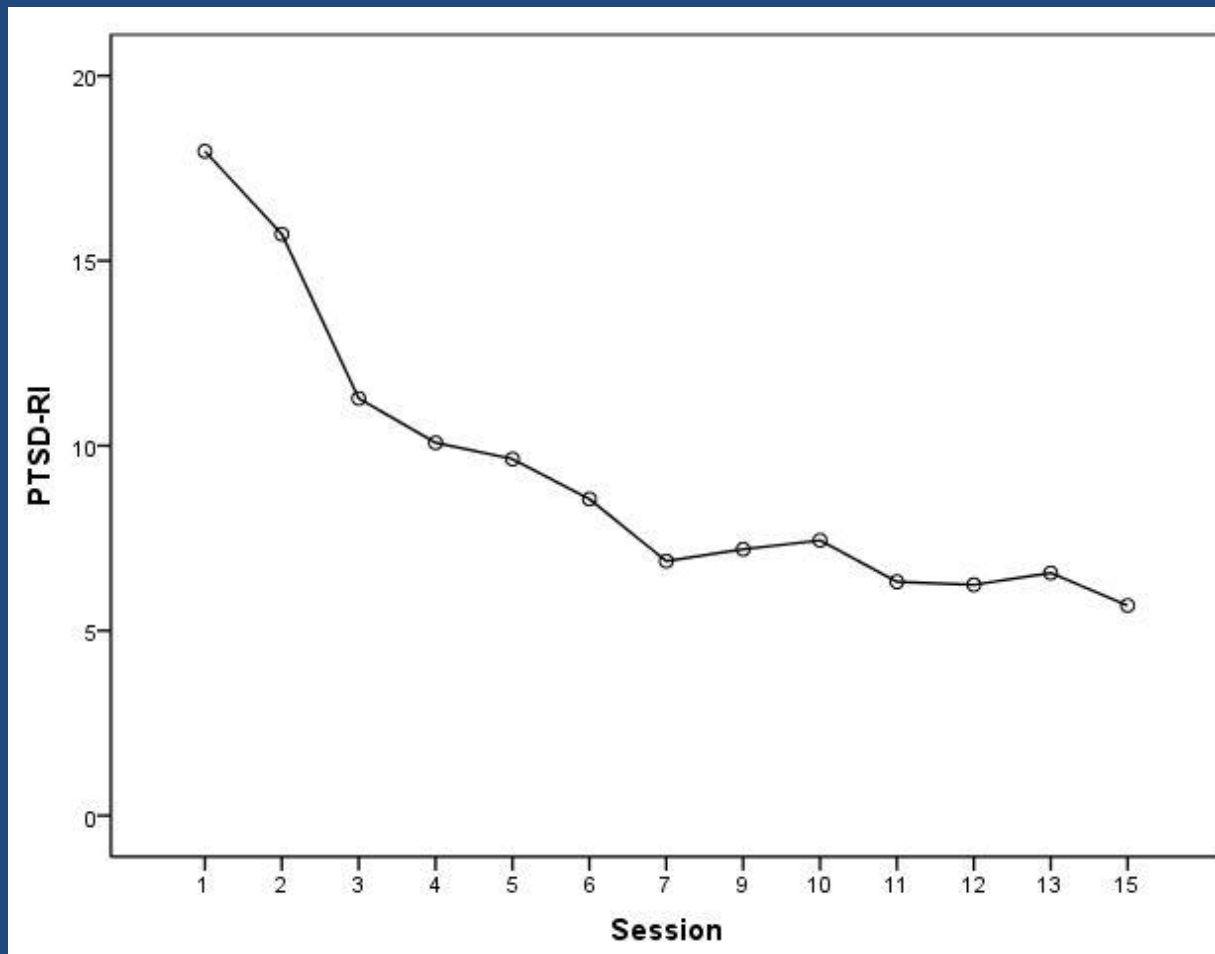
Depression - Parents



Anxiety - Parents



RCT Results: PTSD RI



Children's Quotes

- “I learned to see the positive side of stuff.”
- “This is the first time I got to tell my story.”
- “I am able to let my stress out and have fun in treatment.”
- “I now know I can start letting myself get a little scared .”

More kids quotes:

- "I wish I could have this for the whole year. It has helped me so much! You have no idea how much I look forward to this all week"
- When asked about the protocol: "I was married to it! I loved it!"
- "I wish I had this last year. Can I have it next year?"
- "I can handle my feelings now because I have my coping tools."
- "I no longer think as much about what happened and am not as bothered by it."
- "I know I'll be ok."

Caregivers' Quotes

- “This program has helped her gain confidence and communicate better. She’s fighting less with her sister.”
- “He’s handling himself better and not reacting as much. I noticed that he carries the paper with his coping tools in his pocket.”
- “I’m so glad she’s learning skills for life. She’s managing her anger better even when I try to push her buttons to see how she’ll react. School attendance and grades have also improved.”
- “I see him putting in more effort and asking for space when he needs it.”
- “I learned what I needed to change for myself.”

Jane

- Mom reports no more truancy at school or running away.
- Joined a substance abuse program.
- Not abusing drugs currently.
- Substance Program arranged for an after-school job.
- Recognizes help from having work on her history and how that made her feel.

Michael

- Exposure to cues helped him reduce his anxiety from a 10 on the feelings thermometer to a 1.
- Able to use cognitive tools to soothe himself.
- Family allowed us to involve SW to help with needs at home.
- Better involvement in school.

Case Study - Presentation

Sammy, an 11 year-old boy, was brought to our clinic because of increased aggression toward his siblings. Mom reported that this was very uncharacteristic of Sammy's previous demeanor. She also reported decreased academic performance. Feeling guilty and confused, she reported to the authorities that Sammy's father had regularly abused her and the children physically and emotionally for a number of years. Sammy had been hit numerous times with metal bars, wooden rods and bamboo sticks. Sammy's mother felt the boy's behavior was directed at her for "breaking the family up"; mom and kids were now living in a new apartment after the father had been arrested and deported. Sammy had nightmares and difficulty sleeping. He scored 32 in his PTSD RI (moderate PTSD).

Case Study - Sessions 1-5

- **Sessions 1-5:** Education into PTSD symptoms enabled mom to manage Sammy's nighttime episodes. Despite initial resistance, Sammy found relaxation exercises gave him a sense of control and a feeling of calmness. With support, guidance, and a structured mean to avoid suggestion, Sammy told his story (Narrative). He now felt safe (his sense of security increased further as Mom learned not to avoid him), but he also missed his father. During the aggressive episodes he felt confused, as in a daze and his heart rate would accelerate. After taking out his feelings on his siblings, he would feel guilty and ashamed.

Case Study - Sessions 6-10

- **Sessions 6-10:** Sammy and his mother were introduced to The Concept of Traumatic Cues. His father's violence was explored as a fearful event. Cues surrounding this event were most commonly neutral (not good or bad), but were reminders to his brain of the traumatic event. Sammy stated that when mom came home, the slamming of the car door reminded him of his father coming home. His brain associated these cues to aggression (classical conditioning). When exposed to the cue, an aggressive response would result. Sammy and his mother were taught how responses are characterized by four components: cognitive, physical, emotional and behavioral. We concentrated on changing any of these components as a means to develop appropriate responses (generalization).

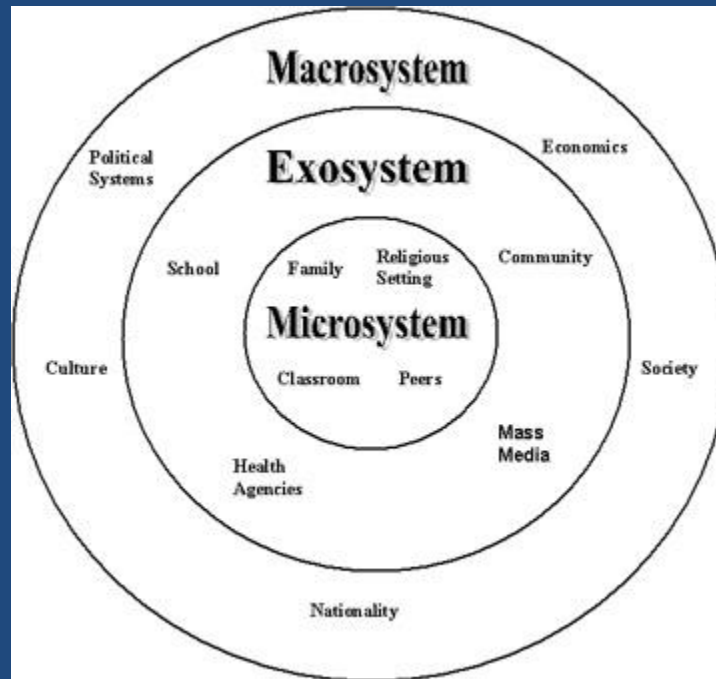
Case Study - Sessions 7-15

- **Sessions 7-15:** Although impossible to identify all pertinent cues, our ability to address some cues helped Sammy make a connection between history and behavior. The goal was not to get rid of the cues, but to be able to tolerate them as non-threatening. Behavioral desensitization with gradual cue exposure (first; imagining, later; in-session and later; in-vivo) helped Sammy develop new responses and strengthen his self-efficacy. He learned to process discordant emotions. By termination, Sammy was doing better at school, not arguing with his mother, not hitting his siblings and feeling better about his accomplishments. He scored 5 in his PTSD Reaction Score (sub-clinical).

Dissemination

- Web-based Training
 - Access to background on Manual
 - Access to Manual
- Manual Workshops
 - Training
 - Video of Sessions
 - Toward Certification
- Treatment Outcome Research
 - Cortisol Change as a result of treatment
 - Neuroimaging Changes as a result of treatment
- Center for Youth Wellness

An Ecological Approach to Pediatric PTSD: A Center for Youth Wellness (The CYW)



Next Steps

- Treatment Outcome Research
- Web Learning Site: CCT Training
- Development of the Center for Youth Wellness

Packard Early Life Stress Research Program at Stanford

John Roettger

Laura Strom

Shane Wong

Collaborators:

UNO - Carl Weems

SCIBSR - Allan L.Reiss

Brian Haas

Asya Kerchemskiy

Melissa Hirt

Hilit Kletter

Bryce Hoffman

Brandon Scott

Amy Garrett

Chris Wagner

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