

APPLYING KNOWLEDGE ABOUT HOW EARLY EXPERIENCE SHAPES THE DEVELOPING BRAIN TO IMPROVE THE LIVES OF FOSTER CHILDREN

Philip A. Fisher, Ph.D.

Oregon Social Learning Center

University of Oregon Department of Psychology

Harvard University Center on the Developing Child

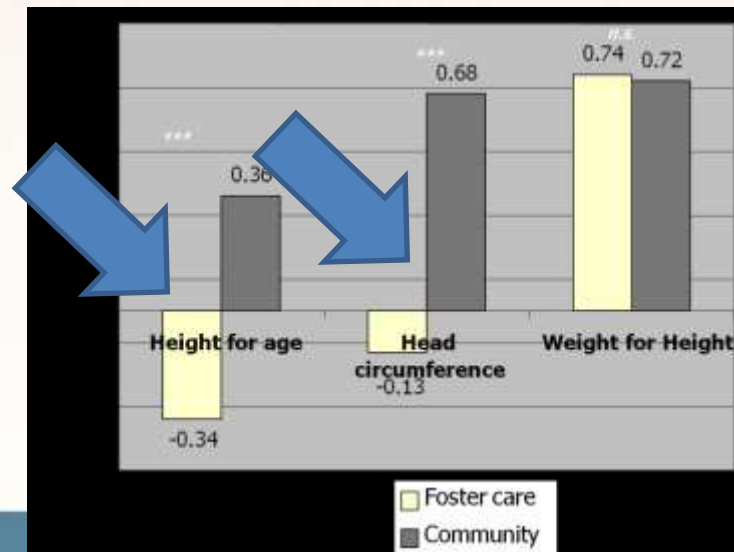
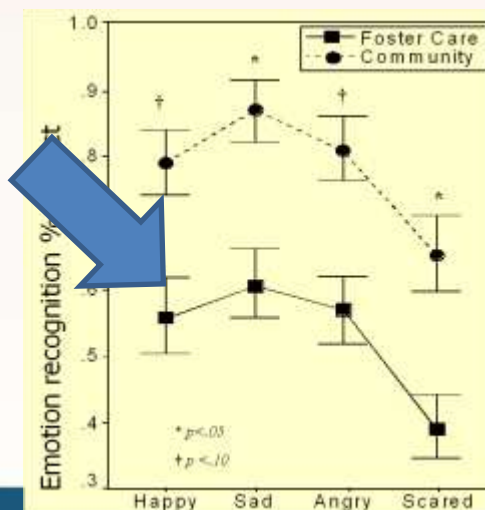
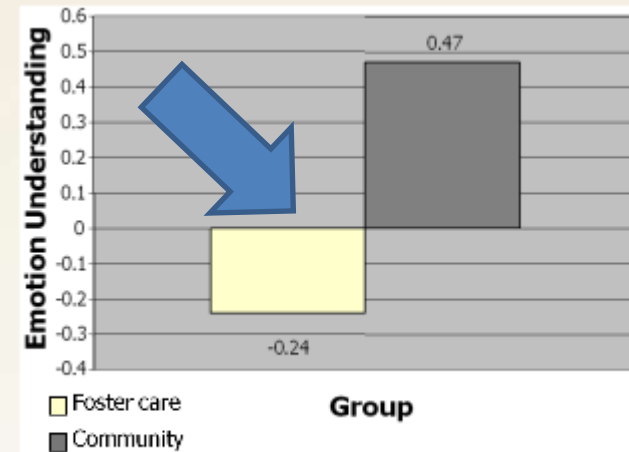
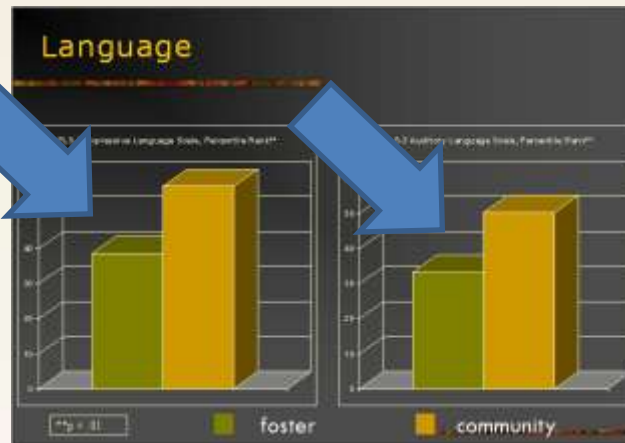
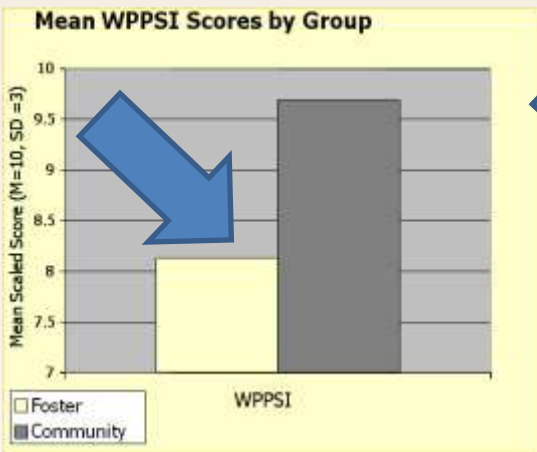
Five Themes regarding foster, adopted, and other maltreated children

1. Brain science and other research is allowing us to understand the needs of children in foster care in ways never before possible
2. The news isn't all bad!
3. We can be increasingly precise, not only about who is at risk, but also about how to help them
4. Preventing toxic stress and mitigating its effects in young foster children is financially within our grasp
5. Multilevel involvement and commitment of executive, legislative, and judicial branches, DHS, community agencies, researchers is critically important if we are to realize the full potential that exists in Oregon

Theme 1:
**Brain science and other research is
allowing us to understand the needs
of children in foster care in ways
never before possible**



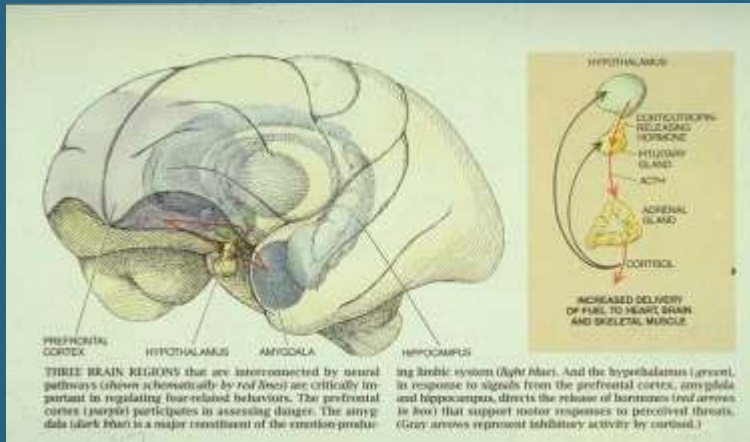
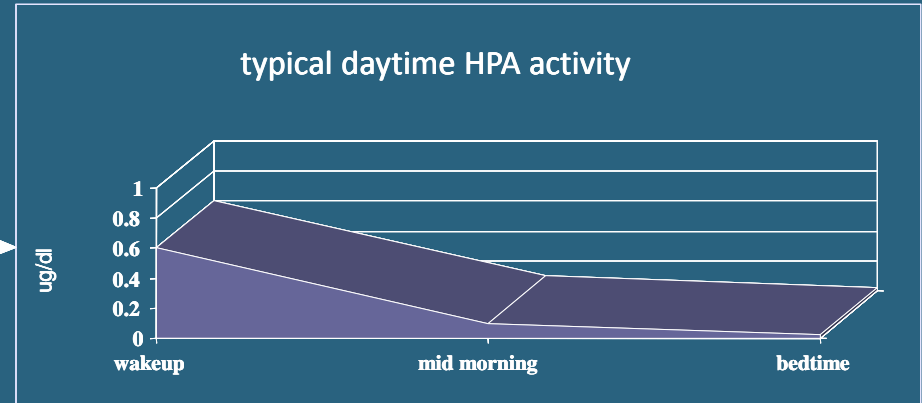
foster children Do show the effects of toxic stress



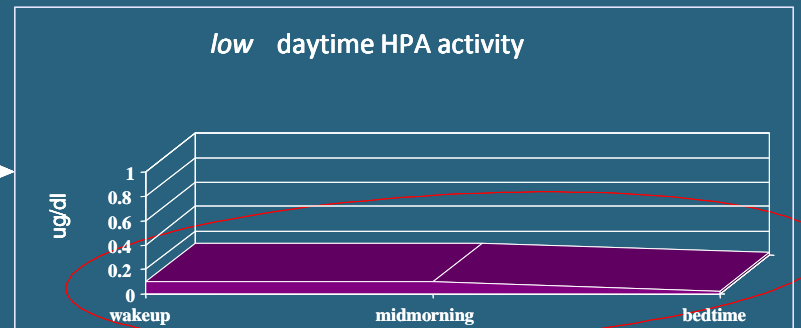
(Pears & Fisher, 2005a, 2005b)

Foster children show “blunted” stress hormone levels

typical

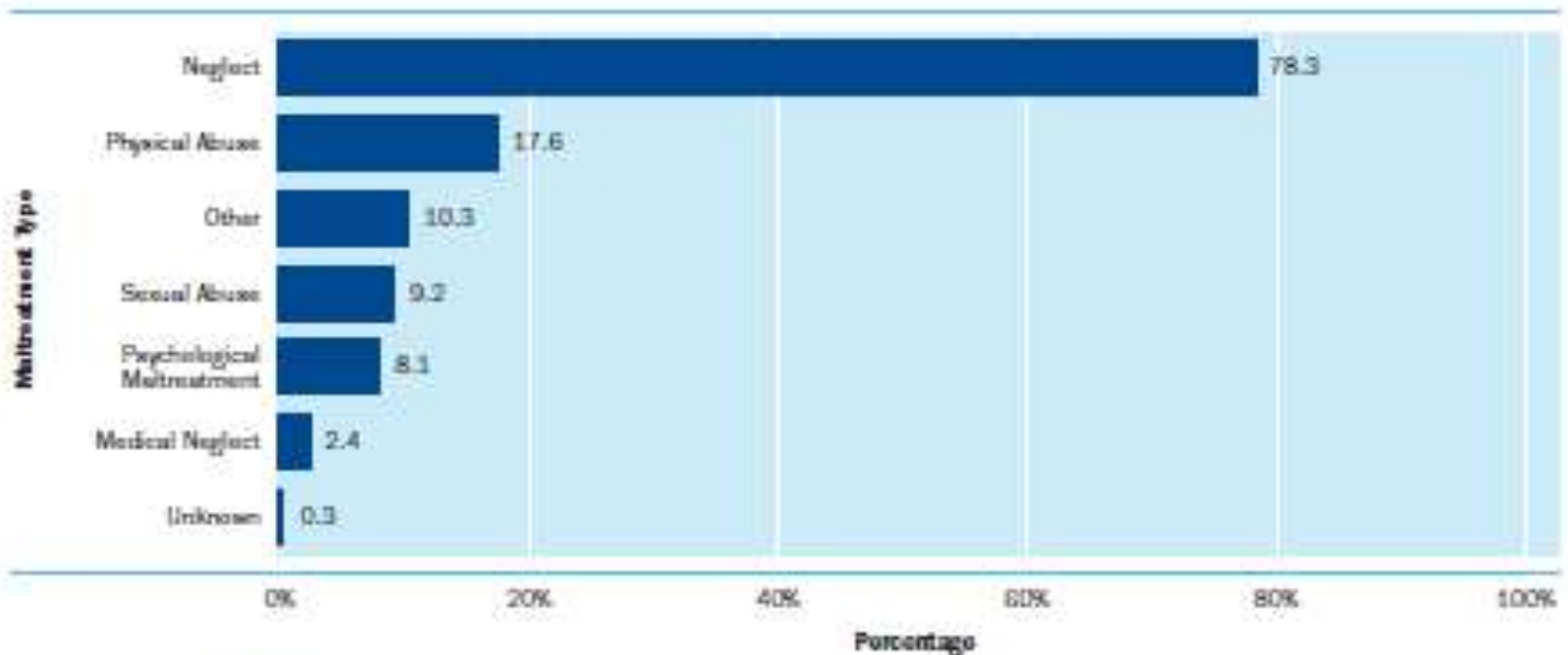


stress-induced
'blunted'
pattern



ALTERED DAYTIME CORTISOL IS SPECIFICALLY ASSOCIATED WITH *NEGLECT*. THIS IS IMPORTANT BECAUSE...

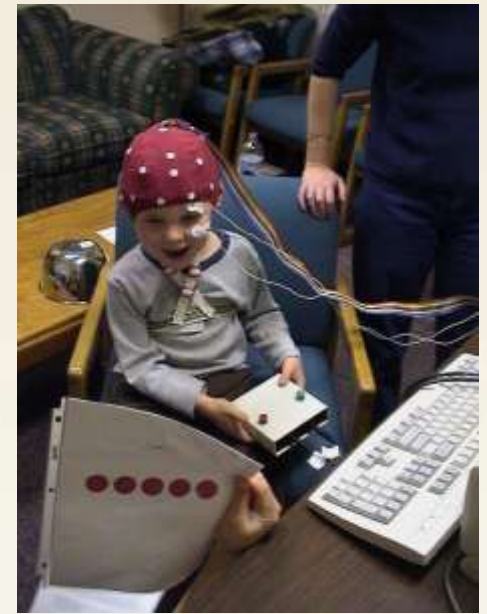
Figure 3-6 Reported Maltreatment Types of Victims, 2010 (unique count)

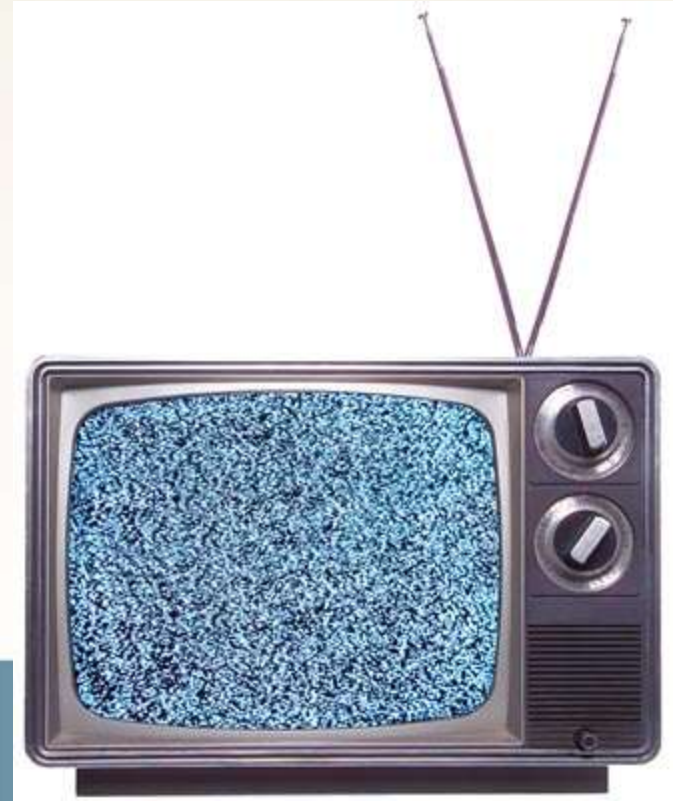
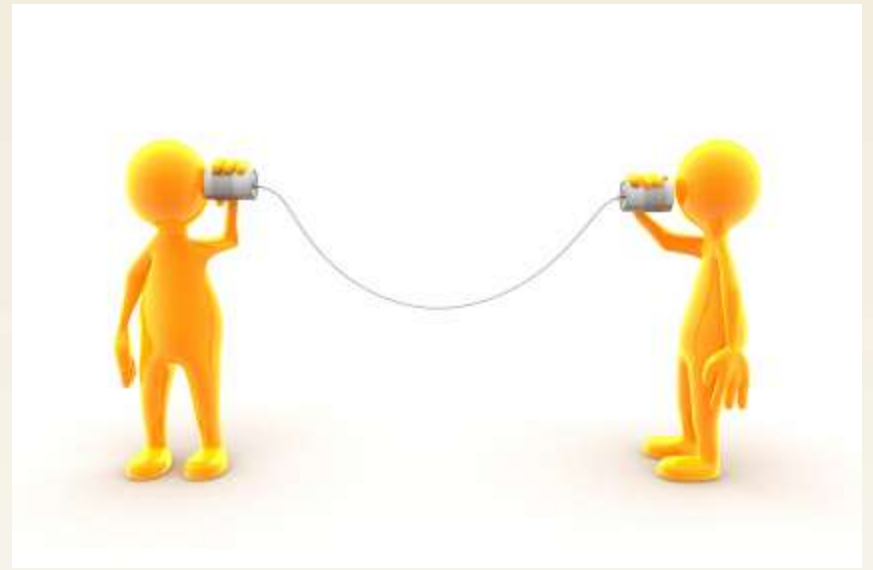
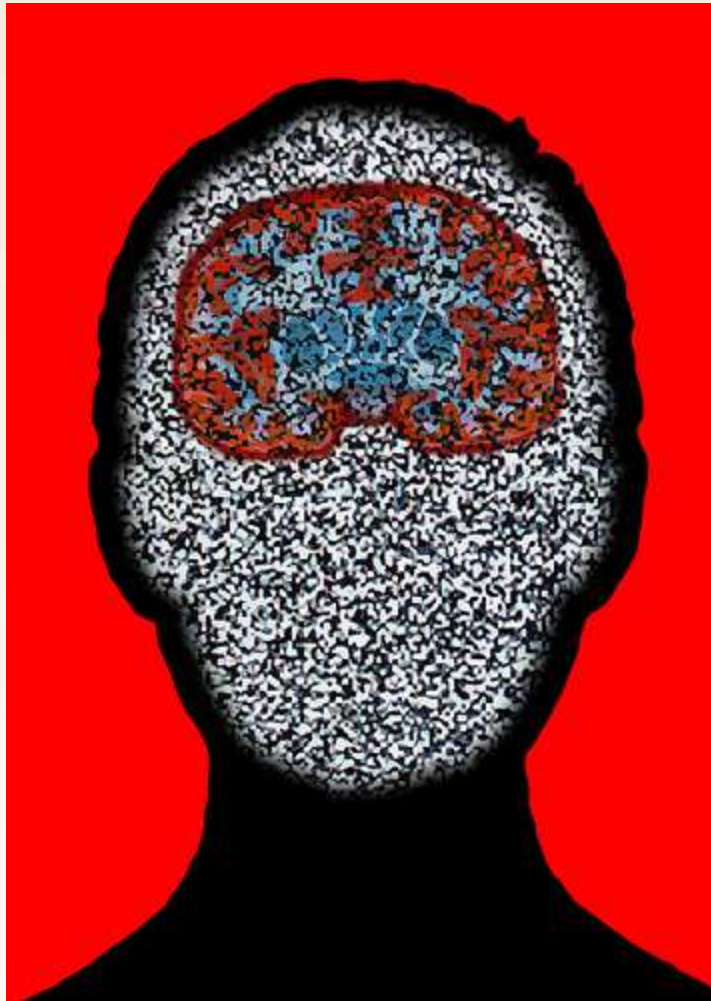


Based on data from [table 3-14](#).

Source: USDHHS, 2010

FOSTER CHILDREN SHOW DIMINISHED BRAIN ACTIVITY IN RESPONSE TO CORRECTIVE FEEDBACK FOLLOWING A MISTAKE



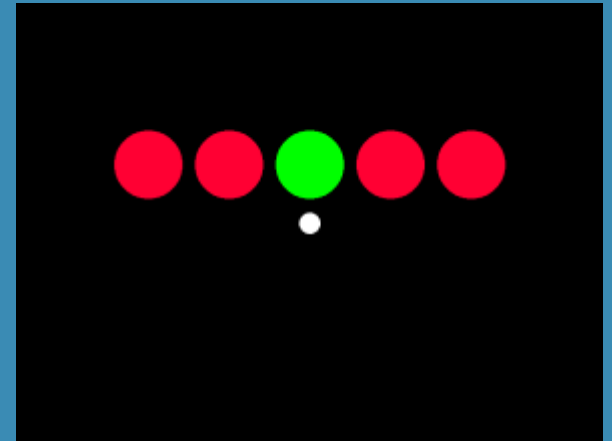
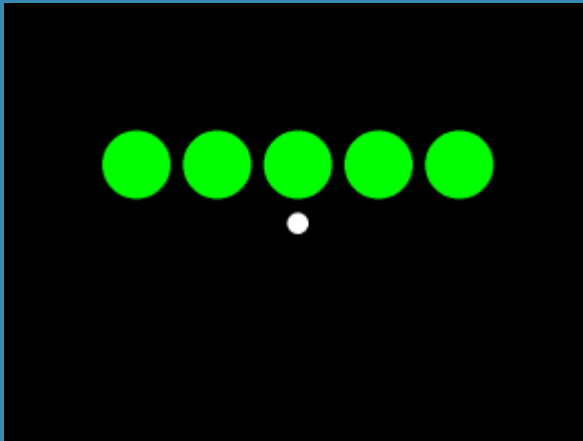


Flanker Task

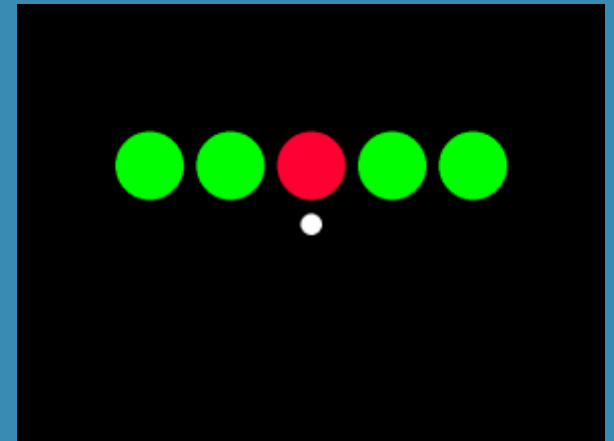
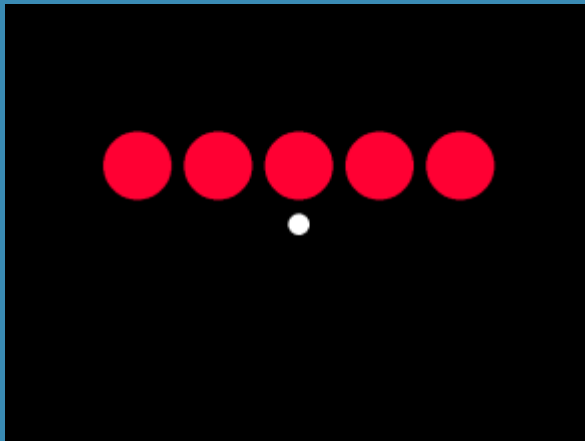
Congruent

Incongruent

Green



Red



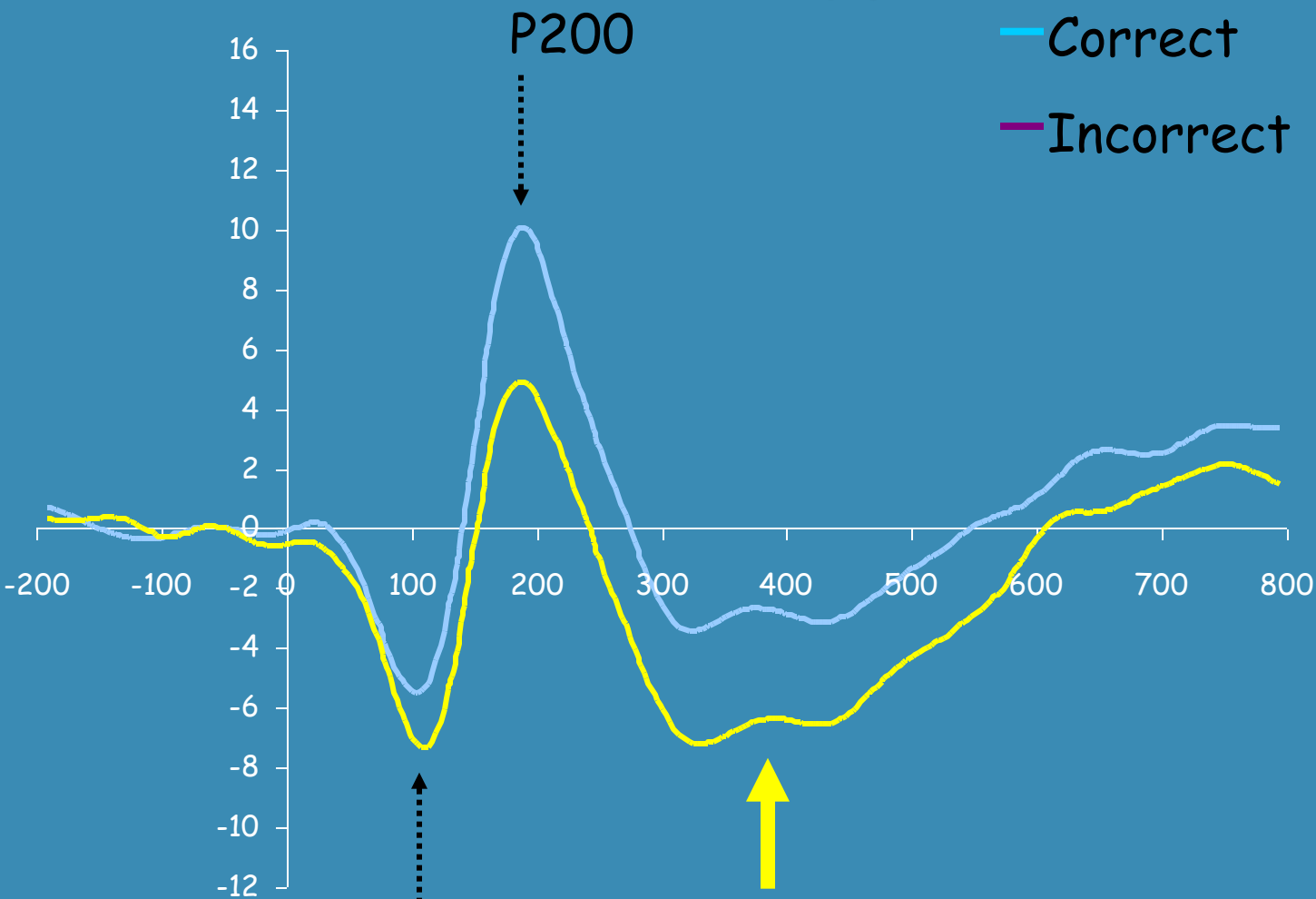
Feedback

Correct

Incorrect



Feedback Negativity at Fz by Trial Type



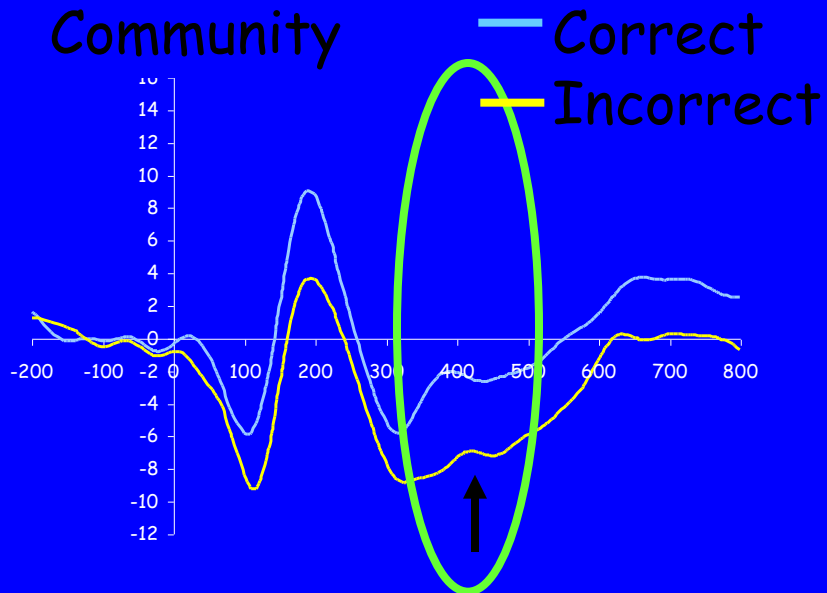
N100

Feedback
Negativity

Trial Type:
 $F(1, 31) = 41.35, p < .001$

Foster children do not show brain activity when receiving corrective feedback

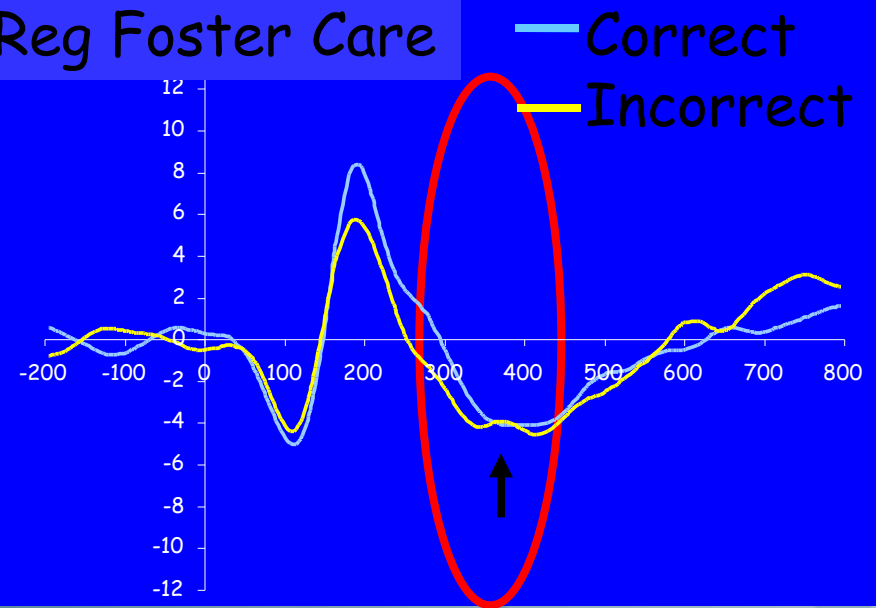
Community



Group:
 $F(2, 31) = 1.80, ns$

Interaction:
 $F(2, 31) = 5.11, p < .05$

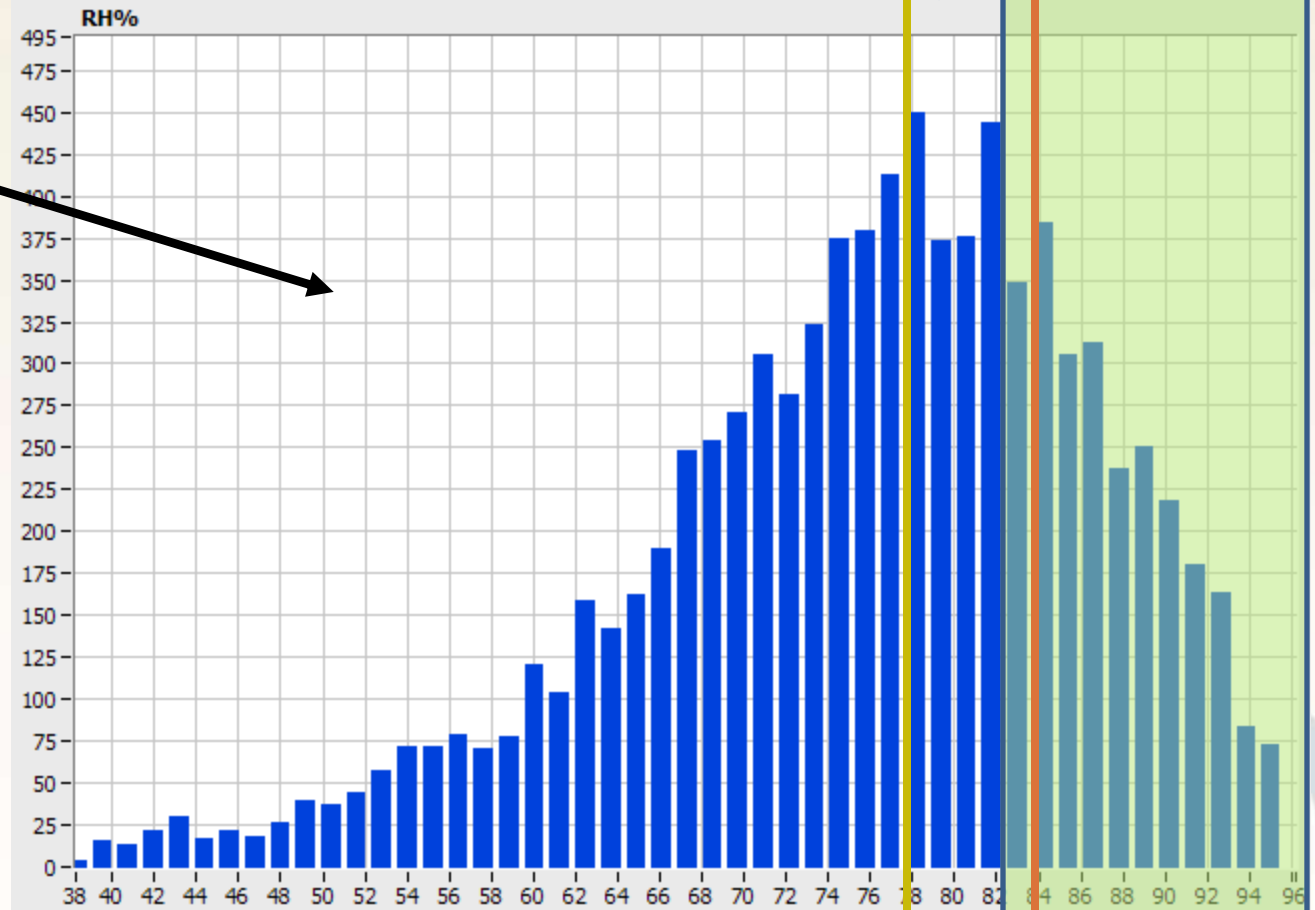
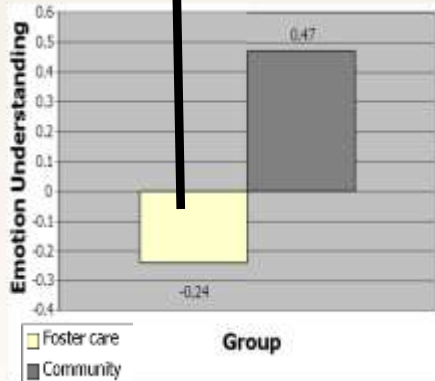
Reg Foster Care



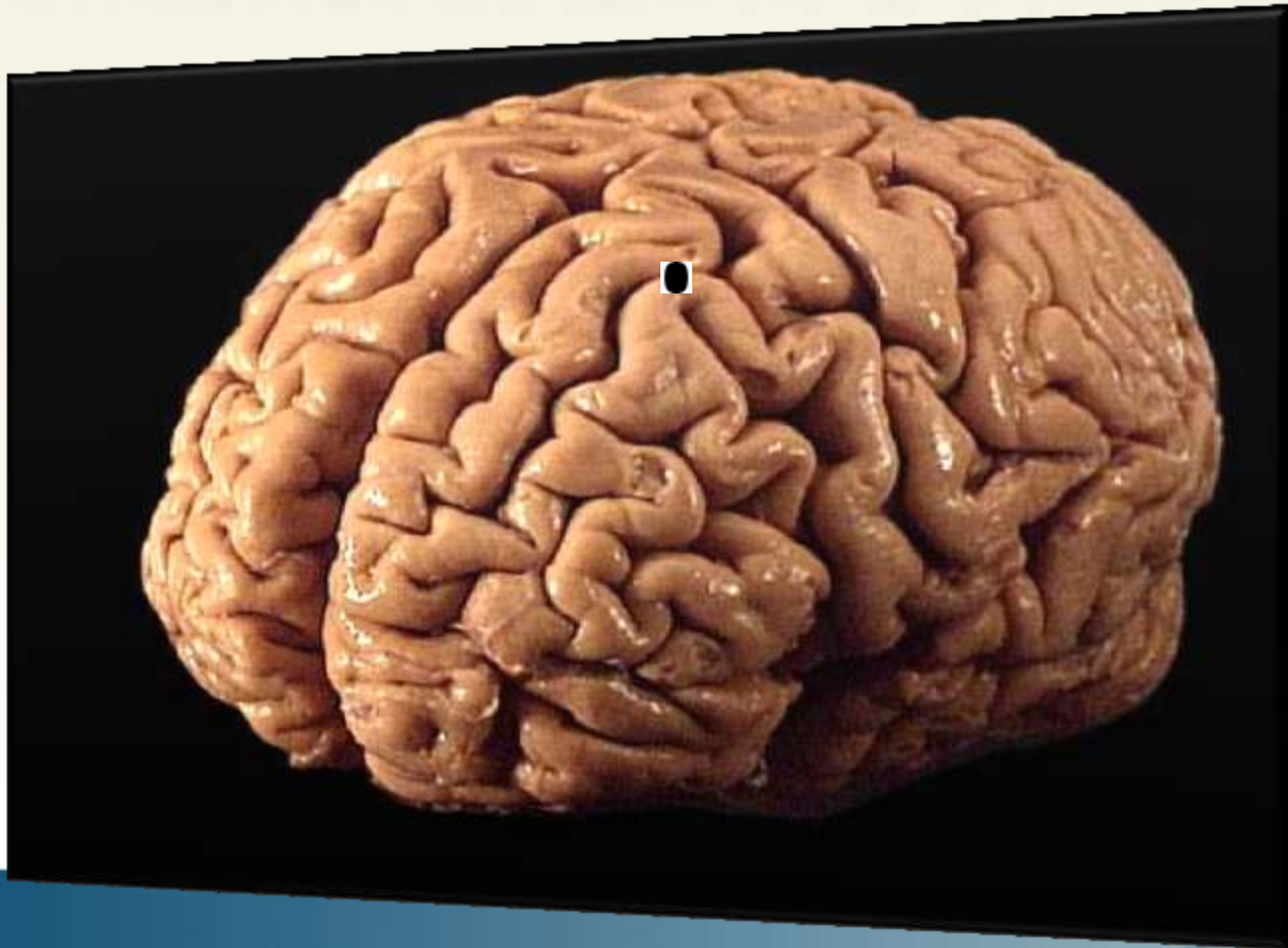
**THEME 2:
THE NEWS ISN'T ALL
BAD!**



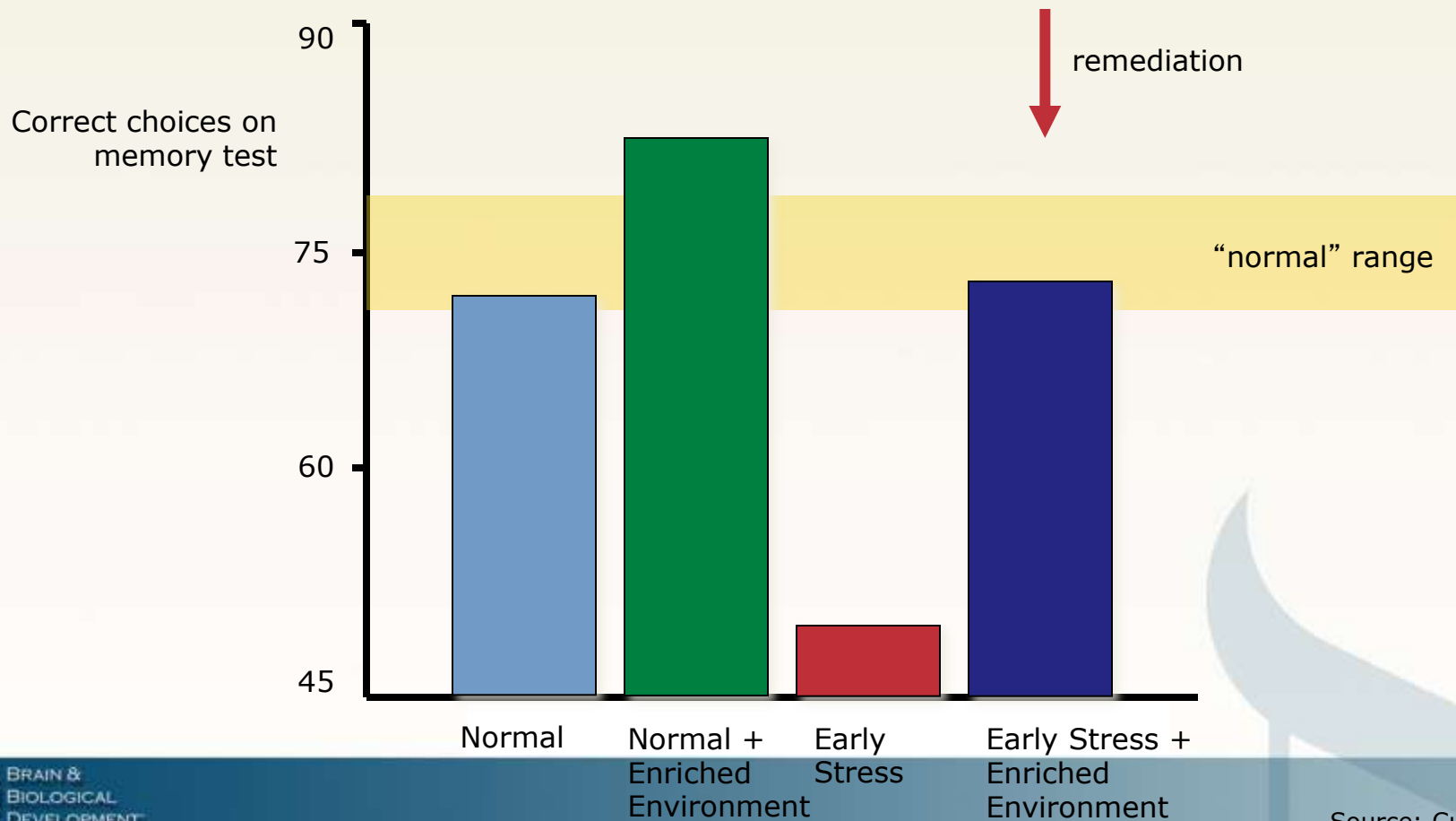
WHILE MANY HAVE POOR OUTCOMES, MANY OTHERS ARE *AT OR ABOVE* *AVERAGE* FOR THE GENERAL POPULATION



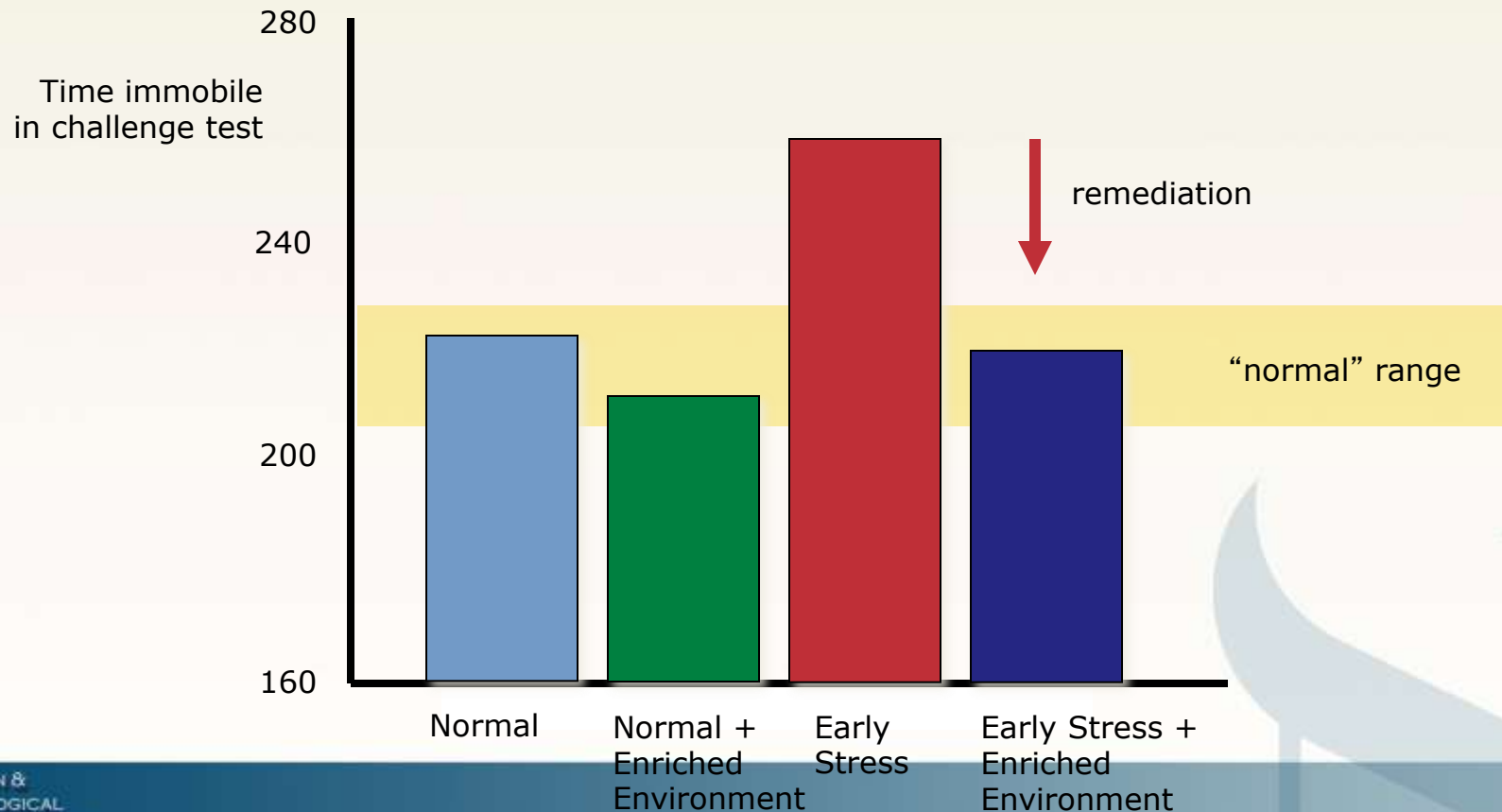
...And for those negatively affected by toxic stress, the brain shows a great deal of plasticity



Early Enrichment Prevents Stress-Induced *Cognitive Disruption*

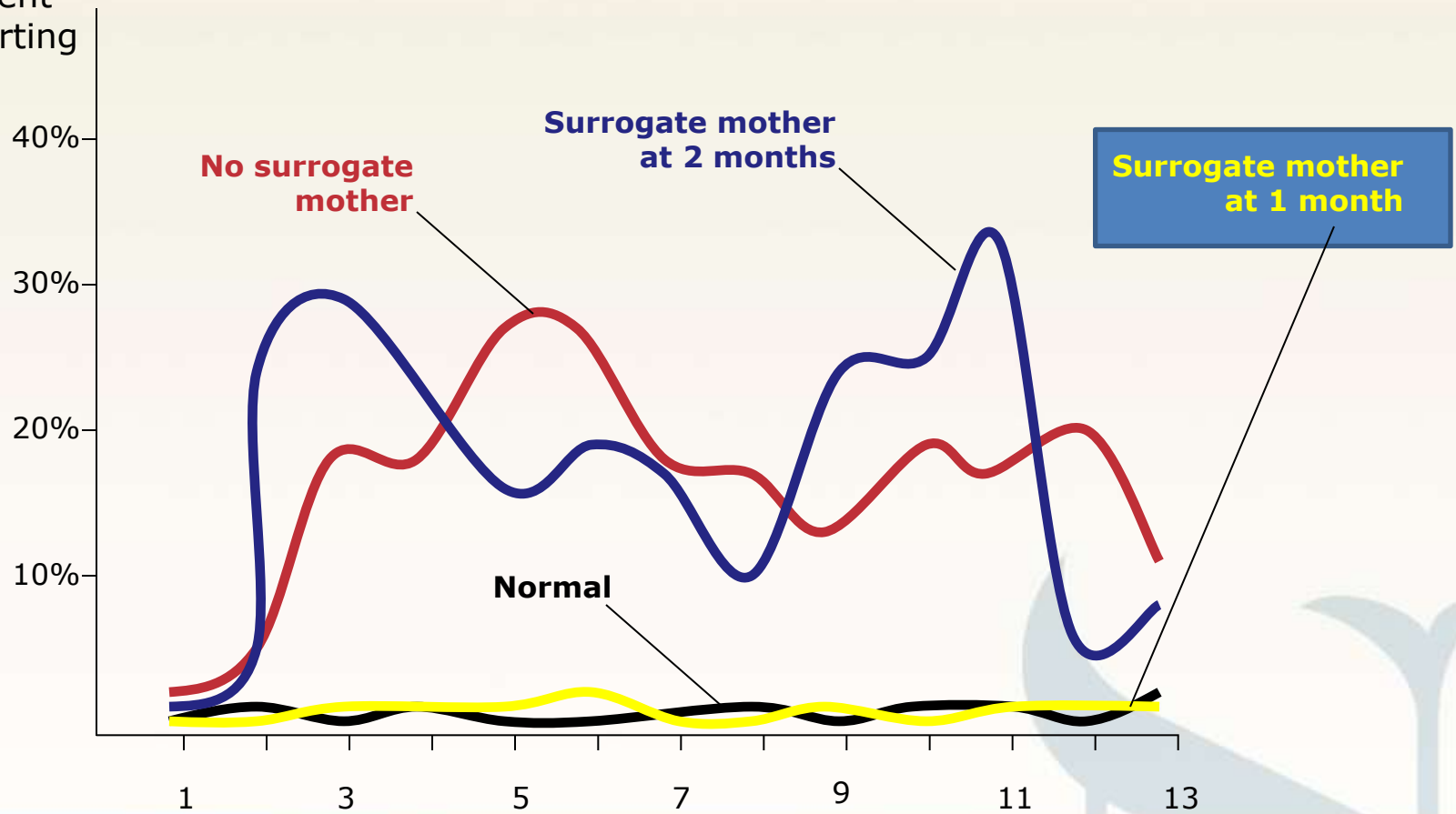


Early Enrichment Prevents Stress-Induced *Depressive-Like Behavior*



Early Intervention Remediates Early Adversity

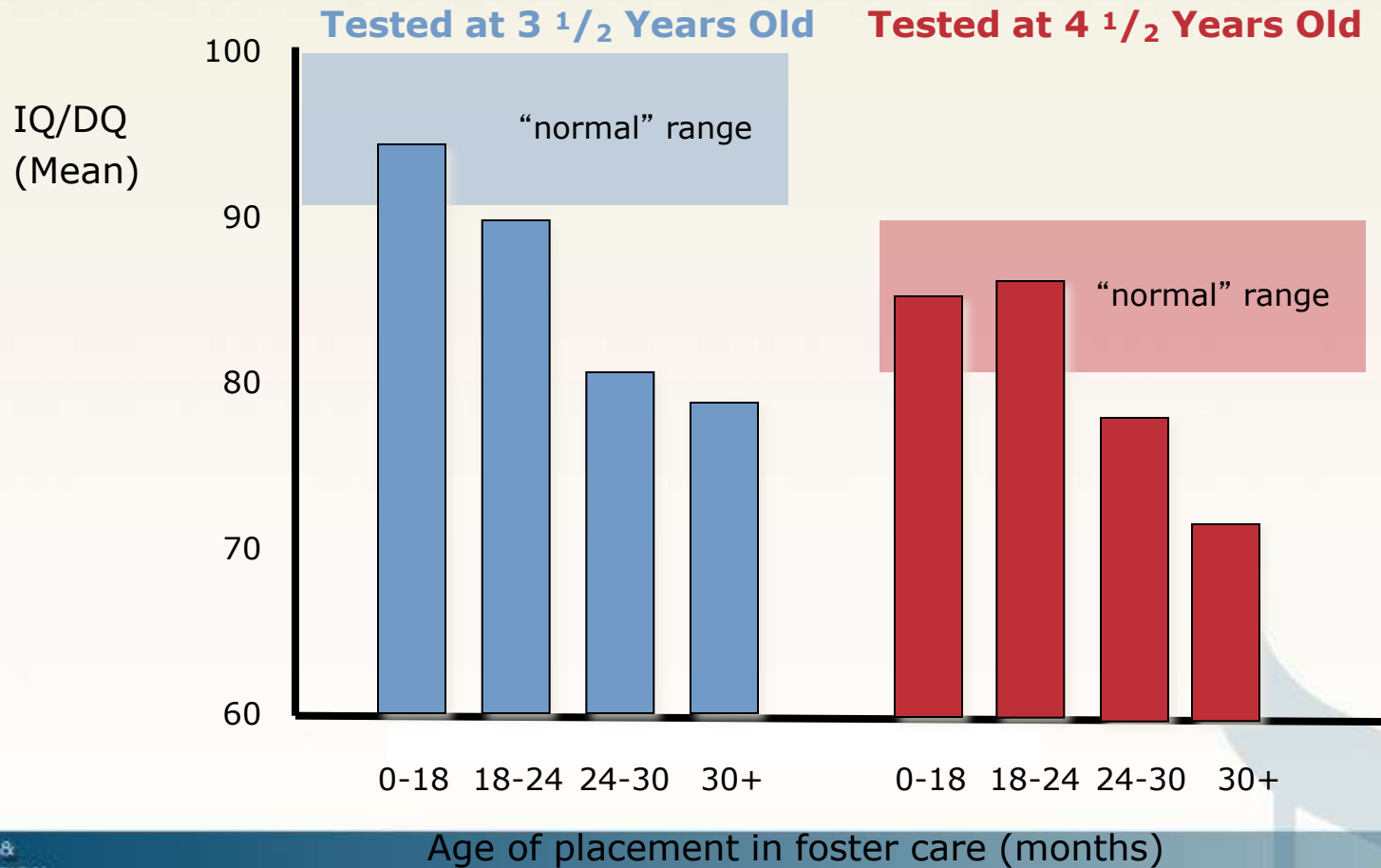
% Time Spent Self-Comforting



Monkey's Age (months)

Source: Knudsen et al. (2006)

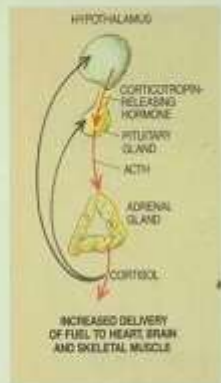
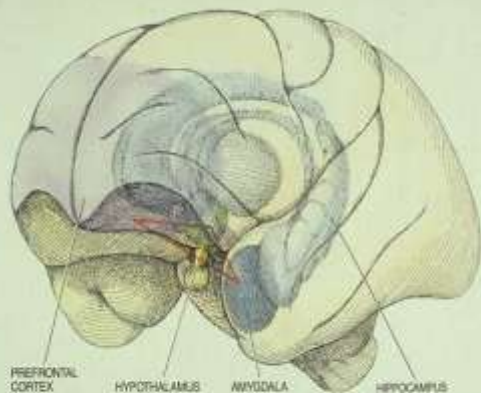
Delayed Intervention Harms Development Bucharest Early Intervention Program



Source: Nelson et al. (2007)

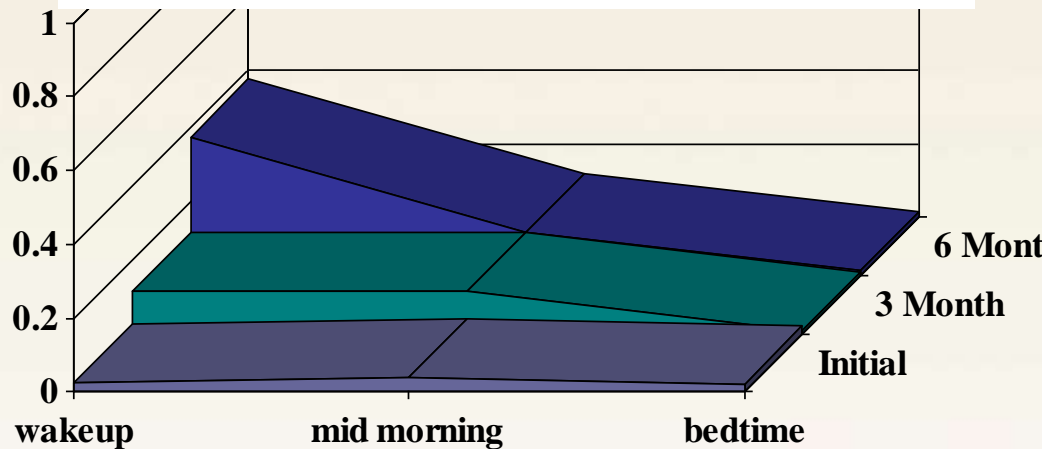
HPA Plasticity

Therapeutic intervention

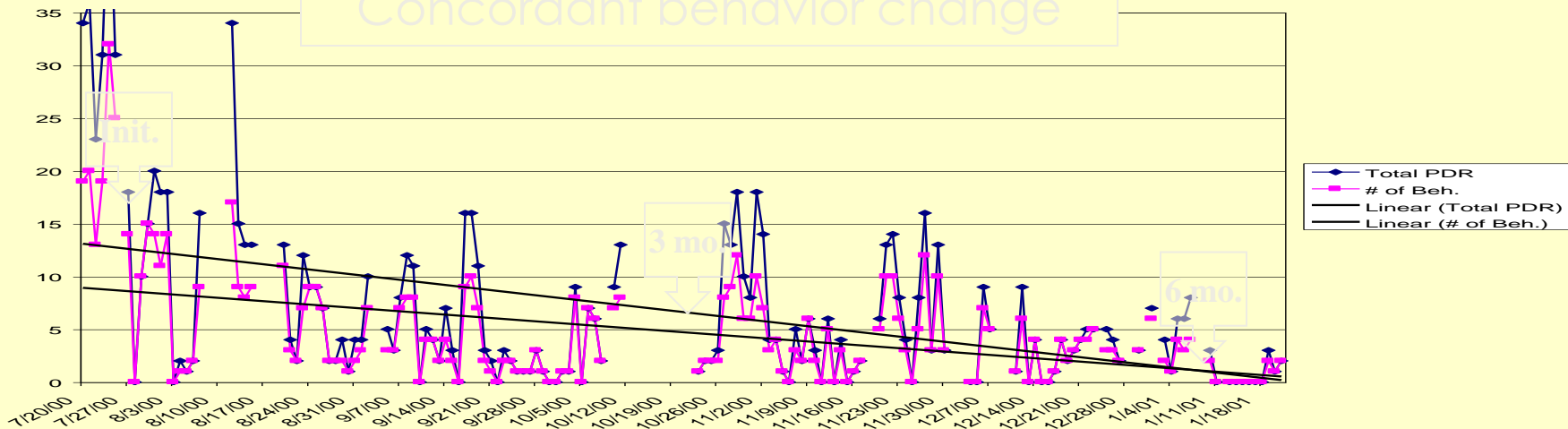


THREE BRAIN REGIONS that are interconnected by neural pathways (shown schematically by red lines) are critically important in regulating fear-related behaviors. The prefrontal cortex (purple) participates in assessing danger. The amygdala (dark blue) is a major constituent of the emotion-producing limbic system (light blue). And the hypothalamus (green), in response to signals from the prefrontal cortex, amygdala and hippocampus, directs the release of hormones (red arrows in box) that support motor responses to perceived threats. (Gray arrows represent inhibitory activity by cortisol.)

ing limbic system (light blue). And the hypothalamus (green), in response to signals from the prefrontal cortex, amygdala and hippocampus, directs the release of hormones (red arrows in box) that support motor responses to perceived threats. (Gray arrows represent inhibitory activity by cortisol.)



Concordant behavior change

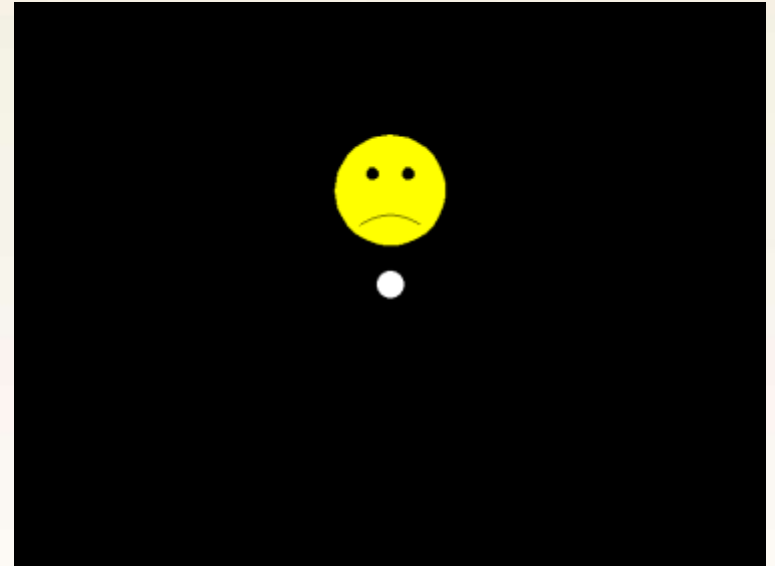
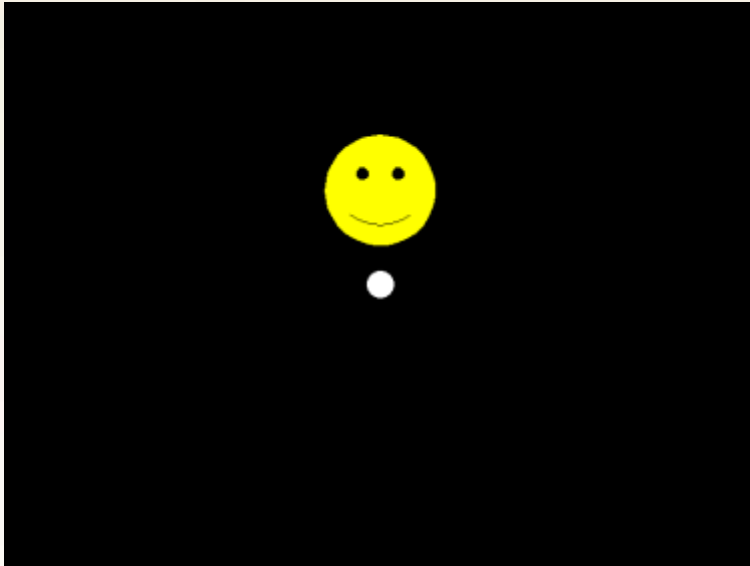


EARLY

Feedback

Correct

Incorrect

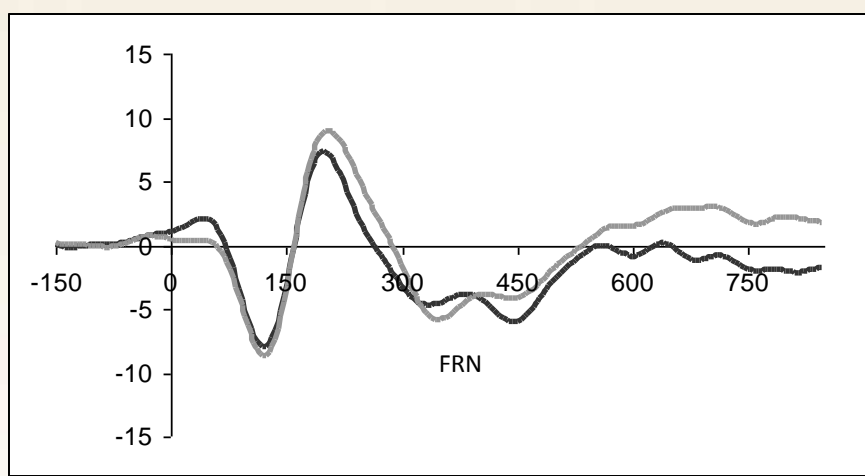
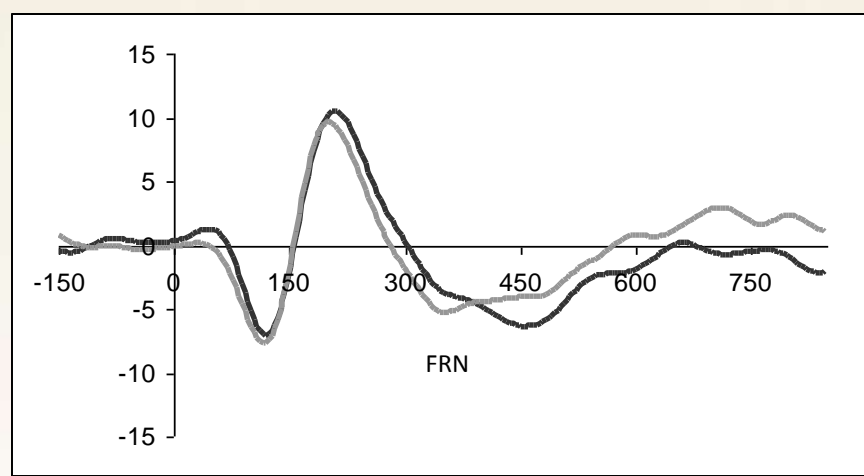


Preschool-aged foster children who received a therapeutic intervention showed typical levels of brain activity in response to corrective feedback, while those who did not receive the intervention continued to show no brain activity in response to feedback

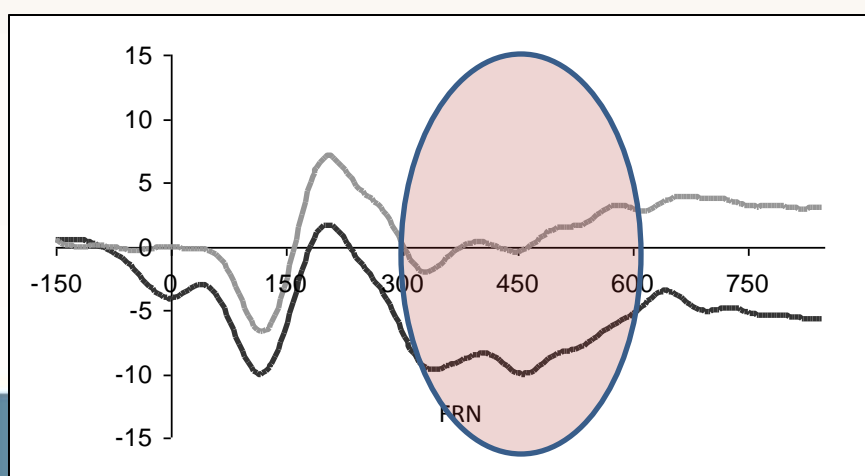
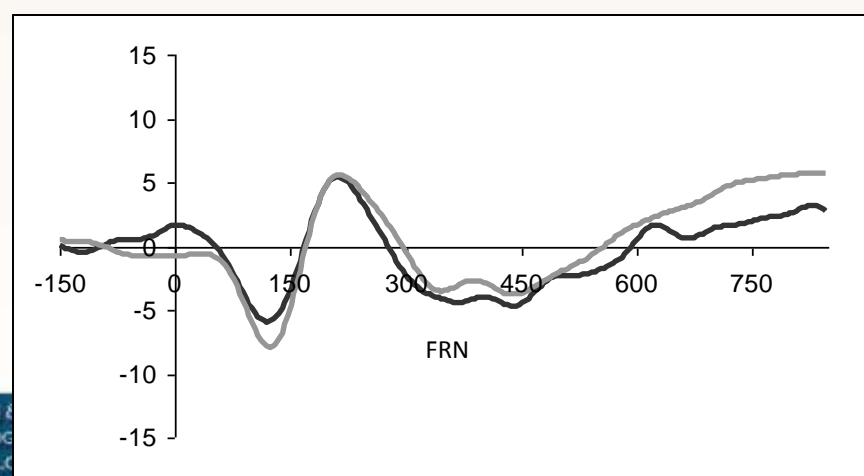
Pre Intervention

Post Intervention

Reg Foster Care



Intervention



THEME 3:
**WE CAN BE INCREASINGLY
PRECISE, NOT ONLY ABOUT
WHO IS AT RISK, BUT ALSO
ABOUT HOW TO HELP THEM**



TWO EXAMPLES

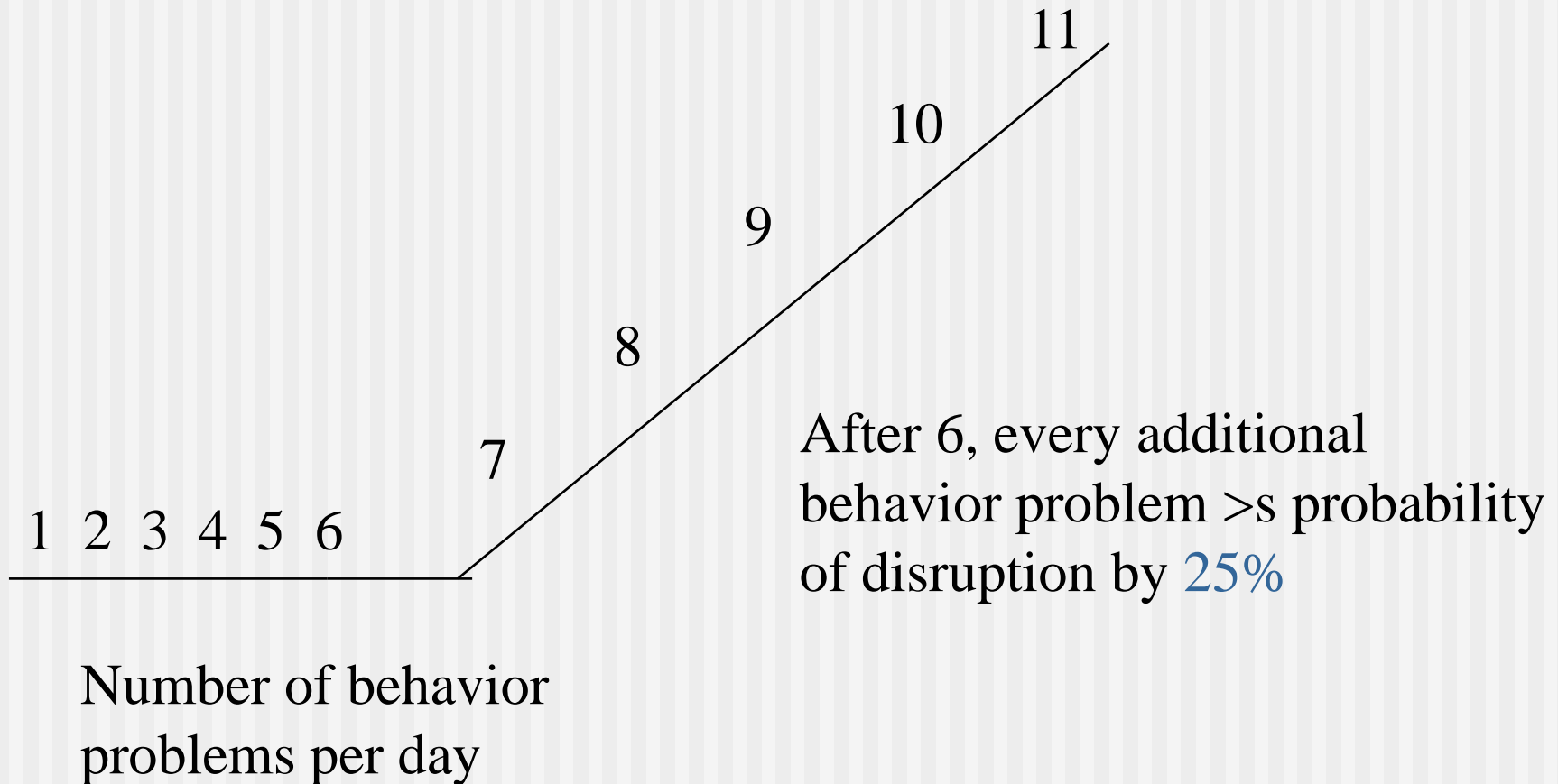


**EXAMPLE 1: RESEARCH ON THE
RISK FOR DISRUPTED
PLACEMENTS RESULTING FROM
FOSTER CHILDREN'S PROBLEM
BEHAVIOR**



Who Disrupts?

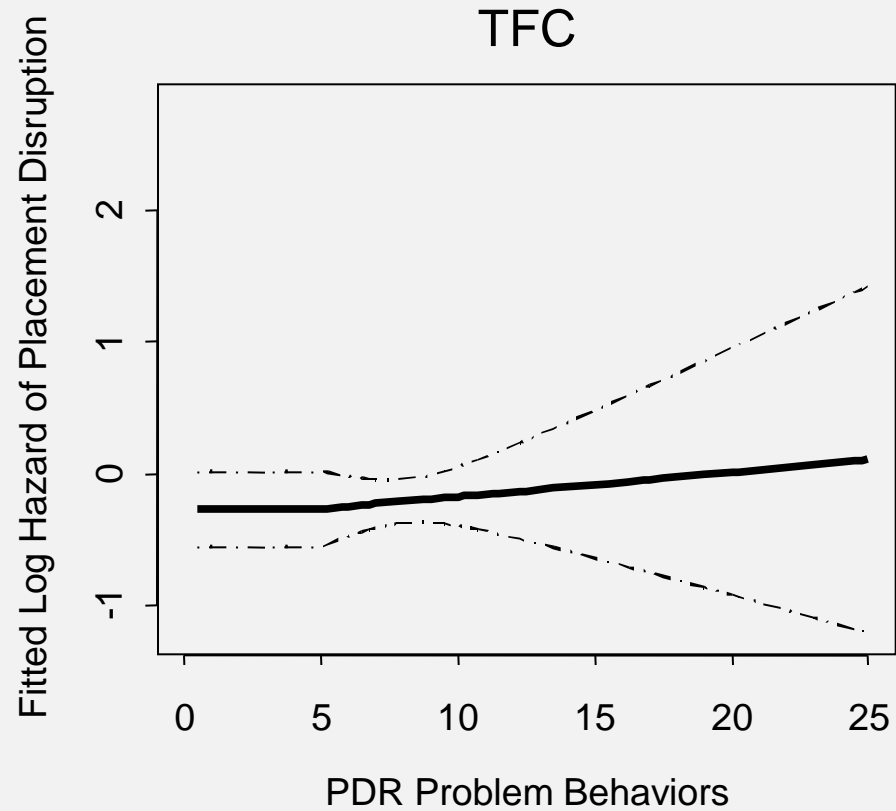
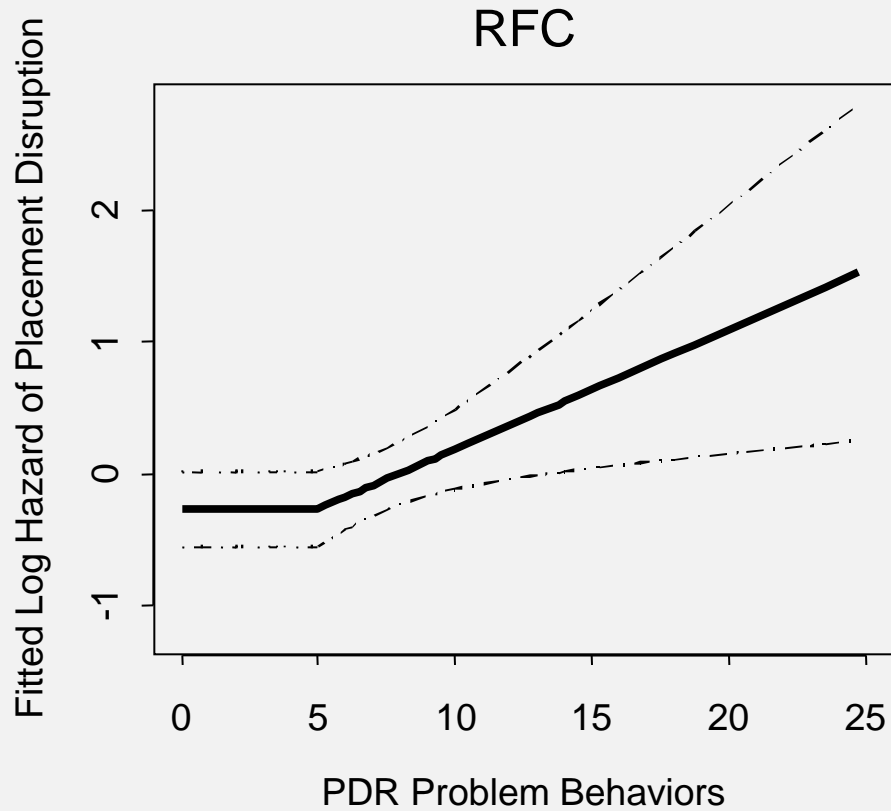
Chamberlain, Price, Reid, Landsverk, Stoolmiller, and Fisher (2006)



Number of behavior problems per day

3/29/2011

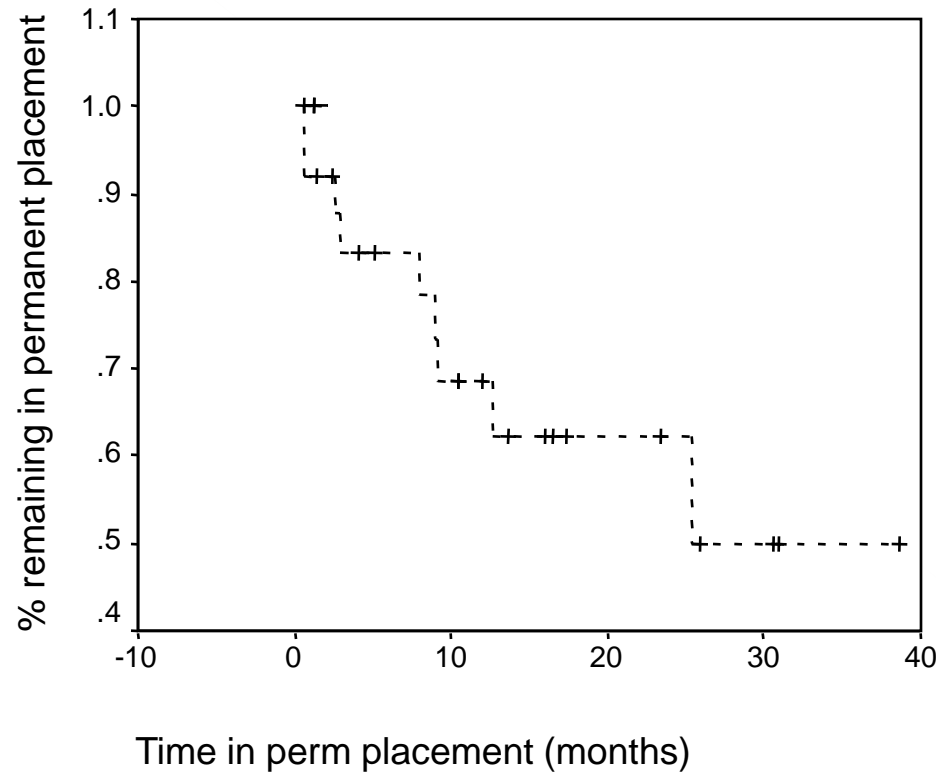
INTERVENTIONS EXIST THAT MITIGATE THE EFFECTS OF PROBLEM BEHAVIOR ON RISK FOR DISRUPTED PLACEMENT



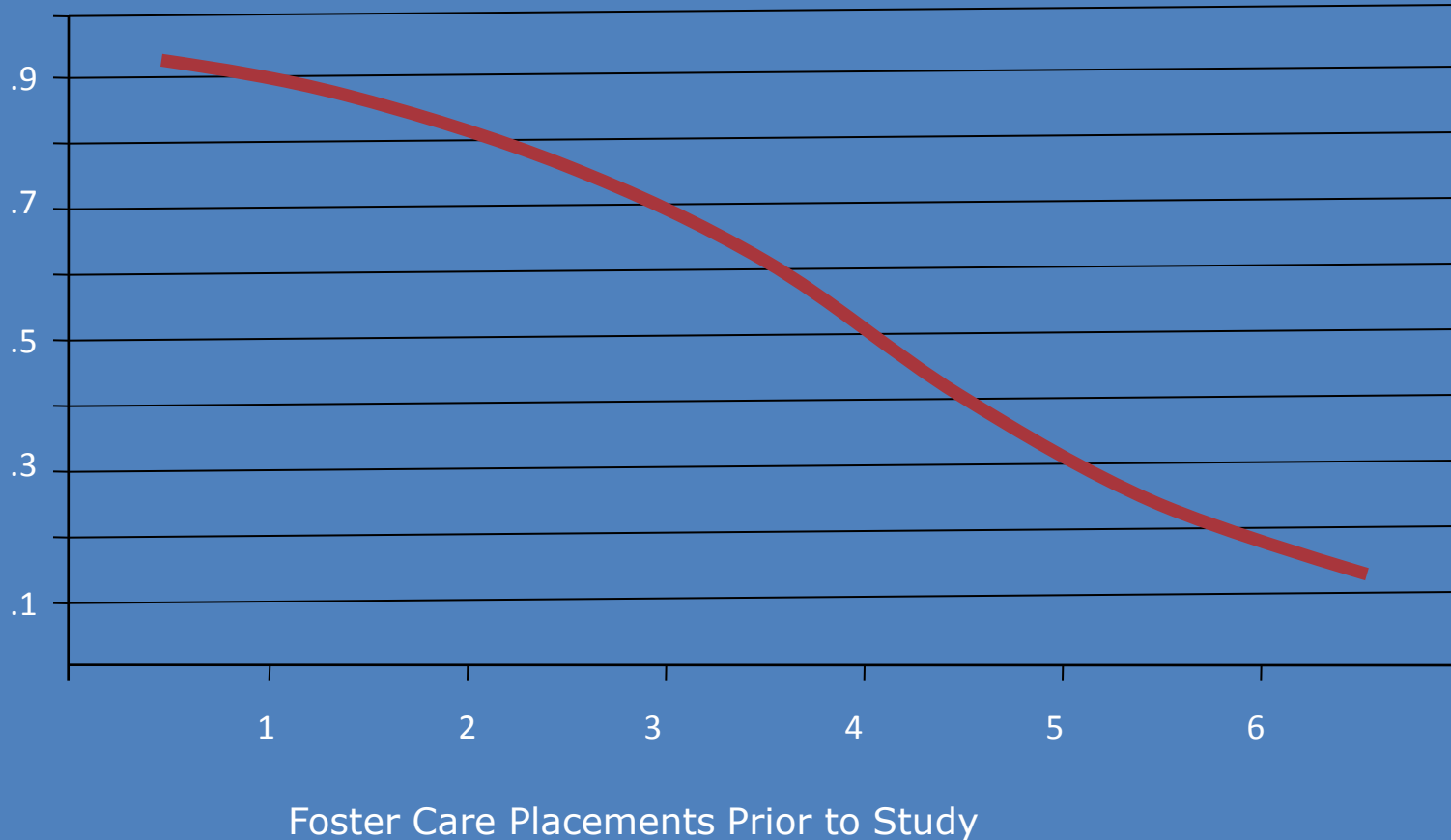
EXAMPLE 2: PREVENTING REUNIFICATION AND ADOPTION FAILURES FOLLOWING FOSTER CARE



Re-entry into out of home care among former foster children

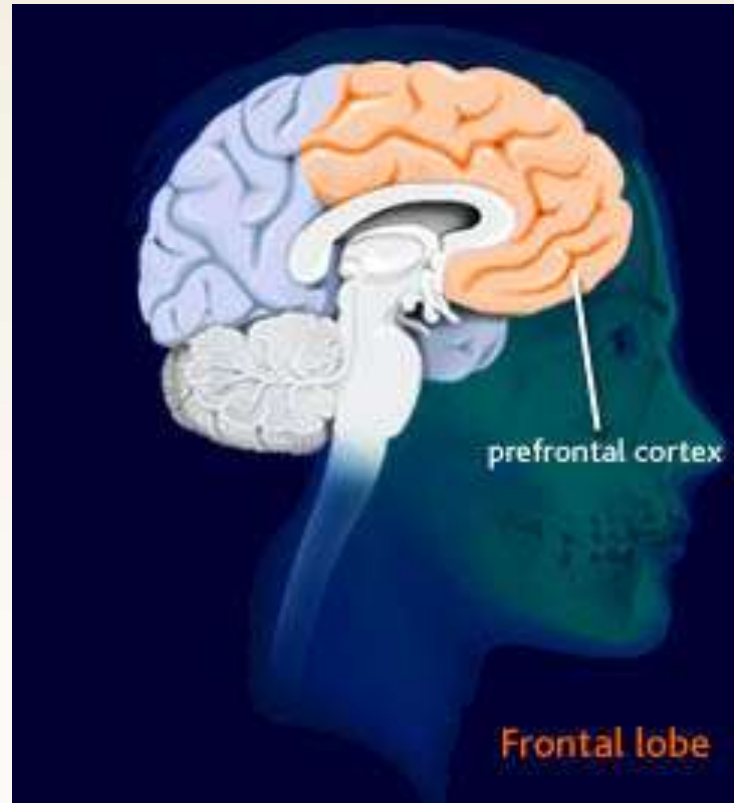


Placement instability begets more instability



Source: Fisher, Burraston & Pears (2005)

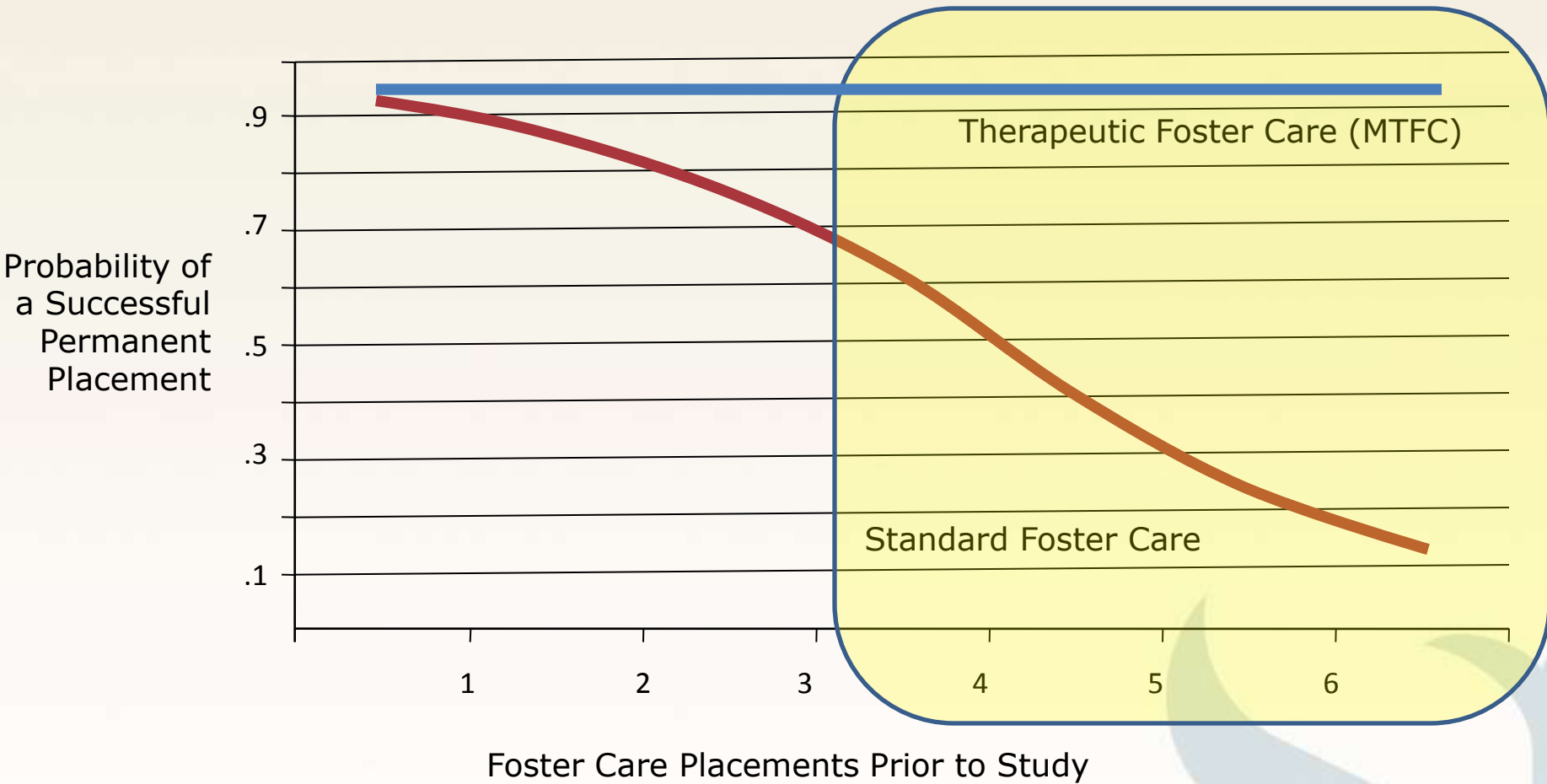
Another problem with placement instability:
Foster children with many placements have difficulty on
executive functioning tasks



Pears, Bruce, & Fisher (2009) *Child Abuse and Neglect*

*Similar findings reported
by Lewis, Dozier et al.
(2007)*

Intervention effects on permanent placement stability



Sources: Fisher, Burraston & Pears (2005);
Fisher, Kim, & Pears (2009)

**MESSAGE 3:
PREVENTING TOXIC STRESS AND
MITIGATING ITS EFFECTS IN YOUNG
FOSTER CHILDREN IS FINANCIALLY
WITHIN OUR GRASP**

Collaboration with Frances Lynch, Center
for Health Research, Portland, OR



There may even be *immediate* Cost Savings!








**Estimate of the Cost of Running the EIFC Program
for 9 Months from the Agency Perspective**

Component of EIFC Program	Cost	Notes
Intensive Pre-service Training for Foster Parents	\$337	12 families, one staff member
<i>Ongoing Consultation and Support for Foster Parents</i>		
Daily Telephone Calls	9974	12 families, one call per day 5 days per week for 6 months
Weekly Foster Parent Support Groups	2601	One meeting per week for 6 months
24 Hour Crisis On Call	640	2-3 calls per week, some include visits
Home and Community Visits	6390	2 per month per family
Individual Therapy	13,293	1.5 hours per week
Therapeutic Play Group	2160	One meeting per week for 6 months
Develop Individual Treatment Plan	197	
Medication Management	2335	Initial visit, plus every 6 weeks, 50% of children receive
Parent Training for Permanent Placement Families	22,511	12 families, 1.5 individual sessions per week for 6 months
Staff Supervision	8955	Weekly meeting, plus individual
EIFC Staff Training	503	Amortized over 5 years
Total Cost for 6 months	\$69,897	
Total Cost per child	\$6138	Assume one child per family








Table 1. Unadjusted mean (SD) costs (2008 USD) at 24 mo. post-randomization, full sample

Type of Cost	RFC	MTFC-P
	N = 60	N = 57
1. MTFC-P Intervention	NA	6168 (1760) 
2. Total RFC Services Cost	 21 253 (8515)	16 003 (7256)**
<i>Cost of Negative Transitions</i>	406 (552)	317 (422)
<i>Room and Board</i>	10 204 (4820)	10 159 (4598)
<i>All Other Services</i>	 10 643 (3889)	5527 (2899)**
3. Nonprotocol Service Cost	 8749 (5644)	5058 (3506)**
4. Total Foster Care Costs (sum of items 2 and 3)	21 253 (8515)	22 171 (8754)
5. Total Public Agency Cost (sum of items 1 and 4)	 30 090 (11 014)	27 204 (9939)**

Abbreviations: RFC, regular foster care; MTFC-P, Multidimensional Treatment Foster Care for Preschoolers. Significance tests adjusted for differences in gender, number of placements prior to start of study, and baseline severity. * $P < .05$; ** $P < .005$.

Table 1. Unadjusted mean (SD) costs (2008 USD) at 24 mo. post-randomization for instability subsample

Type of Cost	RFC N = 23	MTFC-P N = 29
1. MTFC-P Intervention	NA	 6097 (1916)
2. Total RFC Services Cost	 27 113 (5973)	17 577 (8094)**
<i>Cost of Negative Transitions</i>	493 (603)	420 (476)
<i>Room and Board</i>	14 717 (3200)	12 101 (5062)**
<i>All Other Services</i>	 11 903 (2588)	5057 (2876)**
3. Nonprotocol Service Cost	 8948 (5471)	5921 (3901)*
4. Total Foster Care Costs (sum of items 2 and 3)	27 113 (5973)	23 674 (9747)
5. Total Public Agency Cost (sum of items 1 and 4)	 36 061 (9160)	29 595 (11 243)*

Abbreviations: RFC, regular foster care; MTFC-P, Multidimensional Treatment Foster Care for Preschoolers. Significance tests adjusted for differences in gender, number of placements prior to start of study, and baseline severity. * $P < .05$; ** $P < .005$.

**THEME 4 (CALL TO ACTION):
MULTILEVEL INVOLVEMENT AND
COMMITMENT OF EXECUTIVE,
LEGISLATIVE, AND JUDICIAL
BRANCHES, DHS, COMMUNITY
AGENCIES, RESEARCHERS IS
CRITICALLY IMPORTANT IF WE ARE
TO REALIZE THE FULL POTENTIAL
THAT EXISTS IN OREGON**



Acknowledgements



Center on the Developing Child  HARVARD UNIVERSITY

