

Toxic Stress and the Brain: Implications for Children in Foster Care

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A decorative graphic consisting of several horizontal lines of varying lengths and colors (teal, light blue, white) extending from the right side of the slide towards the center.

The brain in early childhood

- A period of rapid development for the brain
- Connections that get used, get stronger
- Connections that are not used, get pruned
- Brain areas are interconnected and talk to one another

What helps build brain?

- **Good nutrition**
- **Good health**
- **Enough sleep**

What helps build brain?

- **Interactions**

- Positive interactions with adults help to shape language, learning, self-regulation and social skills
- “Serve-and-return” interactions in language and literacy
 - Attention focusing
 - Naming
- Adults also help the child learn how to regulate their behavior
 - Calming down
 - Inhibitory control

What helps build brain?

▫ **CONSISTENCY**

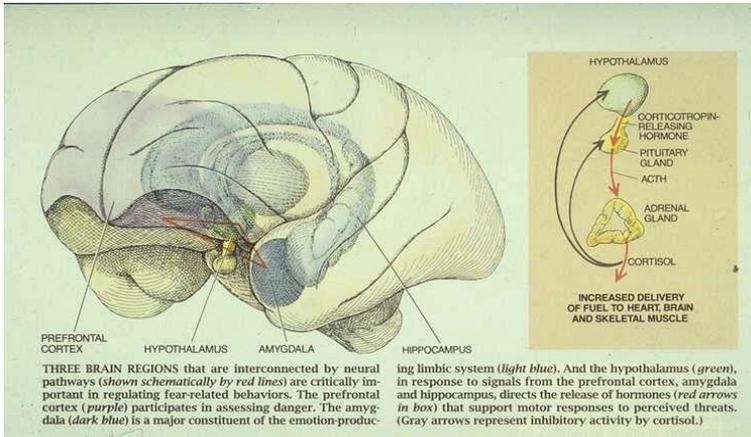
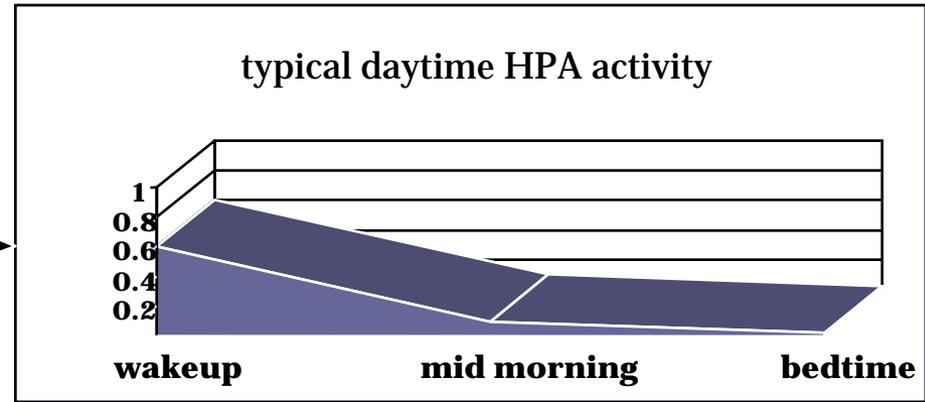
- The child learns that they can predict what will happen by paying attention to what goes on around them
- Learn that when they do X, they can expect Y to happen

What interrupts healthy brain development?

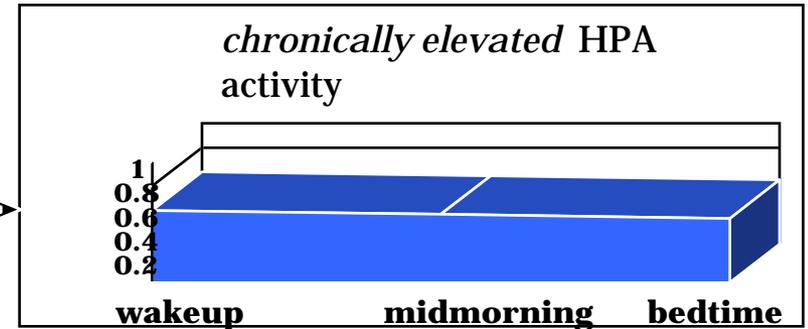
- **Neglect- not having basic needs met**
- **Neglect-lack of positive interactions**
- **Toxic stress**
 - **High levels of chronic stress leads dysregulated stress responses**
 - **Disrupts attention, inhibitory control**

HPA axis dysregulation is associated with early life stress

Typical pattern

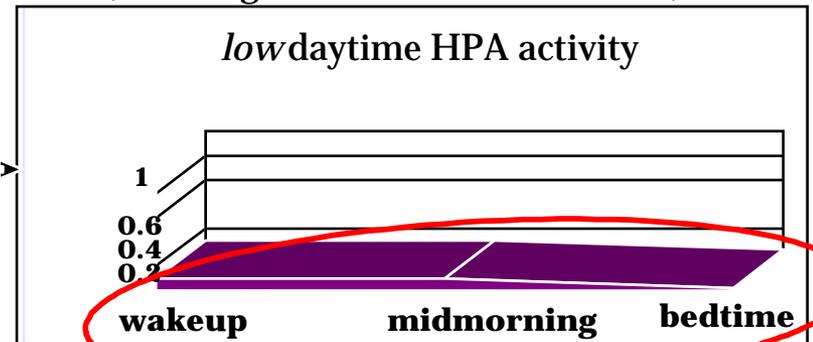


chronically elevated HPA activity



(downregulation via chronic stress)

low daytime HPA activity

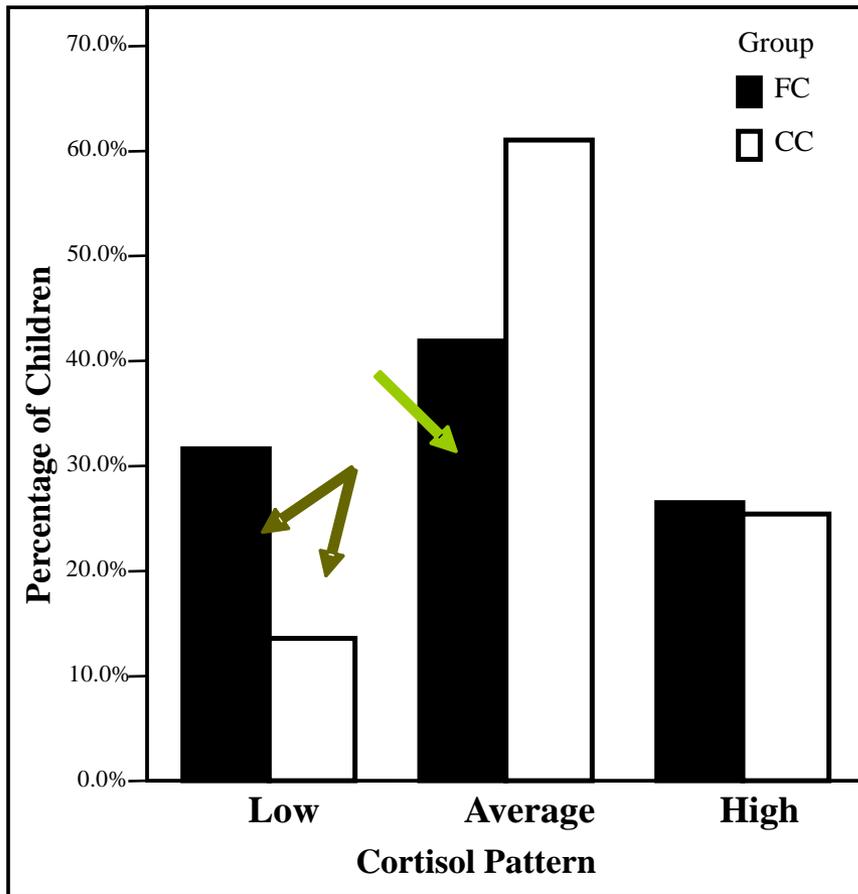


Anxiety and affective disorders

Stress-induced blunted patterns

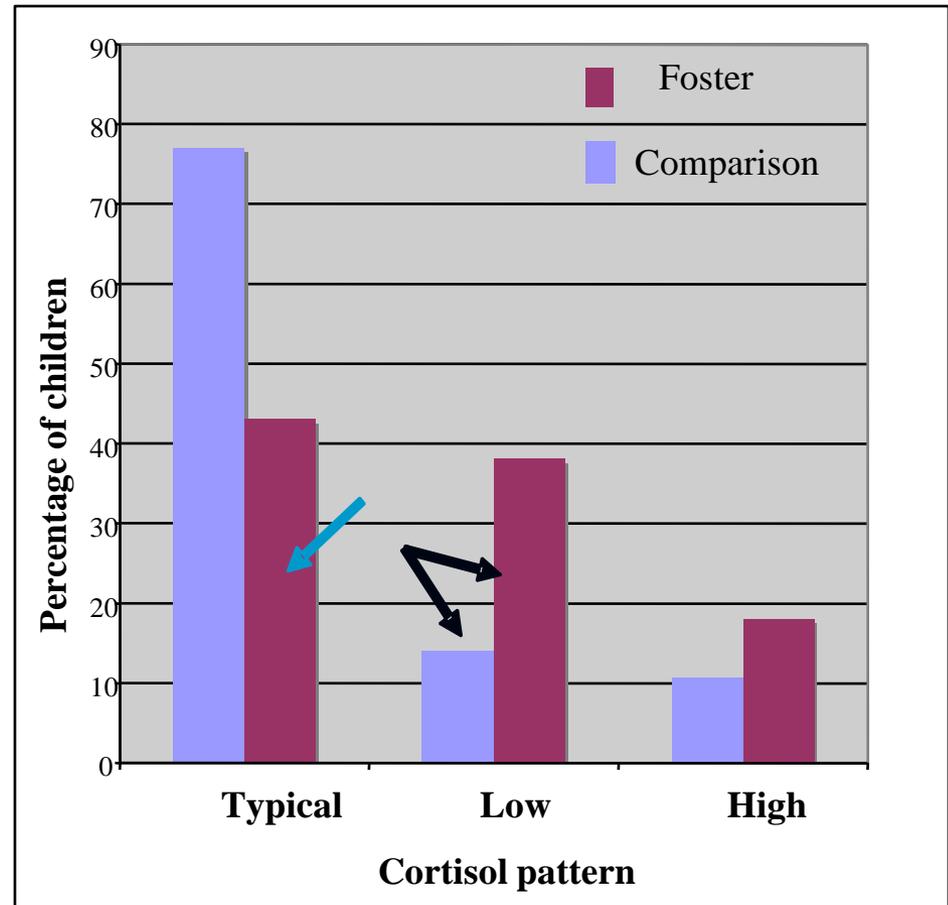
Some, but not all, foster children show alterations in HPA axis functioning

Oregon



Bruce, Fisher, Pears, & Levine (2010)

Delaware

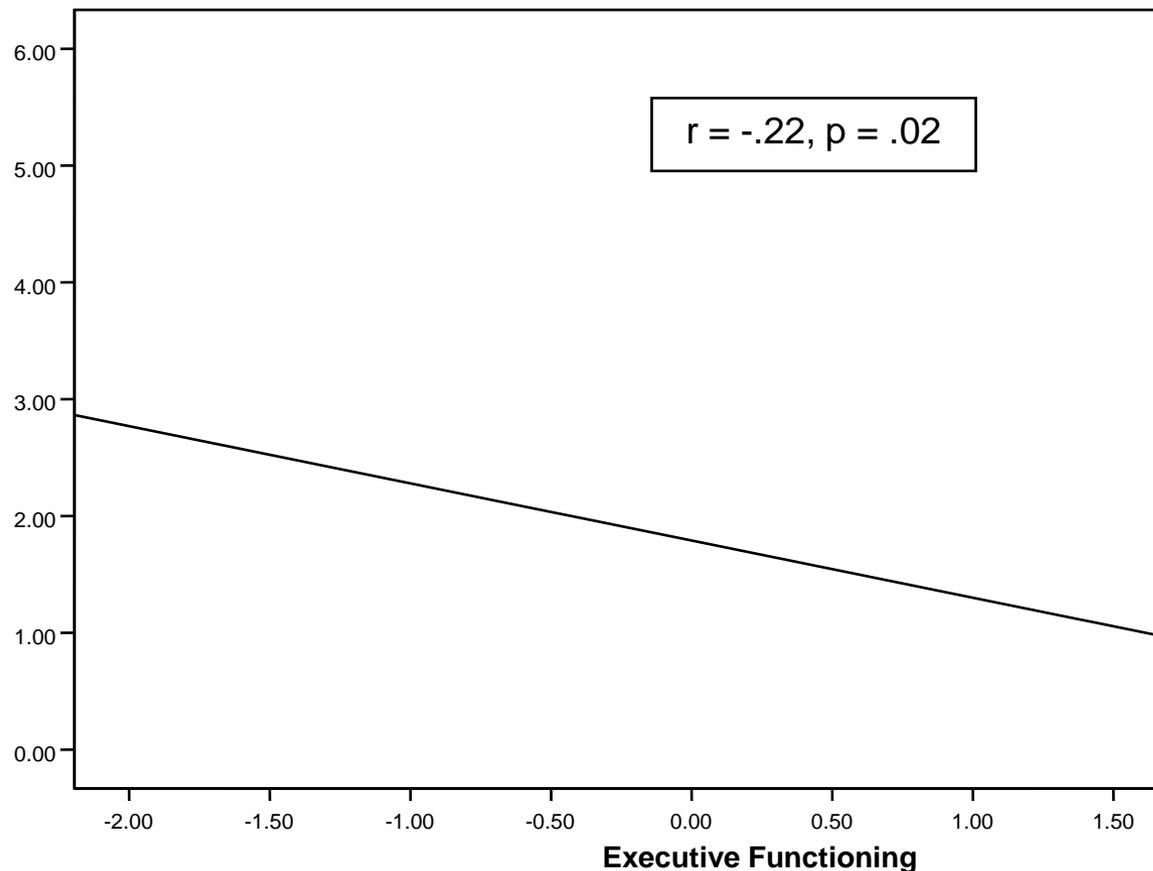


Lewis, et al. (2007)

What interrupts healthy brain development?

- **Inconsistency in caregiving**

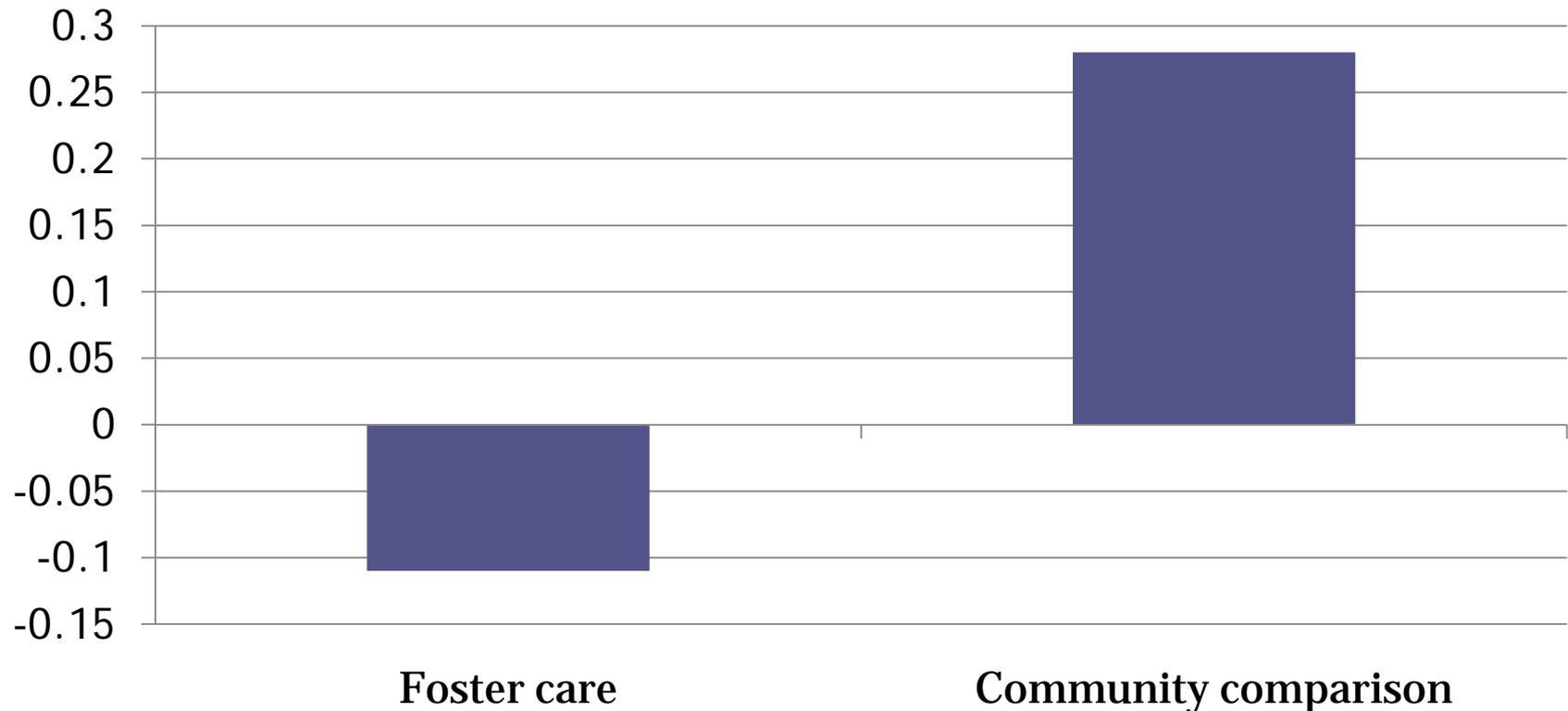
The more UNIQUE placements that a child has had, the worse their inhibitory control



What do we know about brain development in children in foster care?

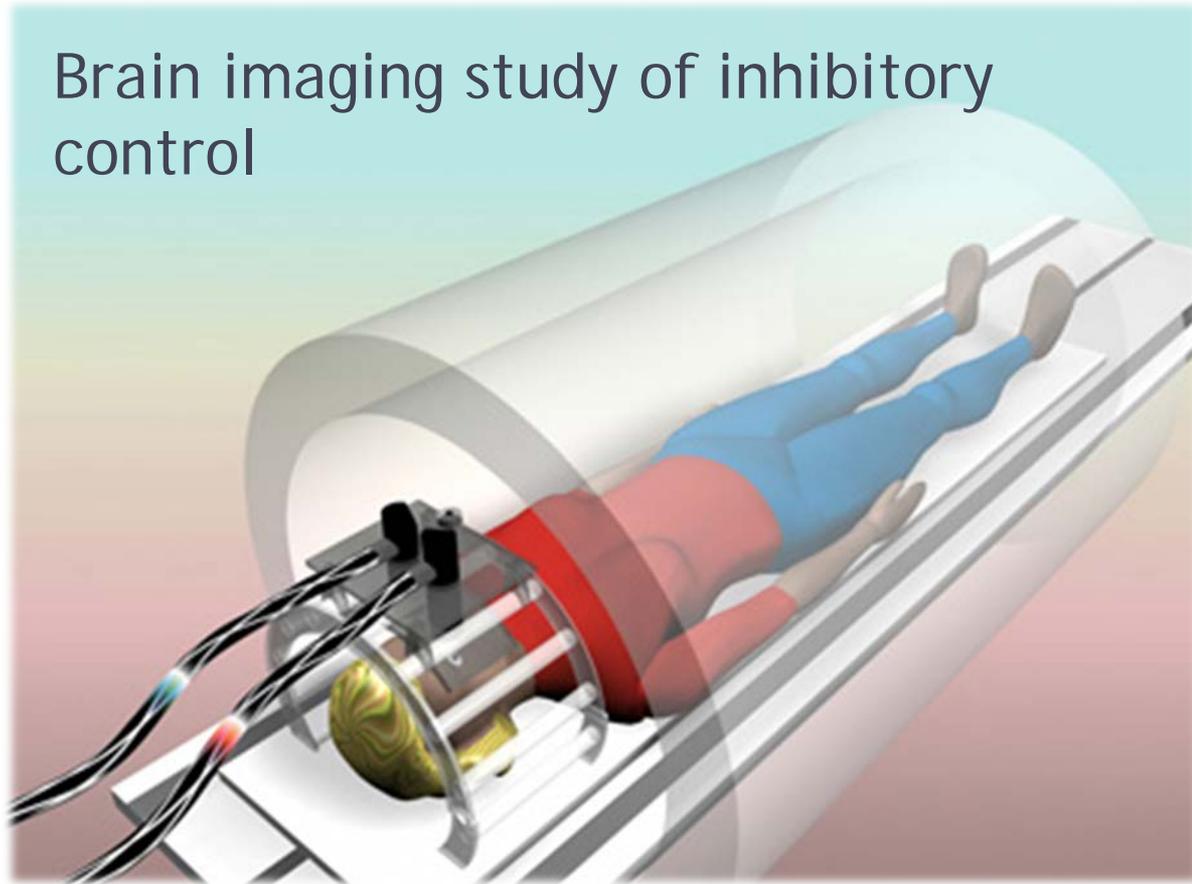
Children in foster care show lower levels of inhibitory control

Inhibitory control in preschool



They may also utilize brain areas in different ways.

Brain imaging study of inhibitory control

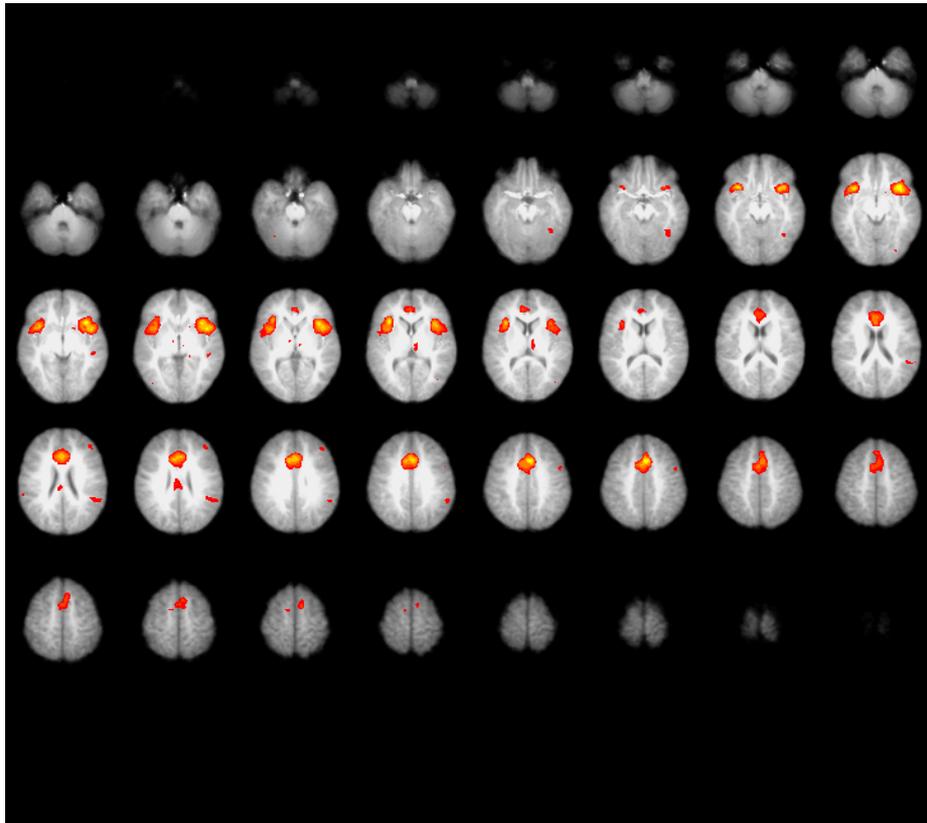


Instructions: Push the button when a number comes on the screen, except when it's a 9

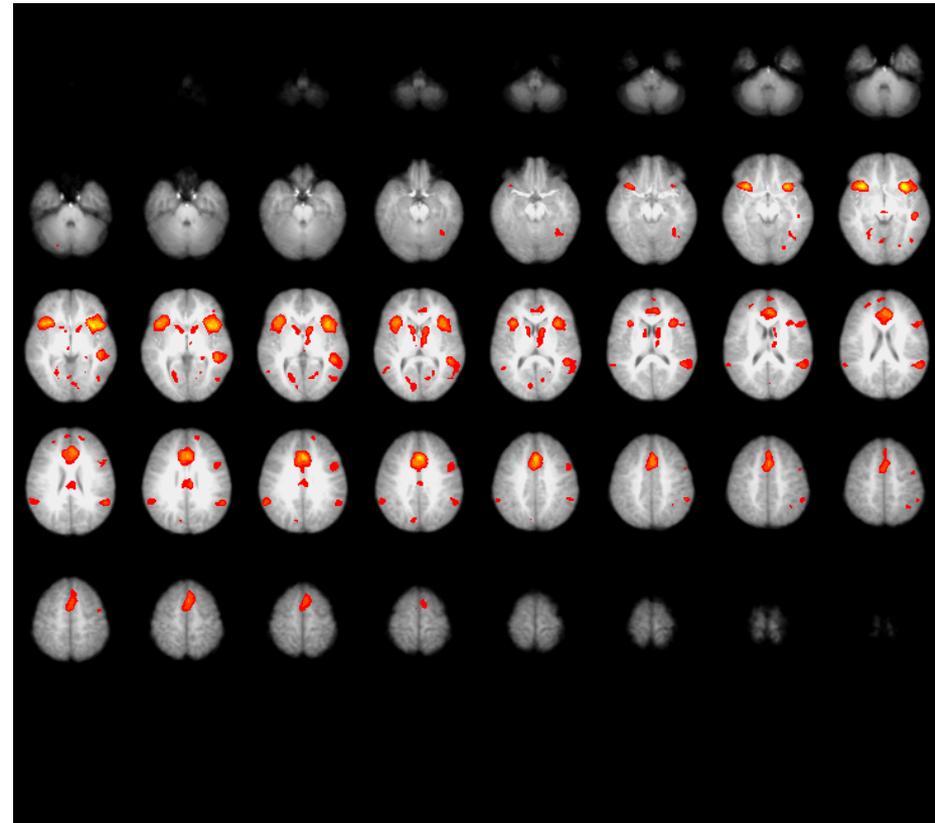
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Example data (for illustration only)

Non-maltreated community
children



Maltreated children in foster
care



Source: Bruce et al., in press, *Development and Psychopathology*.

Foster children show diminished brain activity to feedback following a mistake.

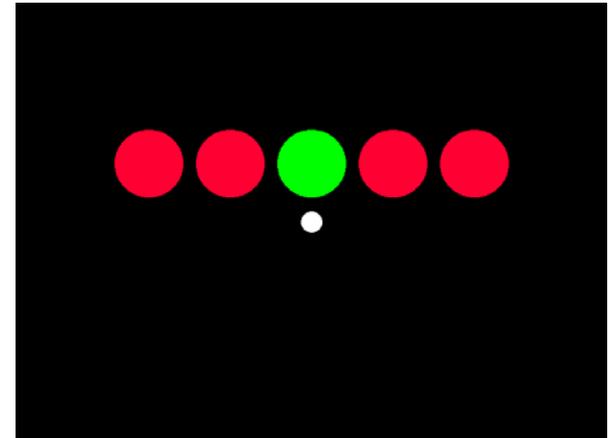
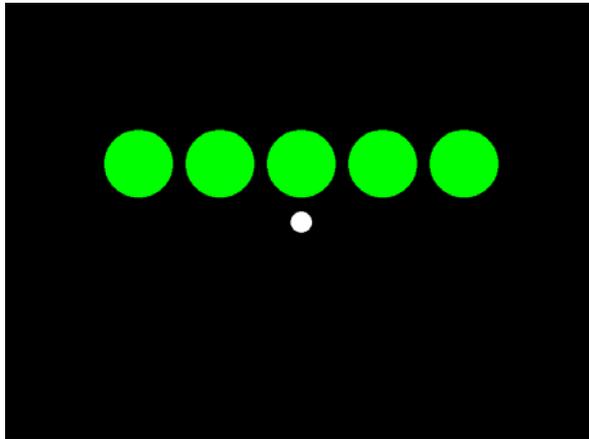


Flanker Task

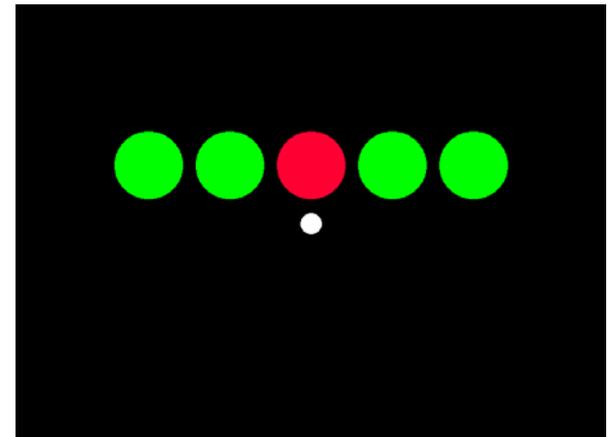
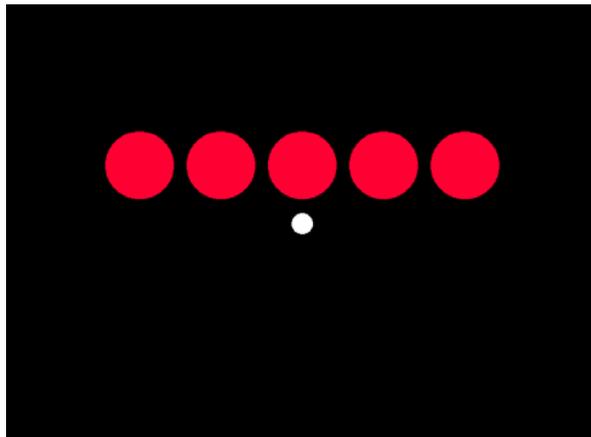
Congruent

Incongruent

Green



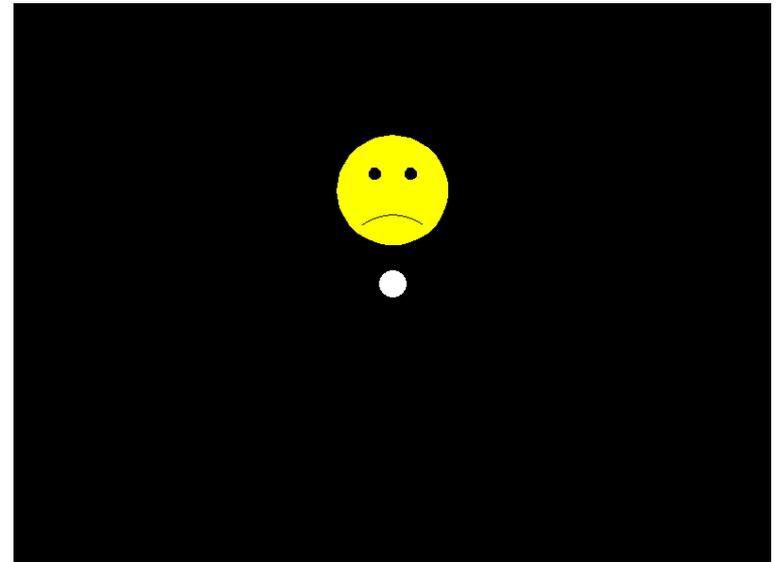
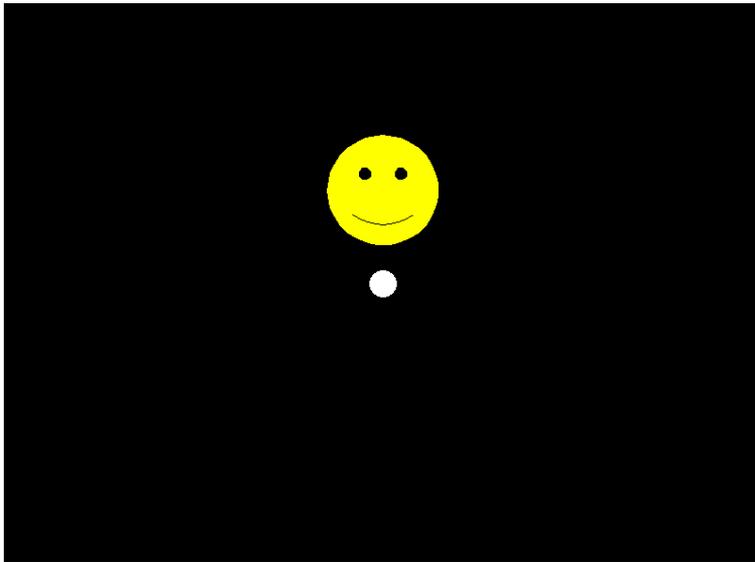
Red

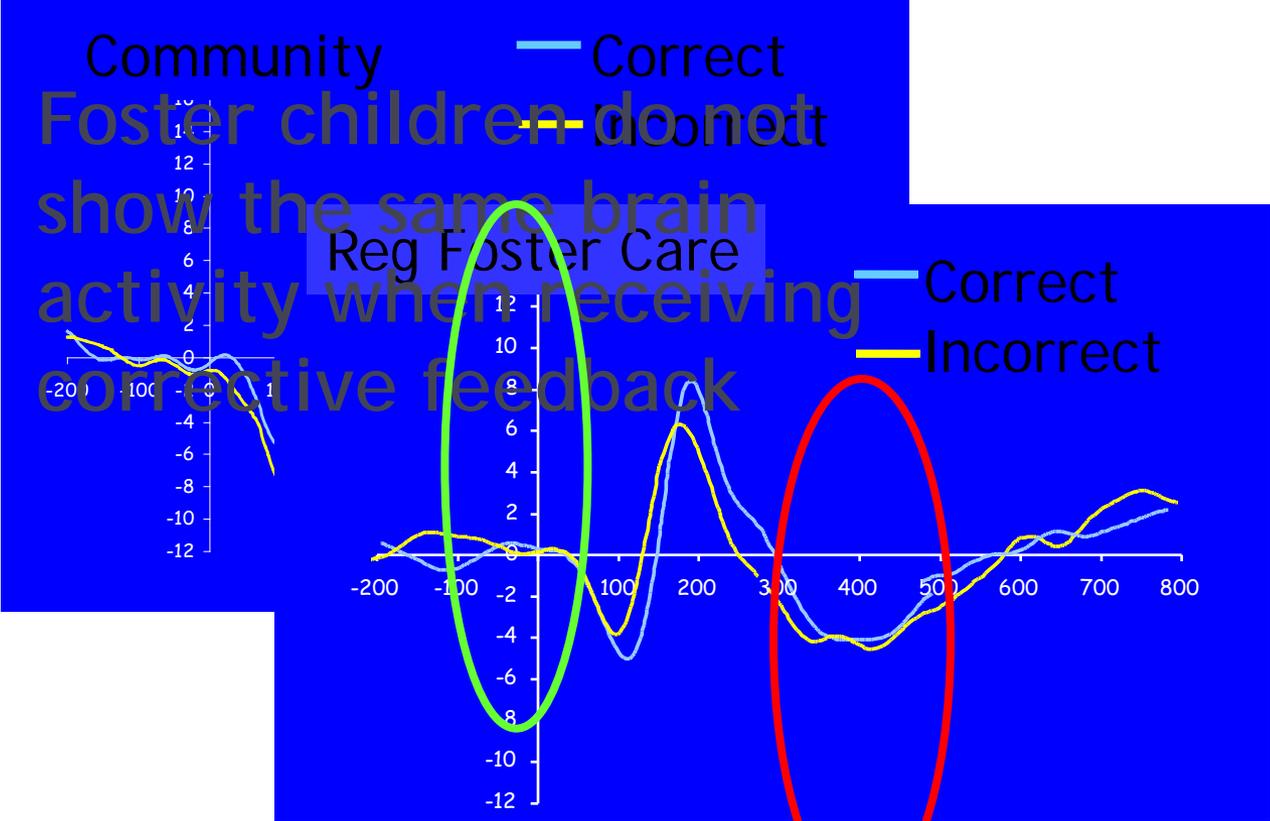


Feedback

Correct

Incorrect







What are some of the real world consequences of deficits in brain development?

Early Adversity:
Maltreatment
Multiple Transitions



Poor Self-Regulation:
Inhibitory control

Poor caregiver involvement



Poor School Performance





There are promising interventions to prevent the negative effects of disruptions in brain development

The Kids in Transition to School (KITS) Program

- Short-term program developed at OSLC
- Targets school readiness and subsequent school functioning
- Two phases
 - School readiness phase – 8 weeks before school
 - Transition/maintenance – first 8 weeks of school

KITS Components

- School Readiness Playgroups
 - 2x/week throughout the summer; 1x/week September-October
 - 4:1 student to teacher ratio
 - Focus on early literacy skills, social skills, and increasing self-regulation strategies

KITS Components

- Self-regulation is promoted through:
 - explicit teaching of strategies for calming down, dealing with frustration, problem-solving, and making transitions
 - opportunities to practice multiple transitions, sitting still during circle time and raising one's hand
 - opportunities to work with peers at handling difficult situations appropriately

KITS Components

- Caregiver Workshops
 - Bi-weekly
 - Focus on:
 - Preparing children for school (early literacy activities, establishing schedules and routines),
 - Becoming involved in children's schooling
 - Parenting techniques to manage any behaviors that might arise during the transition to school

- Before a program is used widely, we would like to make sure that it is “evidence-based”
 - The efficacy of the program has been tested in a randomized trial
 - Children randomly assigned either to the group that receive the treatment or a group that receives services as usual

KITS Foster Care Efficacy Trial

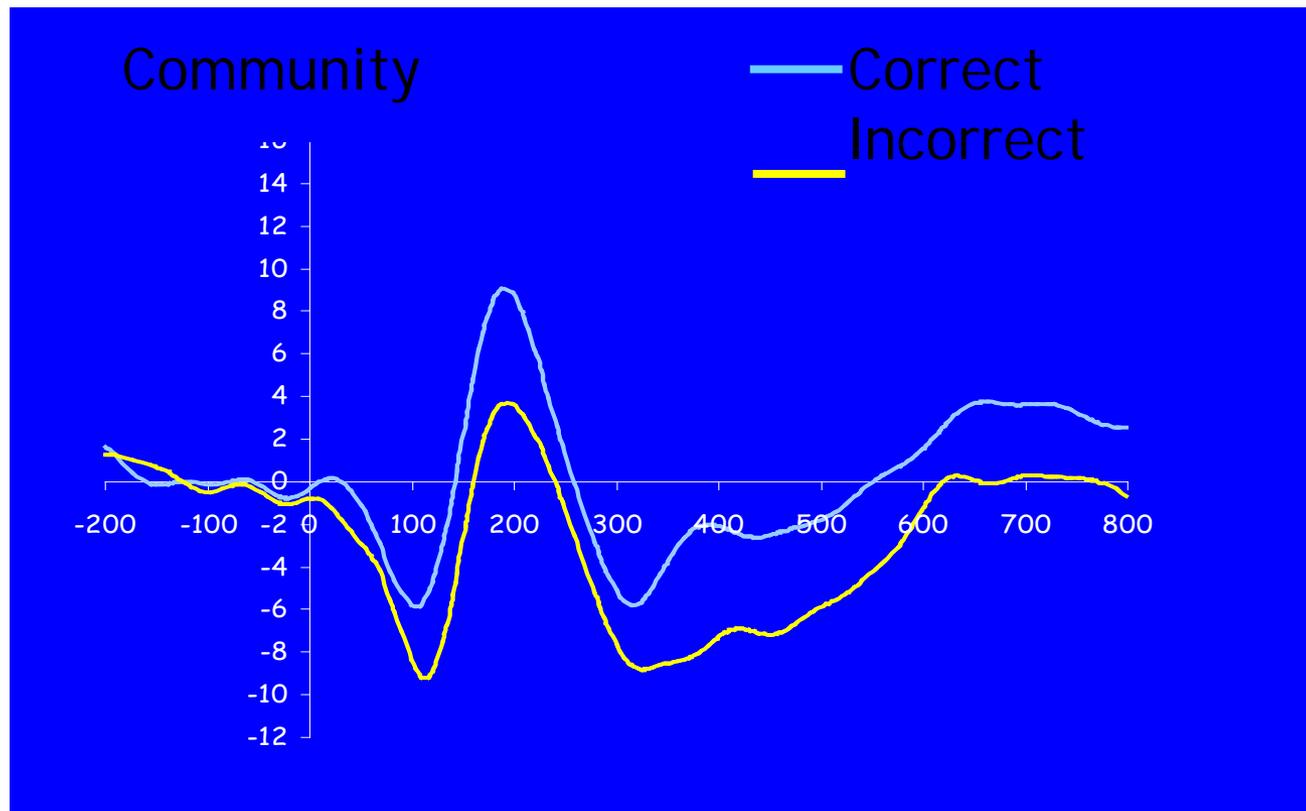
- Co-funded by National Institute on Drug Abuse and National Institute on Child Health and Development
- 192 (98 males) children: randomly assigned KITS intervention (n= 102) and foster care services as usual group (n = 90)
- Eligibility: Any child in foster care who was entering kindergarten in the fall

When compared to children who received services as usual over the summer, controlling for baseline scores and general cognitive ability, KITS children showed.....

Self-regulation

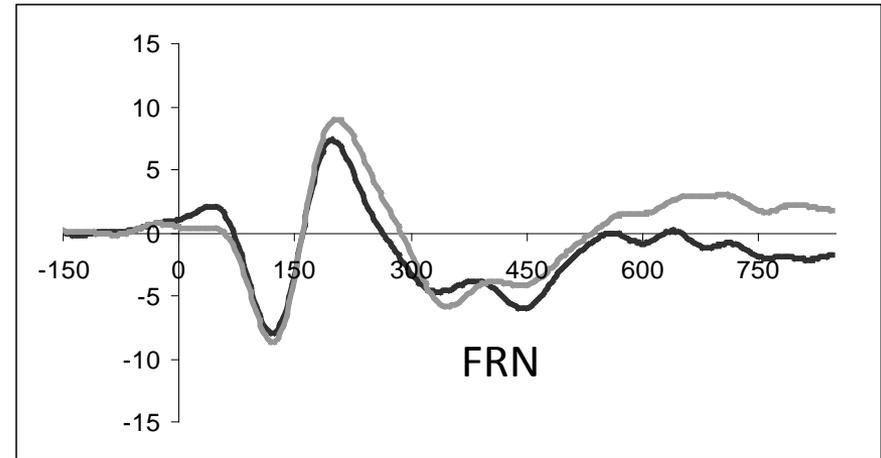
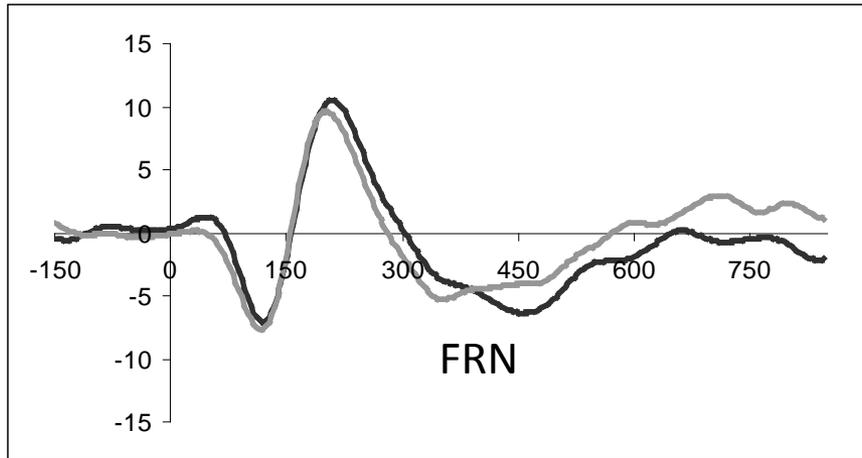
Early literacy skills

The effects of the KITS Program on paying attention to feedback about mistakes

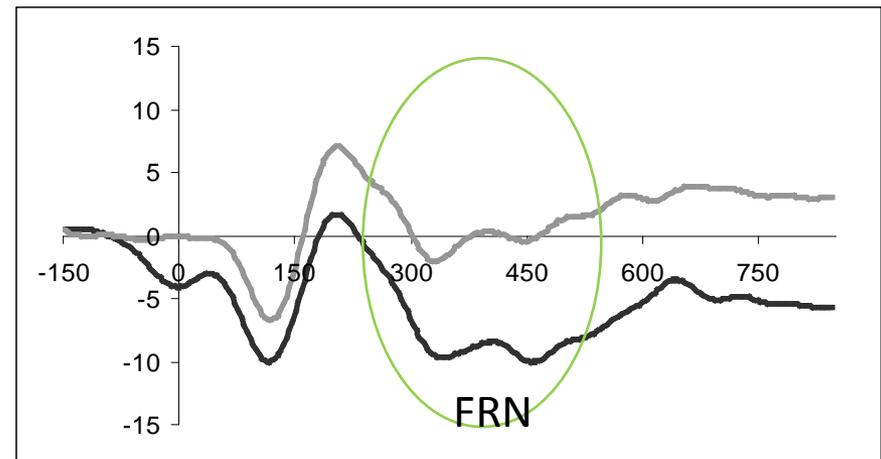
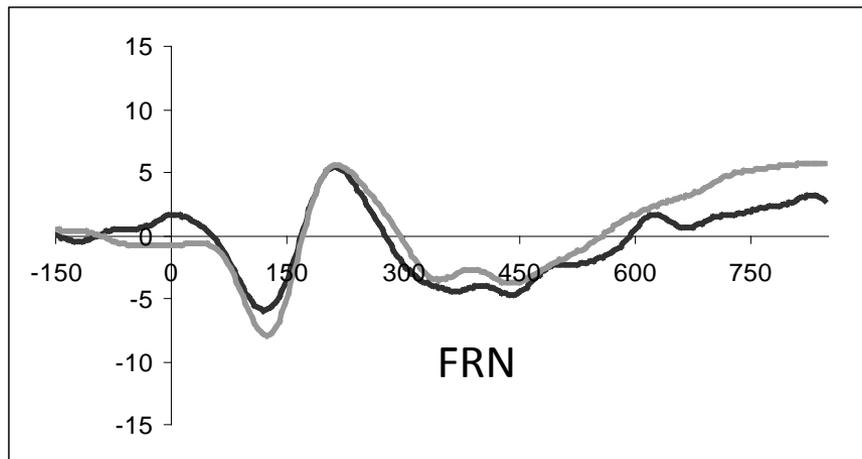


The Effects of the KITS Intervention on response monitoring

Reg Foster Care



KITS Intervention



Conclusions: The Bad News

- **The experiences of children in foster care can lead to disruptions in brain development**
 - **Inconsistency and placement movement in particular**
 - **Effects on important skills that are likely to have long-ranging effects**

Conclusions: The Good News

- It is possible to reverse these effects through interventions
 - **Targets:**
 - Self-regulatory skills
 - Role modeling
 - Reinforcement
 - Consistency in the rules and in feedback about behavior
 - Stability

Acknowledgements

Collaborators

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The families and children
who participated in the
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NICHD

IES

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Hyoun Kim
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Deena Scheidt



Let's Start from the Beginning: How Early Experience Shapes the Developing Brain APPLYING THE RESEARCH TO THE REVIEW PROCESS

KEY CONCEPTS:

- PREVENTATIVE EFFORTS
- DIFFERENTIAL RESPONSE
- RISK LEVEL
- FAMILY ENGAGEMENT
- RELATIVE PLACEMENT
- ATTACHMENT
- RELATIONSHIPS
- FAMILY BASED SERVICES
- CASE COLLABORATION
- TIMELY REUNIFICATION
- MINIMALLY SUFFICIENT STANDARDS
- IMMEDIATE SAFETY THREATS
- TRIAL HOME VISITS

DHS has made reasonable efforts to prevent or eliminate the need for removal of the child from the home.

Considerations: prior referrals and assessments, previous intervention, type of founded allegation (neglect or threat of harm), determination of safety threat (low or moderate), parental willingness to engage in preventative services, protective action plans, emergency intervention services (i.e. residential treatment, alternative housing).

DHS has made diligent efforts to place the child with a relative or person who has a caregiver relationship.

Considerations: type of placement, relative search efforts, attachment to primary caregiver, level of family engagement, placement proximity, family mobility mapping.

DHS has ensured that appropriate services are in place to safeguard the child's safety/health/well-being.

Considerations: appropriateness of placement and services, frequency and level of parental contact, visitation, attachment, psychological and physical needs of child, parent-child interactive therapy, early childhood services, mental health assessments and recommendations.

DHS made reasonable efforts to provide services to make it possible for the child to safely return home.

Considerations: sufficient visitation/parental contact, in-home based services, residential D/A treatment, housing referrals, collaboration with community service providers, assistance in resolving barriers to access of services, implementation of service provider recommendations.

The parents have made sufficient progress to make it possible for the child for the child to safely return home.

Considerations: minimally sufficient standards, sufficient progress in relation to founded allegations, input from service providers.

There is a continuing need for placement.

Considerations: specific safety threats requiring out of home placement, immediate safety threats, remaining barriers to reunification, in-home safety plans, trial home visits.

CASE SYNOPSIS



**AFTER READING THE CASE SYNOPSIS, PLEASE HIGHLIGHT KEY ISSUES
AND IDENTIFY ADDITIONAL QUESTIONS TO BE ASKED AT TIME OF REVIEW.**

DHS has made reasonable efforts to prevent or eliminate the need for removal of the child from the home.

DHS has made diligent efforts to place the child with a relative or person who has a caregiver relationship.

DHS has ensured that appropriate services are in place to safeguard the child's safety/health/well-being.

DHS made reasonable efforts to provide services to make it possible for the child to safely return home.

The parents have made sufficient progress to make it possible for the child for the child to safely return home.

There is a continuing need for placement.

RECOMMENDATIONS:

CASE SYNOPSIS



Alice, age 8; Jenna, age 6, and Robert, age 4, re-entered care on 12/12/11.

Jurisdiction was established on 2/8/12 based on issues of domestic violence and substance abuse on the part of both parents.

This is the first CRB review. The Indian Child Welfare Act does not apply.

This is a re-entry case. All three children were previously in care from 2/09 to 12/09 due to the parents' use of marijuana/methamphetamine as well as inadequate supervision. Both parents engaged in court ordered services and the children were returned home in 12/09. Wardship was dismissed in 3/10.

On 12/11/11, the parents were both arrested on PCS Meth charges during a routine traffic stop. The three children were in the vehicle at the time. LEA contacted Child Welfare. A protective action plan was developed placing the children in the care of their paternal grandparents, pending completion of a full DHS assessment. DHS conducted interviews with the children, the grandparents and with collateral resources but was unable to meet with the parents prior to their release from jail. Disclosures were made by the children about witnessing domestic violence. The referral was founded for threat of harm and the paternal grandparents were certified as relative providers.

All three children are residing with their paternal grandparents. The children are comfortable in their relative placement but had to adjust to the increase of structure and routine. All three children were referred for mental health evaluations. Jenna and Robert were assessed out of services. Alice is meeting with a counselor at her school.

Alice is in the 2nd grade. She has academic deficits which are believed to be attributed to a lack of consistent school attendance. She is described as parentified and expresses strong concern for her siblings and for her parents. Alice also demonstrates some sexually reactive behaviors and requires line-of-sight supervision. She has difficulty being redirected and is scheduled to be assessed by her physician for ADHD medication.

Jenna is in Kindergarten but also has some academic delays. She is receiving weekly speech therapy. She is described as easy going but the grandparents have expressed concern that she appears "spacey" and is inattentive/ non-responsive at times. Jenna received a hearing evaluation; results were normal.

Robert is described by his grandparents as "all boy." He tends to be overly aggressive and often targets Jenna. Robert is no longer having nightmares but continues to have difficulty sleeping. He has nocturnal enuresis. Robert attends Head Start three days per week. He loves numbers and is developmentally advanced but his teacher has reported some behavioral concerns in the classroom, including sexually reactive behaviors toward other children.

CASE SYNOPSIS



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The children have weekly visits with their parents at DHS for two hours per week. They also see their parents at church each Sunday. The parents demonstrate a healthy attachment to the children. According to visitation supervisors, the parents exhibit age appropriate parenting skills but tend to be critical of Jenna.

DHS has provided both parents with referrals for D/A assessments and treatment, domestic violence education for the mother and an anger management/ DV assessment for the father. Visits are being facilitated at the DHS office once per week for two hours. A FDM was held on 3/31/12 and visitation was extended to include a community based visit each Sunday.

The parents have indicated a willingness to engage in any required services. They were recently evicted from their apartment and are residing with the mother's cousin. This is not a suitable residence for reunification. The mother is currently engaged in outpatient D/A treatment and is meeting with a domestic violence advocate. The father was convicted on the PCS charge and was given 2 years bench probation. He is currently engaged in outpatient D/A treatment; however, a UA in 2/12 was positive for marijuana. He has completed a domestic violence assessment but has not enrolled in anger management groups due to financial barriers. The parents deny physical violence and state their relationship problems were a result of their substance abuse. They remain in a relationship and are committed to parenting the children together as a family. They are willing to participate in couples counseling with their pastor but state they cannot participate in individual mental health counseling because OHP coverage was lost when the children were removed.