Developmental Pathways of Trauma and Resilience: Learning From Young Mothers and Their Children

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Interdisciplinary group, founded by faculty (Easterbrooks, Jacobs, Mistry) in Eliot-Pearson Department of Child Study and Human Development, and Urban and Environmental Policy and Planning at Tufts University

Committed to conducting high-quality, collaborative evaluation research aimed at helping to improve policies and programs for children, families, and communities

Process evaluations, implementation evaluations, and outcomes-oriented or impact evaluations, often intersecting mixed methods

Funded by state agencies, foundations, and non-profits

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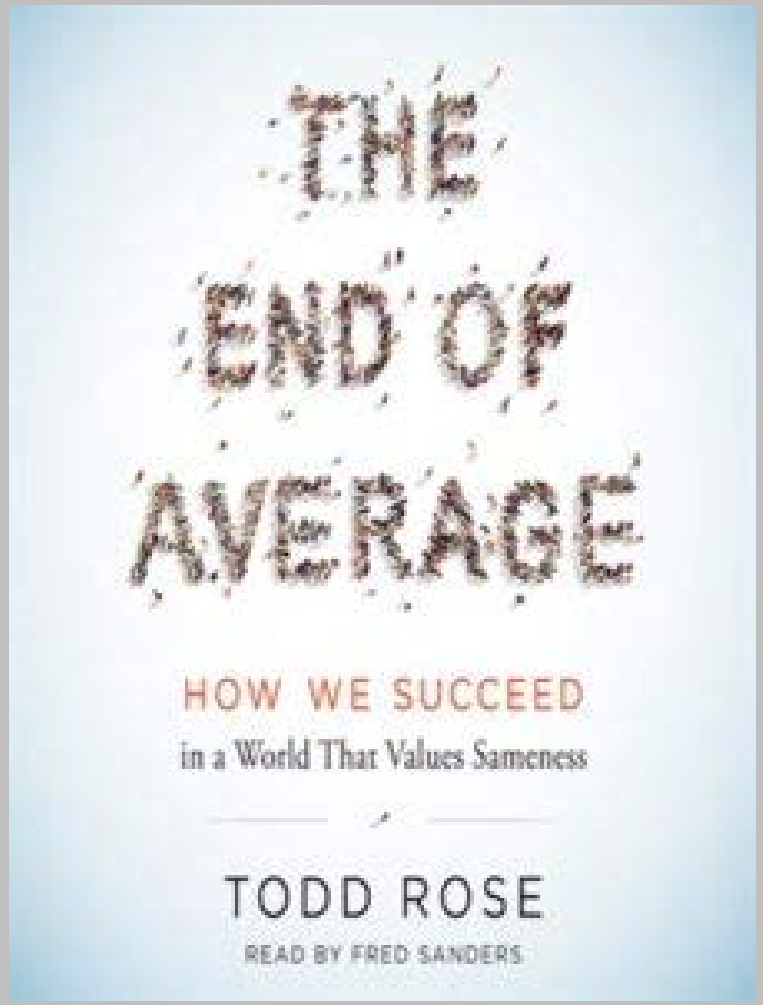
Presentation Outline

- **Operating Principles**
- **Stress & Trauma**
  - Role in human development
  - Biological & developmental aspects of stress regulation
- **Resilience/resilient functioning**
- Importance of representations, **meaning-making**, narrative
- **Learning from Research--**Young Mothers
- What does this mean for **programs and policies**?

Operating Principle #1: Heterogeneity

We tend to categorize people, but there is great variability

No two people will have the same experience or make meaning in the same way



Operating Principle #2: Resilience

All people have capacity for resilience, but it is not an individual "trait"

Resilience is the product of the transactions between individuals and their ecologies and is a property of the dynamic developmental system

Trauma

Ability to respond to perceived threat may become overwhelmed

Connections—
to body, self, others, world around us—may be impaired

"**Trauma** is an emotional response to a terrible event like an accident, rape or natural disaster. Immediately after the event, shock and denial are typical. Longer term reactions include unpredictable emotions, flashbacks, strained relationships and even physical symptoms like headaches or nausea. While these feelings are normal, some people have difficulty moving on with their lives."

(American Psychological Association www.apa.org/topics/trauma

Post-traumatic stress response may (or may not) become PTSD

- **Exposure to threatened or actual death, serious injury, or sexual violence**
  - Direct exposure, or…
  - Witnessing in person
  - Learning that it occurred to close family or friend
  - Repeated or extreme exposure to aversive details of event
- **4 symptom clusters of PTSD**
  - ***Intrusion*** (distressing memories, dreams; dissociation; psychological or physiological reactions to cues)
  - ***Persistent avoidance*** of stimuli associated with event
  - ***Altered cognition & mood*** (memory loss; persistent distorted cognitions of self/others or negative emotional state; social detachment/withdrawal; lack of positive emotions)
  - ***Altered arousal & reactivity***
    - Irritability; recklessness; hypervigilance; disturbed concentration & sleep

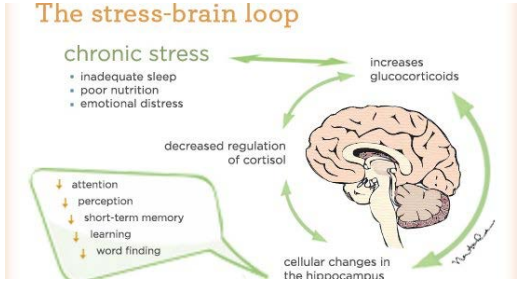
STRESS

stress
anxiety
overwhelmed
fear
pressure
depression
feeling
strain
avoidance
insecure
mental health problems
problems concentrating
reaction
cognitive
feelings
thoughts
happened
risk
negative
physical
insomnia
thinking
activity
behavior
horror
anxious
accidents
trigger
acute
arousal
guilty
avoid
psychological trauma
low mood
diagnostic
counselling
death
family
treatments
intervention
lessa
assault
neuroendocrinology
numbingdisturbance
veterans
falling
panic attack
criteria
irritable
emotional
distressing dreams
help
difficult
sad
threats
drug addiction
blood pressure
people
problems
alcohol abuse
hippocampus
sympathetic
medication

Development is Dynamic, Adaptive, & Relational

"There is no such thing as an infant"
(Winnicott, 1960)

- **Humans adapted for coping with challenges**
  - Important for survival, adaptation
  - Fetal programming
  - Predictive adaptive response
    - building the plane while flying
- **Developmental course of self-regulation**
- **Life transitions as opportunities for reorganization**
- **Community, cultural, and societal aspects**
  - Assets and resources
  - History of oppression and opportunity



Winnicott, D. W. (1960). The theory of the parent-infant relationship. *The International journal of psycho-analysis*, *41*, 585.

Autonomic nervous system

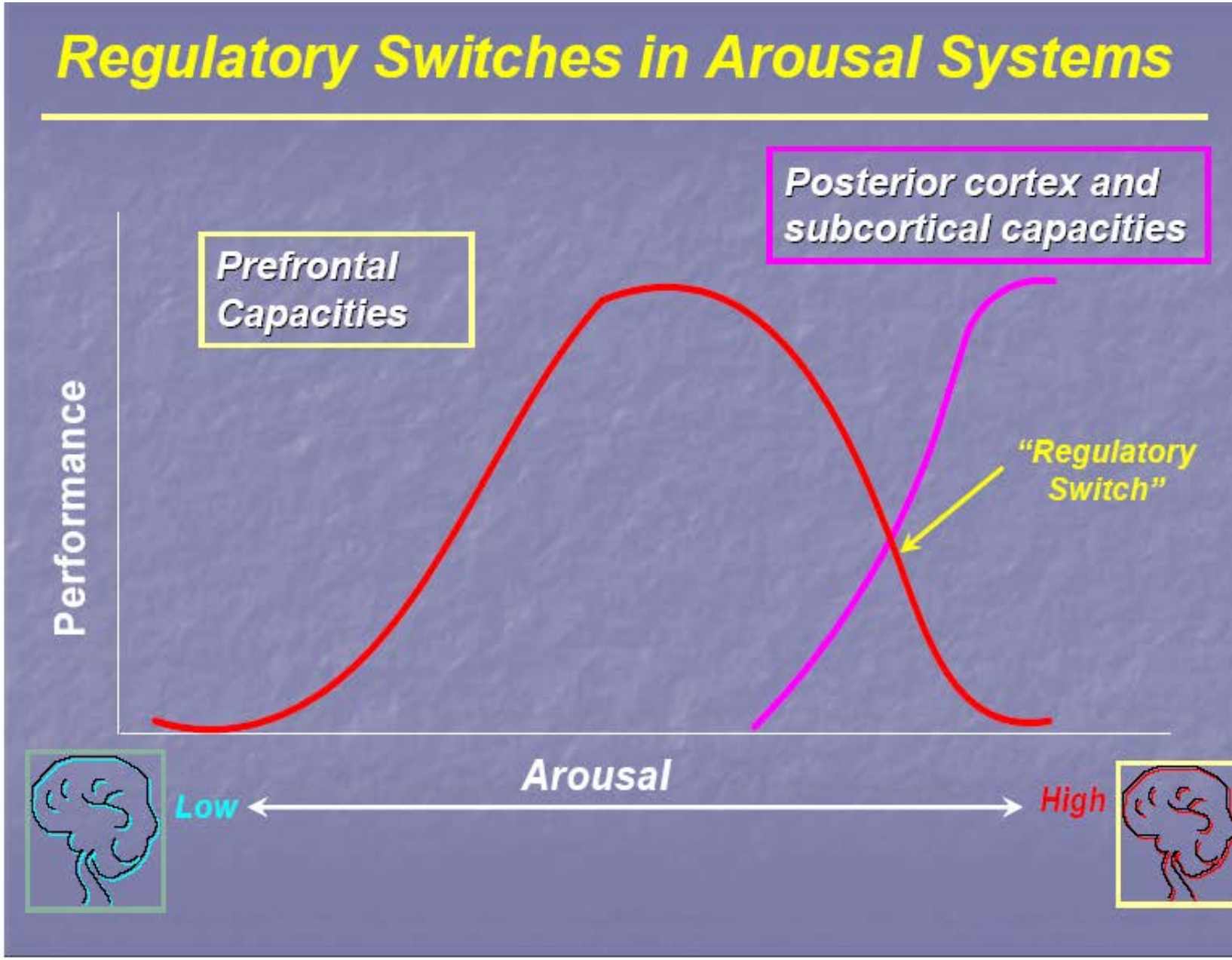
Sympathetic (emergency)

Vigilance, arousal, activation, mobilization

Parasympathetic (calm, vegetative)

Growth energy storage

Both necessary for positive adaptation



Stress Comes in Several Forms

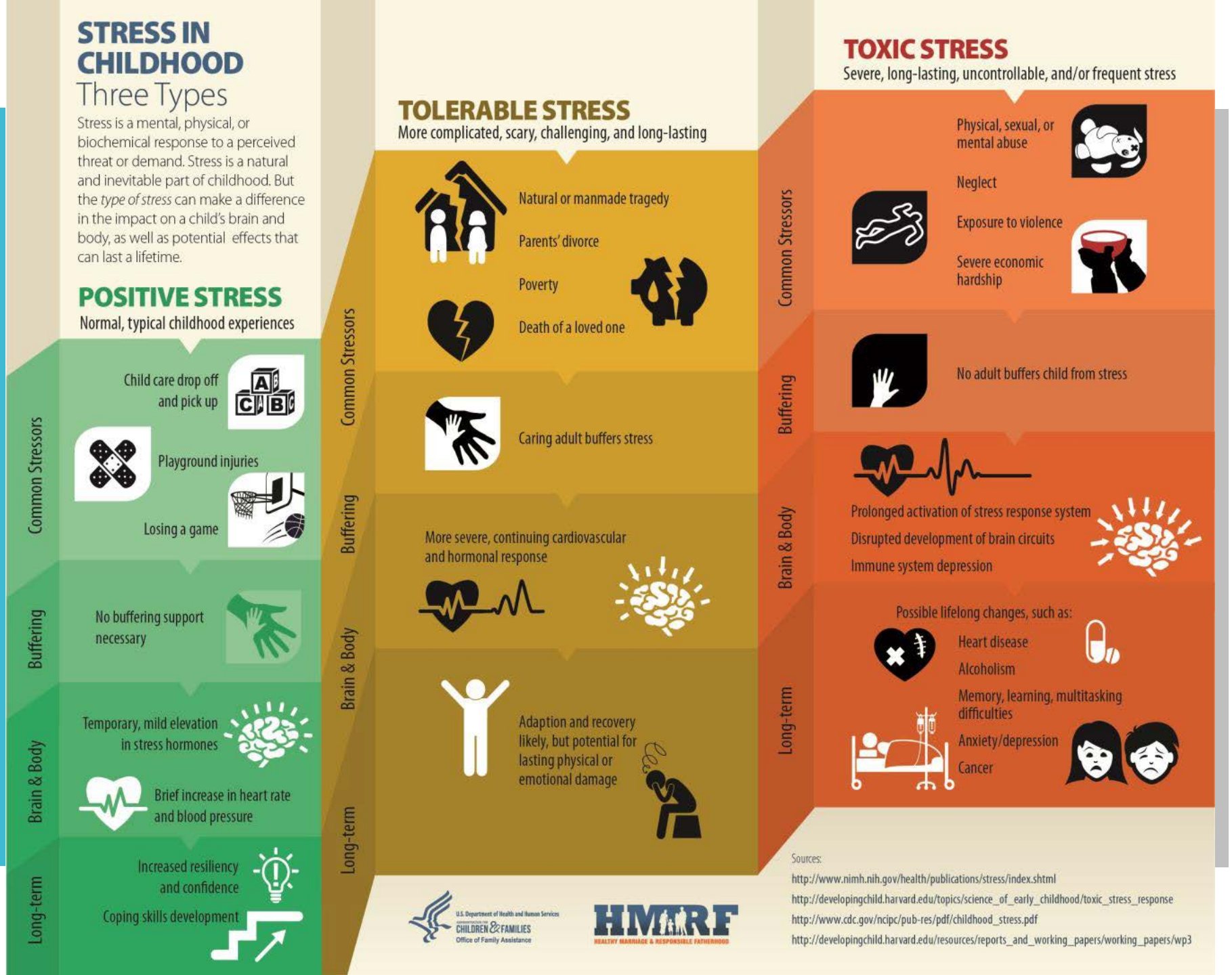
Positive: Brief, causing mild physiological responses. Stable, supportive relationships that help to regulate stress response

Tolerable: Heightened, but time-limited. Supportive connections to adults

Toxic: Prolonged, repeated, extreme.

Not accompanied by supportive adult.

Chronic activation of dysregulated stress regulatory system



Effects of Early Trauma Can "stick around":

Epigenetics & Behavior

Our experiences create chemical modifications that alter gene expression; how genes are "read" and expressed

- **Early adverse experiences can have pervasive effects on physical and mental health and well-being**
  - Effects of stress & trauma on neural function and stress/fear regulation; for example:
  - Elevated cortisol
  - Reduced hippocampal volume
    - Executive function
- **Intergenerational transmission**
  - Prenatal & postnatal exposure to adverse experiences
  - Behavioral and epigenetic mechanisms of influence from parent to child
    - Parenting behavior
      - Withdrawn,emotionally unavailable, & frightened/frightening behavior
    - Epigenetic
      - Turning genes on and off
- Caveat: Bulk of research on animal models

Cowan, C. S. M., Callaghan, B. L., Kan, J. M., & Richardson, R. (2016). The lasting impact of early-life adversity on individuals and their descendants: potential mechanisms and hope for intervention. *Genes, Brain and Behavior*, *15*(1), 155-168.

Intergenerational Transmission of Trauma & Toxic Stress

- Ghosts in the Nursery

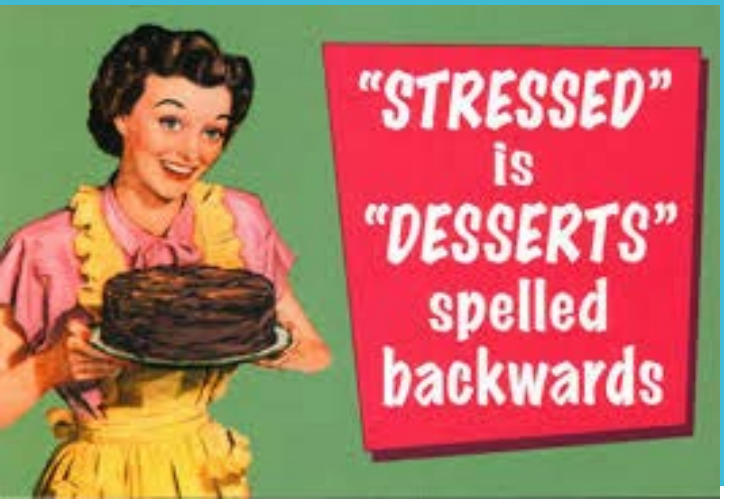
"In every nursery there are ghosts. [In some families] the intruders from the past have taken up residence in the nursery, claiming tradition and rights of ownership. They have been present at the christening for two or more generations."

  - metaphor describing the ways in which parents, by reenacting with their small children their own unremembered early relational experiences of helplessness and fear, transmit trauma from one generation to the next

Caregiver as "external regulator" of physiology and emotion

Fraiberg, S., Adelson, E., & Shapiro, V. (1975). Ghosts in the nursery: A psychoanalytic approach to the problems of impaired infant-mother relationships. *Journal of the American Academy of Child Psychiatry*, *14*(3), 387-421.

What about Positive Stress?



Behavioral and physiologic resilience develops in part from infants' and young children's experiences coping with the ***inherent normal stress of daily life and social interaction***.

Practicing coping develops infants' ability to cope with more intense environmental and social stressors and later trauma

Positive Stress=Catalyst for Positive Growth

- **Links to later executive function, self regulation, emotion regulation**

Tronick, E. (2006). The inherent stress of normal daily life and social interaction leads to the development of coping and resilience, and variation in resilience in infants and young children. *Annals of the New York Academy of Sciences*, *1094*(1), 83-104.

Positive & tolerable stress build a robust regulatory system that can meet later challenges

The roots of empathy develop from soil of stress response system and flourish into empathy and self regulation

(Bruce Perry, 2010)

What is Resilience?

- **"The capacity of a dynamic system to adapt successfully to disturbances that threaten system function, vitality, or development"**

Masten, A. S. (2015). *Ordinary magic: Resilience in development*. Guilford Publications.

- **"Reduced vulnerability to environmental risk experiences, the overcoming of a stress or adversity, or a relatively good outcome despite risk experiences"**

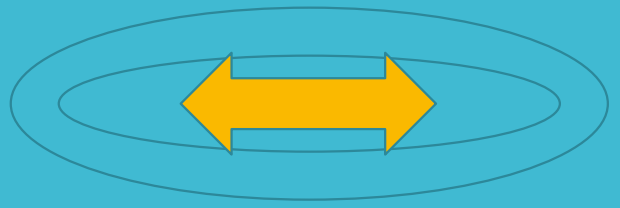
Rutter, M. (2012). Resilience as a dynamic concept. *Development and psychopathology*, *24*(2), 335-344.

"Capacity of individuals to navigate their way to resources that sustain well-being, the capacity of individuals' physical and social ecologies to provide these resources and the capacity of individuals and their families and communities to negotiate culturally meaningful ways for resources to be shared"

Ungar, M. (2008). Resilience across cultures. *The British Journal of Social Work*, *38*(2), 218-235.

Conceptualizing Resilience as a *Relation* between the Individual and Context

Individual



context

- Resilience is not a trait or an attribute of a person or of a context
- Resilience is the product of the transactions between individuals and their ecologies and is a property of the dynamic developmental system
- Capacity of individuals to navigate their way to resources that sustain well-being, the capacity of individuals' physical and social ecologies to provide these resources

Characteristics of resilience in persons and contexts

- Meaning-making
  - actively work to make sense of their world
- Agency
  - active role in seeking and receiving the experiences that are developmentally appropriate
- Optimism
  - Internal locus of control
- Determination
  - determined cognitive style…flexibility in planning and the ability to create new or alternative plans
- Micro-niches
  - micro-niches of support with adequate growth opportunities even within high-risk environments
- Opportunities
  - Tangible or social resources available in family and/or community

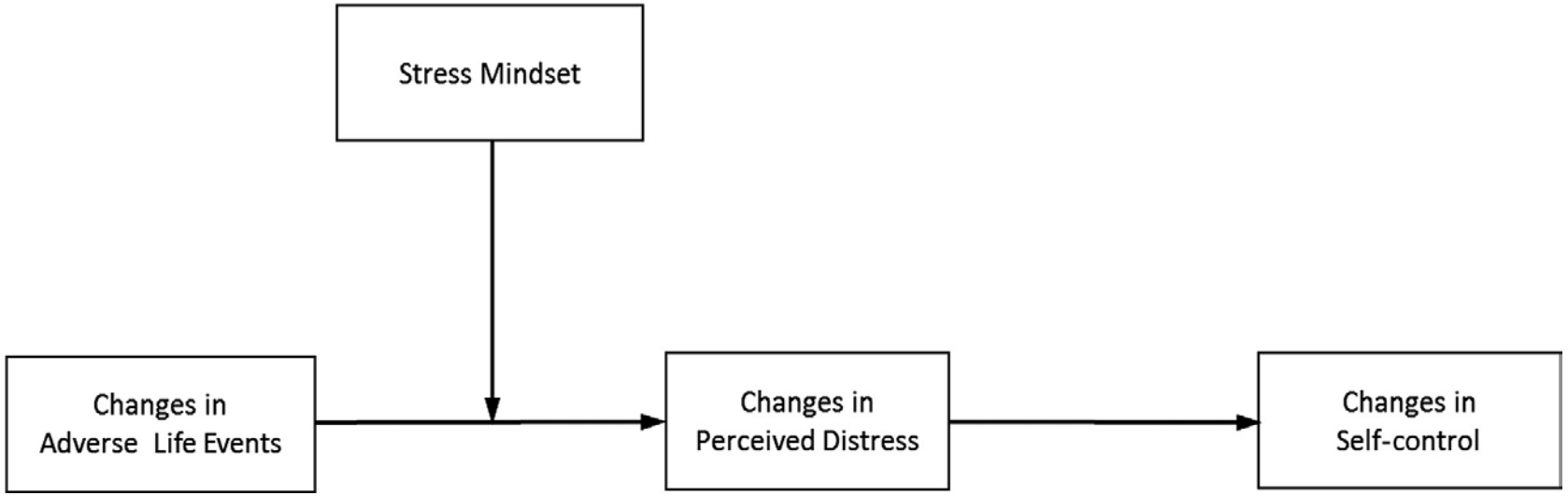
Meaning-making

Mind Over Matter?

Does what you believe about stress affect how you respond to stress?

- "By reshaping how you think about stress, you can retool your body's response"
- The next time you are stressed, think about it as your body preparing you for the challenge
- Oxytocin (sometimes referred to as a social bonding hormone) is released as part of the stress response – and may support social connection, and better regulation of responses to stress.
- Limitations with toxic stress and trauma
- https://www.ted.com/talks/kelly_mcgonigal_how_to_make_stress_your_friend

Representational meaning influences behavior



- Belief that stress can be positive leads to different effects of adverse life events on distress and self-control
- Adolescents who were more likely to believe that stress could be enhancing were less distressed by adversity and showed better impulse control
- Park, D., Yu, A., Metz, S. E., Tsukayama, E., Crum, A. J. and Duckworth, A. L. (2017), Beliefs About Stress Attenuate the Relation Among Adverse Life Events, Perceived Distress, and Self-Control. Child Dev. doi:10.1111/cdev.12946

Longitudinal Study of Young Mothers Becoming Parents

- Healthy Families Massachusetts (HFM) is a home-based family support and coaching program that supports young (<21 years), first-time parents and helps them create stable, nurturing environments for their children
- Services offered from pregnancy until the child's third birthday
- Parenting support, information, and services to young parents via home visits, goal-setting activities, group-based activities, secondary contacts (i.e., phone calls), and referral services
- Only home visiting model to be adopted for young parents at universal, statewide level

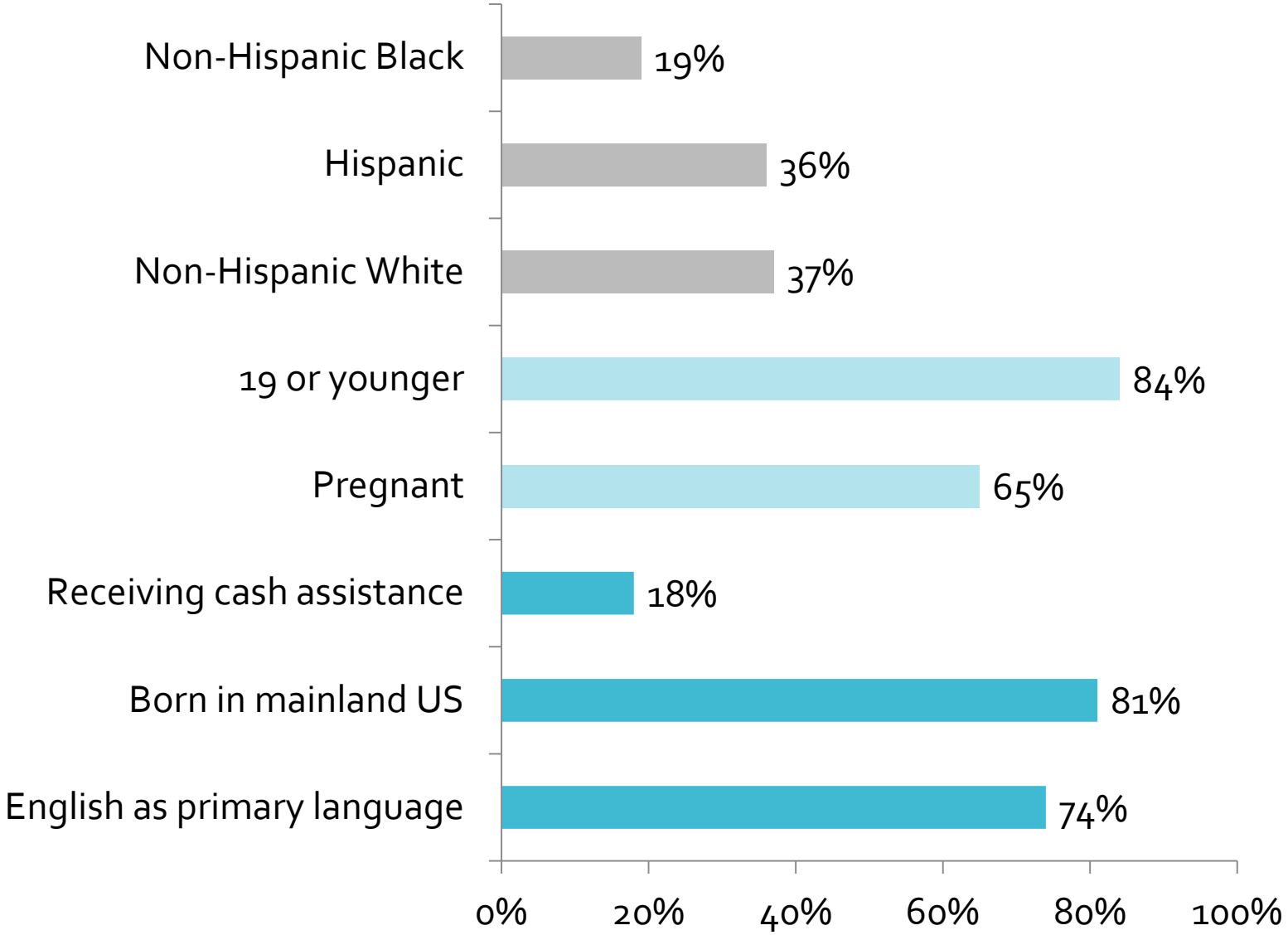
Young Mothers and their Children: Longitudinal Study Design

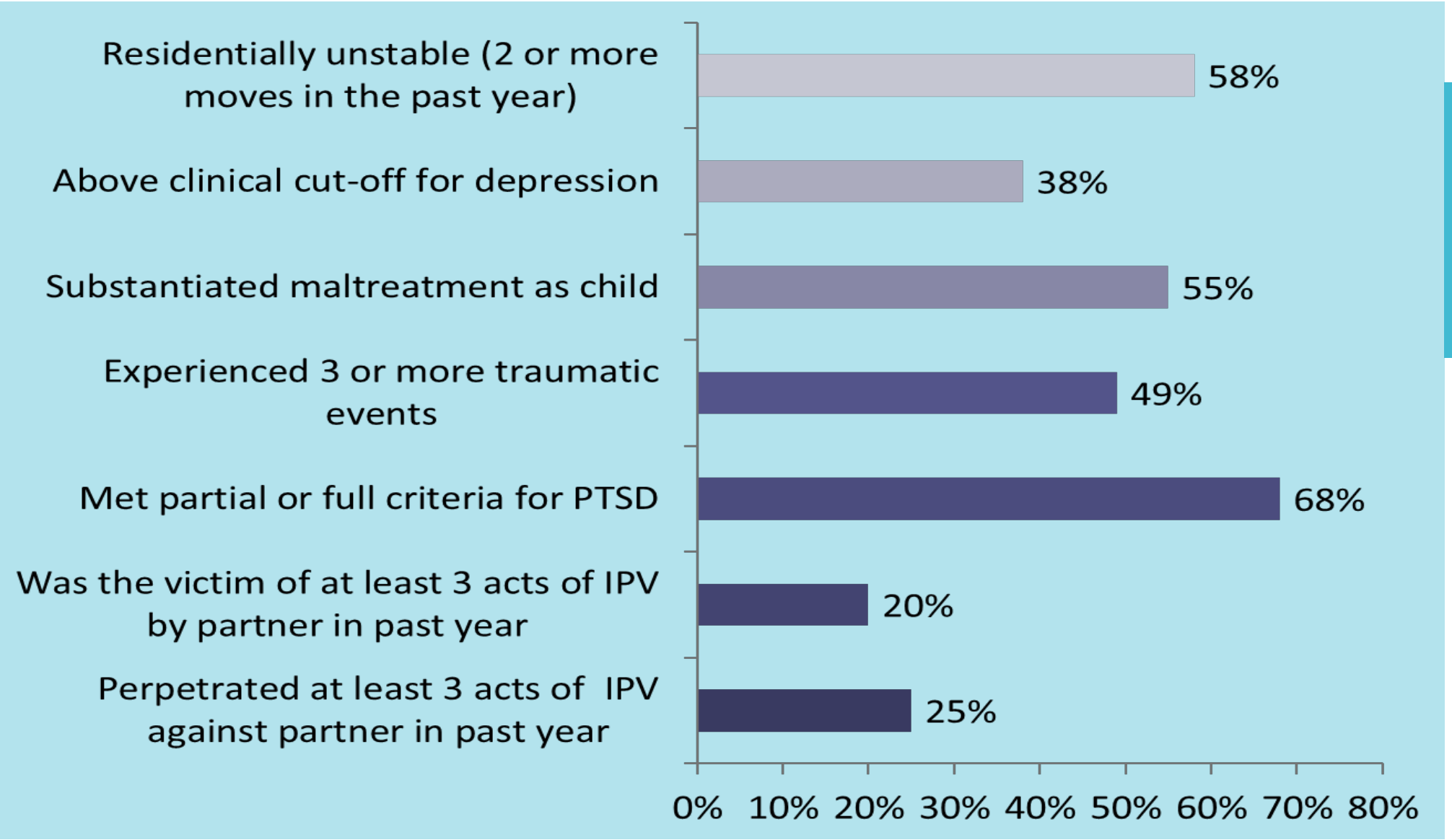
Focus on maternal life trajectory & child development

- **Original Study: Massachusetts Healthy Families Evaluation – Phase 2 (MHFE-2)**
  - Randomized Control Trial of 704 young mothers
    - Mothers 16 years+; English or Spanish speaking
    - 2 groups
      - HFM services group (HVS)
      - Referrals and Information only group (RIO)
  - 3 waves of data collection:
    - Time 1 (T1) enrollment into study and program; most pregnant
    - Time 2 (T2) 1 year post-enrollment; child age 12 months
    - Time 3 (T3) 2 years post-enrollment; child age 24 months
  - Ended approximately 2 years after program/study enrollment

- **Early Childhood Follow-up: MHFE2-EC**
  - Focus on families' experience of early childhood during the transition from preschool to elementary school
  - Three additional waves of data collection:
    - Time 4 (T4) 5 years post-enrollment; child age 4.9 years; mother age 24 years
    - Time 5 (T5) 6 years post-enrollment; child age 6.1 years; mother age 25 years
    - Time 6 (T6) 8 years post-enrollment, child age 8 years; mother age 27 years

Demographic Characteristics at Enrollment





Mothers' challenging life circumstances

Evidence of Intergenerational Trauma & HFM program effects

84% of mothers reported trauma exposure, including 55% childhood maltreatment

52% of children had maltreatment report by age 6

- **Maternal history of violence** (childhood physical abuse; current Intimate Partner Violence) ↑ **increased risk for child neglect**
- **Maternal childhood history of nurturant care** (even with abuse history) ↓ **decreased likelihood of child neglect**
- Most mothers with childhood maltreatment history **"broke the cycle"**
- **Healthy Families Massachusetts (HFM) reduced risk of maltreatment recurrence**

Bartlett, J. D., & Easterbrooks, M. A. (2012). Links between physical abuse in childhood and child neglect among adolescent mothers. *Children and youth services review*, *34*(11), 2164-2169.

Bartlett, J. D., & Easterbrooks, M. A. (2015). The moderating effect of relationships on intergenerational risk for infant neglect by young mothers. *Child abuse & neglect*, *45*, 21-34.

Bartlett, J. D., Raskin, M., Kotake, C., Nearing, K. D., & Easterbrooks, M. A. (2014). An ecological analysis of infant neglect by adolescent mothers. *Child abuse & neglect*, *38*(4), 723-734.

Easterbrooks, M. A.., Kotake, C., Fauth, R., (under review). *Maltreatment recurrence for home visited young mothers: Results from a randomized controlled trial.*

I have a lot of responsibility … I was really lazy and I wouldn't even care about school or anything. So when I found out [that I was pregnant] I said: I need to graduate. So I got back to school and I graduated and I started working. I feel now like an adult more than a teenager.

Parenthood as Transition Point & Opportunity for Reorganization

Capacity of Dynamic System to Adapt

How has life changed for you since you became a parent?

Totally, totally different. Everything changed. I take life more seriously. I have more responsibilities, more worries. Now I see where my mother is coming from and I can relate, and I respect my mother now … So it's like a wake up call. It's different, more responsibilities.

It's not just you anymore. It's whatever you do - how will it inflict upon her? (talking about her daughter)…

Testimonios

Examining the Schooling Experiences of Young Puerto Rican Mothers

A Project Supported by Tuft's Women and Girls of Color Research Initiative

Melissa Colón
Doctoral Student

Eliot-Pearson Dept. of Child Study and Human Development

Tufts University

Origins: *Indigenous and Latin American oral traditions of human rights struggles*

Purpose: To capture and disseminate knowledge and theory by people who have personally experienced marginalization

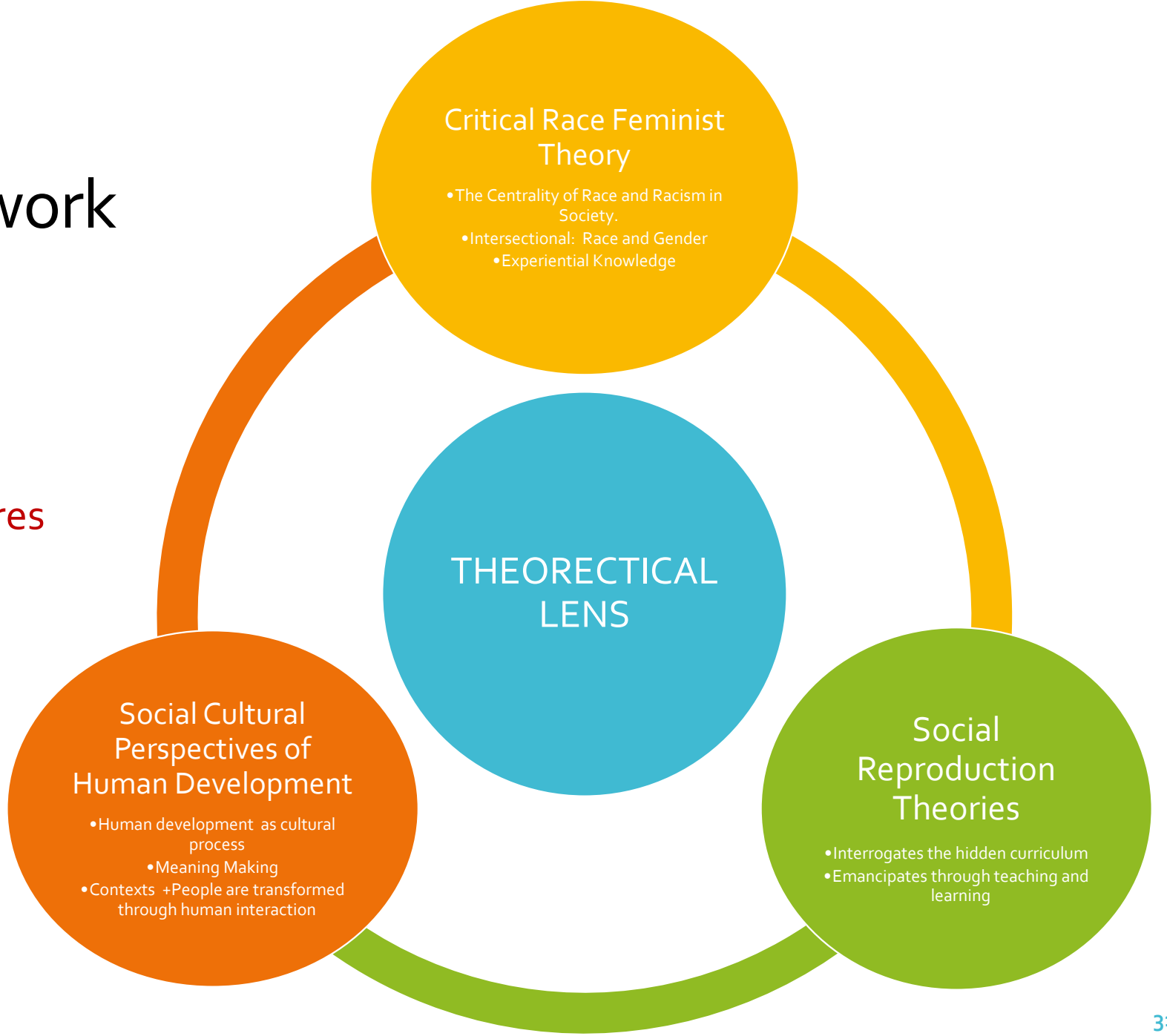
Unique Features: Critical reflection, consciousness raising about their social, cultural, and political realities, creating a sense solidarity between **individual + collective**

TESTIMONIO:

A methodological & Analytical approach

Theoretical framework

- Validates Experiential Knowledge
- Meaning Making
- Social Inequities + Structures



Analytic Memo:

Kianna's apartment was stunning, large bay windows, pristine white crown molding, onyx floors, and brand new modern appliances, radically different from the homes I have visited in the past few months. It was empty except for several dingy plastic bins filled with clothes, our bodies, and the brilliant sunlight. Kianna has lived here for less than two weeks, and **explained to me how she "got this apartment".**

She was sobbing, alone, in a corridor of a courthouse, after a **judge denied her custody of her children, in part because she didn't have her own apartment**, a difficult material asset to obtain as a single low income mother of two small children in one of the tightest housing markets in the nation. A **stranger told her about some affordable units available** in a new building. Kianna **called the same day, completed the paperwork**, and within two weeks had negotiated and secured this apartment. Now, she was anxiously waiting for her next court date, a month away, to show the judge what she has been able to do on her own.

I'm graduating. I don't have a timeframe, but I'm walking that stage and I'm going to trip on purpose. I can do that, everybody remembers. Yeah… it gives me goosebumps. I'm walking that stage and no one's going to tell me otherwise. I'm walking it and I'm going to have my whole family cheering. I'm walking it. My kids are going to be there. I don't know how old, I don't know when it's going to happen but I'm going to do it. I'm going to do it.

Young mother, seeking high school diploma

Post-Traumatic Growth

"Life transitions and crises confront a person with a critical juncture or turning point. Personal growth and an expanded repertoire of coping skills often follow the successful resolution of a crisis. "

(Moos and Schaefer, 2013, p. 23) in Moos, R. (Ed.). (2013). *Coping with life crises: An integrated approach*. Springer.

Can Adversity be a Catalyst for Reorganization?

Opportunity for

re-making oneself

"A crisis can yield learning, transformation, and growth in unforeseen directions.

It can be a wake-up call or epiphany…to repair old wounds and reorder priorities for more meaningful relationships and life pursuits."

(Walsh, 2012, p. 181)

"I have a sense of purpose. I can see a straight path to where I'm going."

"You're not born to be a mom, you just have to learn to be a mom and grow, step by step. Just like they grow, you have to grow with them."

Ideas about Programs Serving Parents with Traumatic Exposure

Interventions to reduce intergenerational transmission of trauma

Parenting Interventions—changing behavior & mental representations

- **Examples of evidence-based programs that use behavioral and psychotherapeutic principles to change patterns of behavior and mental representations:**
- *PCIT (Parent Child Interaction Therapy)*
- *Triple P (Positive Parenting Program)*
- *Circle of Security*

Epigenetic Interventions

- Chemical epigenetic modulators: reverse the effects of low maternal care on the offspring stress regulation system; including oxytocin
- Probiotics: Gut microbiome
  - Some evidence in humans

Dinan, T. G., Stanton, C., & Cryan, J. F. (2013). Psychobiotics: a novel class of psychotropic. *Biological psychiatry*, *74*(10), 720-726.

- Dietary modifications: Enhanced micronutrients following trauma (NZ 2011 earthquake)

Rucklidge, J. J., Blampied, N., Gorman, B., Gordon, H. A., & Sole, E. (2014). Psychological functioning 1 year after a brief intervention using micronutrients to treat stress and anxiety related to the 2011 Christchurch earthquakes: a naturalistic follow-up. *Human Psychopharmacology: Clinical and Experimental*, *29*(3), 230-243.

Angels in the Nursery:

Intergenerational Transmission of Benevolent Influences

What Are "Angels in the Nursery"?

- Early care experiences of ***intense shared affect*** between parent and child in which the child feels understood, accepted, and loved
- Provide the child with a ***core sense of security and self-worth*** that can be drawn upon when the child becomes a parent to interrupt the cycle of maltreatment
- ***Protective against trauma***
- Uncovering angels as growth-promoting forces in the lives of traumatized parents is as ***vital to the work of psychotherapy*** as is the interpretation and exorcizing of ghosts

Lieberman, A. F., Padrón, E., Van Horn, P. and Harris, W. W. (2005), Angels in the nursery: The intergenerational transmission of benevolent parental influences. *Infant Ment. Health J.*, *26*: 504–520.

Evidence of Angel Effects

- Do childhood ***memories of benevolent caregiving experiences protect*** against heightened levels of psychopathology in high-risk mothers?
  - Mothers with childhood maltreatment histories
- ***Angels in the Nursery Interview*** ("Angels Interview," Van Horn, Lieberman, & Harris, 2008)
- Results: ***angel memories had a protective effect*** for mothers who experienced childhood maltreatment and adulthood PTSD, ***promoting maternal mental health and buffering the intergenerational transmission of trauma***

Narayan, A. J., Ippen, C. G., Harris, W. W. and Lieberman, A. F. (2017), ASSESSING ANGELS IN THE NURSERY: A PILOT STUDY OF CHILDHOOD MEMORIES OF BENEVOLENT CAREGIVING AS PROTECTIVE INFLUENCES. Infant Ment. Health J., 38: 461–474. doi:10.1002/imhj.21653

If we build it will they come (and come back)?

Beliefs about parenting affect involvement in parenting support programs

Mothers' beliefs about parenting, in our study of young mothers, affect program engagement and retention

- *Transformers* (acknowledged being changed by motherhood) tended to remain actively enrolled in the intervention
- *Remainers* (little changed by motherhood) all dropped out by the second year

Implicit beliefs about parenting (meta-parenting mindset) identified three groups of participants *fixed theorists*, *incremental theorists*, and *mixed theorists*

- Fixed theorists believed parenting ability was natural or instinctual; lower retention rate in the program (14%)
- Incremental theorists, attributed their parenting abilities to gradual growth and learning; 50% retention rate

Waddoups, A. B. "I Think Different Now": Adolescent mothers' meaning making and mindset in the transition to parenthood.

Ideas for Policy & Programs

- Parents' **beliefs affect engagement and retention** in parenting programs; those who believe that they can learn about, and become better parents, are more likely to engage
- **Mental health & well-being affect intervention participation**, as well as intervention effects
  - depression attenuates program engagement
- **Maternal childhood history of trauma affects program impact**
  - home visiting programs report difficulty getting traction with mothers who have childhood histories of maltreatment
- **Providers need additional training** to support their work with trauma-exposed clients
- **WAIMH affiliate**
  - CA Center for Infant-Family and Early Childhood Mental Health

Recap

- Principles of heterogeneity and capacity for resilience
- Resilience involves both individual and family, community resources
- Our stress regulatory systems are developmental and dynamic
  - Our experiences (and those of our caregivers) influential
  - Stress can be positive, tolerable, or toxic (unresolved trauma)
- Supportive relationships can interrupt intergenerational transmission of toxic stress and trauma
  - by resetting aspects of stress regulation physiology
  - by attributing meaning and cognitive reorganization
- "Angels in the Nursery" and beyond "Angels in Adulthood?"
  - Provide reframing, social support, and connection to relationships and resources

Thank You!!