

RESEARCH ON TAP

Improving Early Childhood Well-Being Locally & Globally

Wednesday, October 13, 2021

bu.edu/research/events



Boston University Office of Research

Boston University Institute for Early Childhood Well Being



Boston University Institute for Early Childhood Well Being



Our Mission

We are dedicated to creating holistic nurturing ecosystems integrated across disciplinary boundaries to maximize child well-being, prevent trauma, improve inequities in health and education, and build resilience.

Overarching goal:

The Institute for Early Childhood Well-Being will foster collaboration among early childhood scholars and researchers across disciplines at Boston University to pioneer new approaches for sustaining children's health and well-being locally and globally.

Strategic priorities:

- Build Boston University's capacity
 - to become a leader in early childhood well-being research by convening our scholars and coordinating our efforts in the community
 - to be awarded external funding related to early childhood well-being
 - to educate and produce the next generation of leaders in early childhood well-being

Meet the Faculty Alliance for Early Childhood Well-Being



Now Accepting Faculty Research Proposals for Fall 2021

- Our Institute is offering small grants to faculty interested in partnering with community members to advance research in the field of early childhood well-being
- Applications are due to ecinstitute@bu.edu by 11:59 pm on Wednesday, November 17, 2021

New Institute for Early Childhood Well-Being Website



[About](#) [Research](#) [Innovative Practice](#) [Resources](#) [Publications](#) [News & Events](#) [Get Involved](#) [Our Team](#)



[Edit](#)



The Boston University Institute for Early Childhood Well-Being pioneers new approaches for promoting holistic nurturing ecosystems integrated across disciplinary boundaries to maximize the well-being and resilience of young children and families.

<https://sites-staging.bu.edu/ecinstitute/resources/>

New Institute for Early Childhood Well-Being Website

- Features a list of resources in the early childhood field
- Opportunities to network with researchers, practitioners and community innovators through our Slack Channel
- A searchable list of Institute Affiliates and their specialties in the early childhood field
- Recent publications, research reports and innovative projects from Institute Affiliates
- A chance to join our Institute Affiliate list to join this community of innovators

Equitable Early Education for Bilingual Children: From Research to Practice

Dina C. Castro, PhD, MPH

Director, BU Institute for Early Childhood Well-Being
Wheelock College of Education and Human Development



Context

- Changes in the demographics of children and families served in early care and education programs.
- Inequities in access and quality of early care and education.
- Increased accountability requirements -QRIS, Early Learning Standards, KEA.
 - not responsive to or intentional in addressing inequities affecting children and families who have been marginalized.
- Workforce not diverse, not prepared to serve bilingual children.

Intervention research to improve the quality of early education for bilingual children.

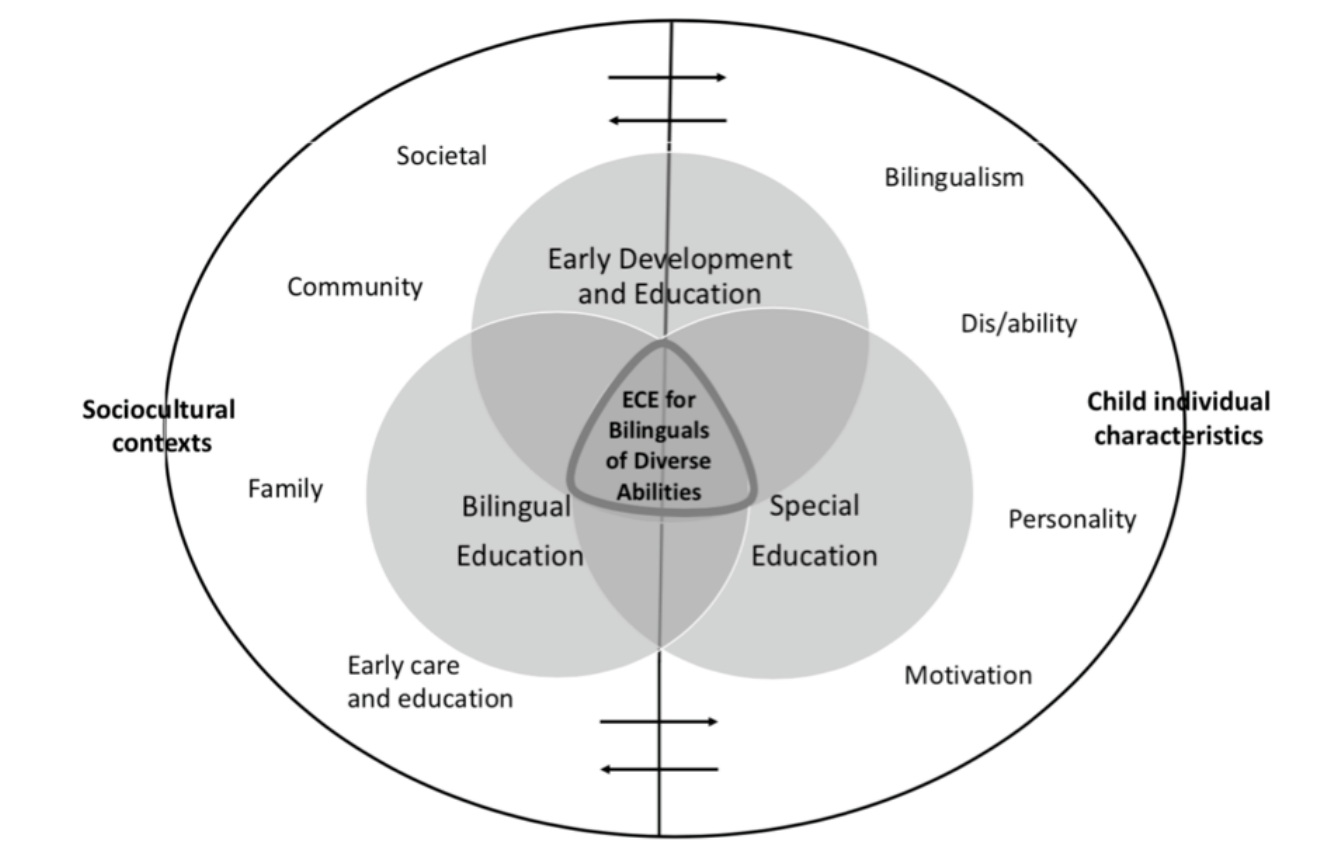
- The Nuestros Niños Professional Development Program: to improve quality of teacher practices to promote language, literacy, mathematics and socio-emotional development in young bilinguals.
- National survey, multi-state RCT studies. Development of measures to assess quality and second language acquisition.

Castro, D. C., Gillanders, C., Franco, X., Bryant, D. M., Zepeda, M., Willoughby, M. T., & Mendez, L. I. (2017). Early education of dual language learners: An efficacy study of the Nuestros Niños School Readiness professional development program. *Early Childhood Research Quarterly*, 40, 188-203.

Castro, D. C., & Franco, X. (2021). Equitable learning opportunities for young bilingual children: Strategies to promote oral language development. In I. Alanis (Editor). *Advancing Equity in Early Childhood Education*. Washington, D.C.: National Association for the Education of Young Children.



A sociocultural, integrative and interdisciplinary perspective on early childhood education for bilingual children with diverse abilities



Castro, D. C. & Artiles, A. J. (2021). At the intersection of language, learning and disability in the education of young bilingual children. In D. C. Castro & A. J. Artiles (Eds.), *Language, Learning and Disability in the Education of Young Bilingual Children*. Washington, D.C.: Center for Applied Linguistics. Multilingual Matters Publishing.

International collaborative research

- The experiences of transnational students and their teachers in Jalisco, Mexico and Texas, the United States.
 - Secretariat of Education, Jalisco & University of Guadalajara.
- Teachers conceptualizations of interculturalism and intercultural bilingual education in preschool and elementary education in Peru.
 - Pontificia Universidad Católica del Perú

The Growing Together Study: Responding to the Needs of Mothers with Opioid Use Disorder and Their Infants

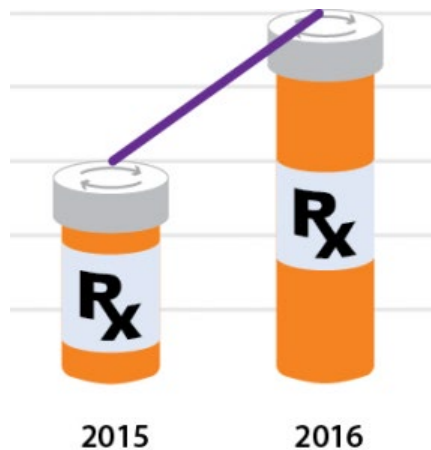
Ruth Paris

Associate Professor, School of Social Work

Associate Director for Research, BU Institute for Early Childhood Well-Being



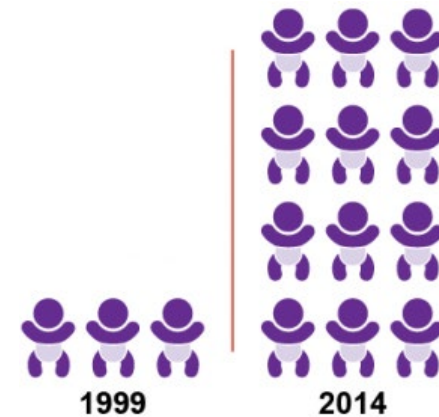
US Opioid Crisis: Negative Health Outcomes for Mothers and Infants (CDC, 2018)



The rate of overdose deaths among women rose 20% in one year



Opioid use disorder went up more than 4 times among pregnant women from 1999-2014



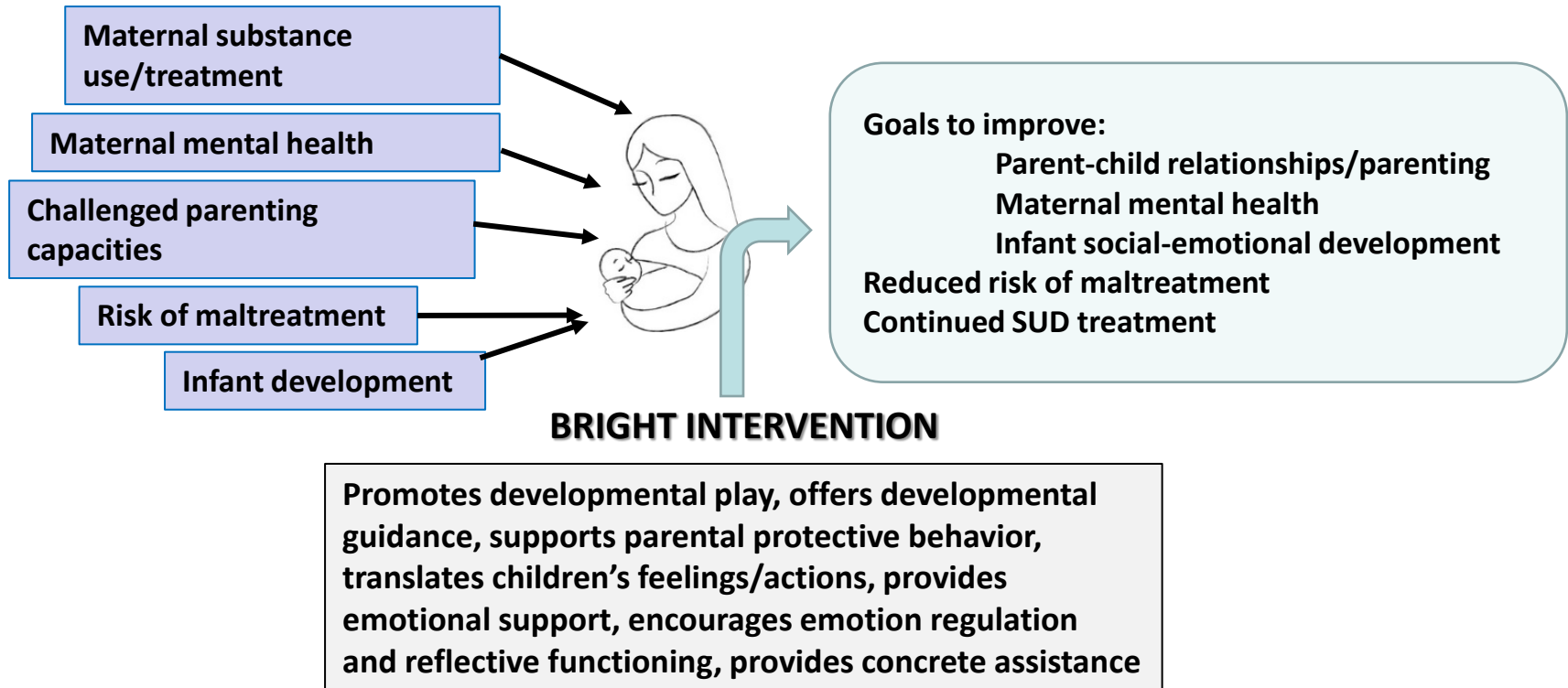
4 times as many infants were born with neonatal opioid withdrawal syndrome (NOWS) in 2014 than in 1999

Parent and child: “Difficult regulatory partners”

Children exposed in utero may have different abilities to explore, signal distress, experience regulation, or appreciate physical discomfort.

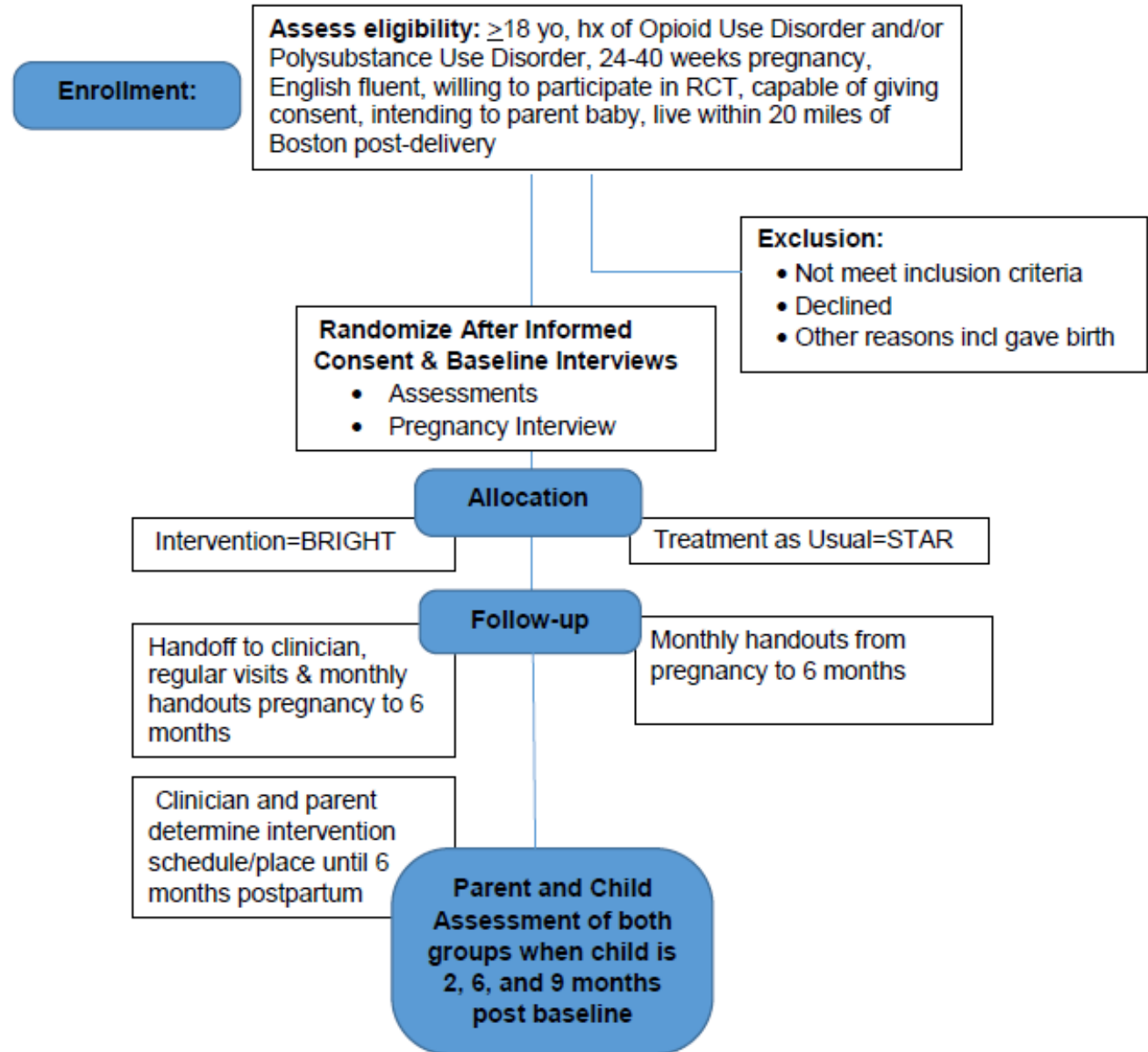
“The substance-exposed mother and child are difficult regulatory partners for each other, as the exposed infant often has an impaired ability to regulate his states ... and needs more parental help. At the same time, the mother usually has a reduced capacity to read the child’s signals. This combination easily leads to a viciously negative cycle that culminates in withdrawal from interaction and increased risk for child neglect and abuse.” (Pajulo et al., 2006)

Response: The BRIGHT Intervention



Growing Together Study: Consort Diagram

Funder: Health
Resources &
Services
Administration
(HHS/HRSA
R40MC31764;
3 Year Award)



Leveraging Primary Care to Promote Early Childhood Well-Being

Emily Feinberg

Associate Professor
Department of Pediatrics, BU School of Medicine



Why Primary Care?

- Nearly universal, non-stigmatizing
- Multiple contacts longitudinally
- Potential for bi-generational care
- Scalability
- Potential for reimbursement



The TEAM UP Early Childhood Stepped Care Model

Universal Prevention

Universal screening for behavioral health developmental issues (SWYC)

Screening for material needs

Promoting health parenting

- Newborn touch
- Low literacy parenting tips

Treatment within Primary Care

Integrated BH dyads engage families and initiate assessment, treatment, and re-assessment

BRANCH (Building Resilience and Nurturing Children)



Link to Specialty Care

Coordinating referrals to Early Intervention

Expedited developmental assessment (Autism)

Linkage to EC- focused therapies (CPP, PCIT)

Data Gathering ➡

- Screening Results
- Service Delivery
- Clinical Decision Making

Survey of Well-being of Young Children



Behavioral Health Clinician Plan

<p>Question 1 Key issue(s) addressed in this visit: (CHECK ALL THAT APPLY)</p> <p>1.A. Hyperactivity, inattention, or disruptive behavior 1.B. Depression 1.C. Anxiety 1.D. Eating issues 1.E. Substance use /addiction risk 1.F. Trauma/violence 1.G. Family stress and/or stress reaction 1.H. Emergency services (Section 12, ESP, DCF filing, etc.) 1.I. Chronic disease management (medical) 1.J. Social/material needs 1.K. Other mental health concern 1.L. Developmental concern 1.M. Free text to provide more detail if necessary*** 1.N. Parent/caregiver mental health concern 1.O. Early childhood concern (BRANCH) 1.P. Safety/SI concern 1.Q. School related concern</p>	<p>Question 2 Interventions or techniques utilized in this visit: (CHECK ALL THAT APPLY)</p> <p>2.A. Psychoeducation 2.B. Cognitive Restructuring 2.C. Behavioral Activation 2.D. Problem Solving 2.E. Interpersonal & Communication Skills 2.F. Therapeutic Exposure 2.G. Coaching/Parent Support 2.H. Motivational Interviewing 2.I. Emotion Regulation 2.J. Psychotherapy/Other Modalities 2.K. Clinical care coordination/navigation 2.L. Collateral Encounter 2.M. BRANCH – Phase 1 2.N. BRANCH – Phase 2 2.O. BRANCH – Phase 3 2.P. Free text to provide more detail if necessary***</p>	<p>Question 3 Measurement tool(s) completed in this visit: (CHECK ALL THAT APPLY)</p> <p>3.A. PSC 17 3.B. PHQ 9 3.C. GAD 7 3.D. MFQ 3.E. ASQ 3.F. MCHAT 3.G. SCARED 3.H. Vanderbilt/Connors 3.I. BRANCH trauma screener 3.J. BRANCH trauma symptom screener 3.K. Beck 3.L. none completed 3.M. Free text to provide more detail if necessary***</p> <p>Add fields to indicate whether scores for secondary screeners not already included in the visit data set are positive or negative (items 3.C.-3.K.; PSC-17 and PHQ-9 already included in visit data set).</p>	<p>Question 4 Treatment plan following this visit: (CHECK ALL THAT APPLY)</p> <p>4.A. New/additional services needed 4.B. Continue with current services (defined as services in the past 12 months) 4.C. Further services needed but declined (STOP) 4.D. BH/Dev issue resolved; routine follow up (STOP)</p>
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Opportunities for Further Investigation

- Impact of COVID on trajectories of child social emotional development
- Role of CHWs in promoting EC well-being
- Implementation of EC programming
 - Autism diagnosis and engagement in services
 - EI linkage
 - BRANCH
- Clinical decision making
 - How are decisions made about need for EC services
- Accuracy of screening among linguistically diverse families



Examining the Impact of the COVID-19 Pandemic on Children and Families

Nicholas J. Wagner, Ph.D.

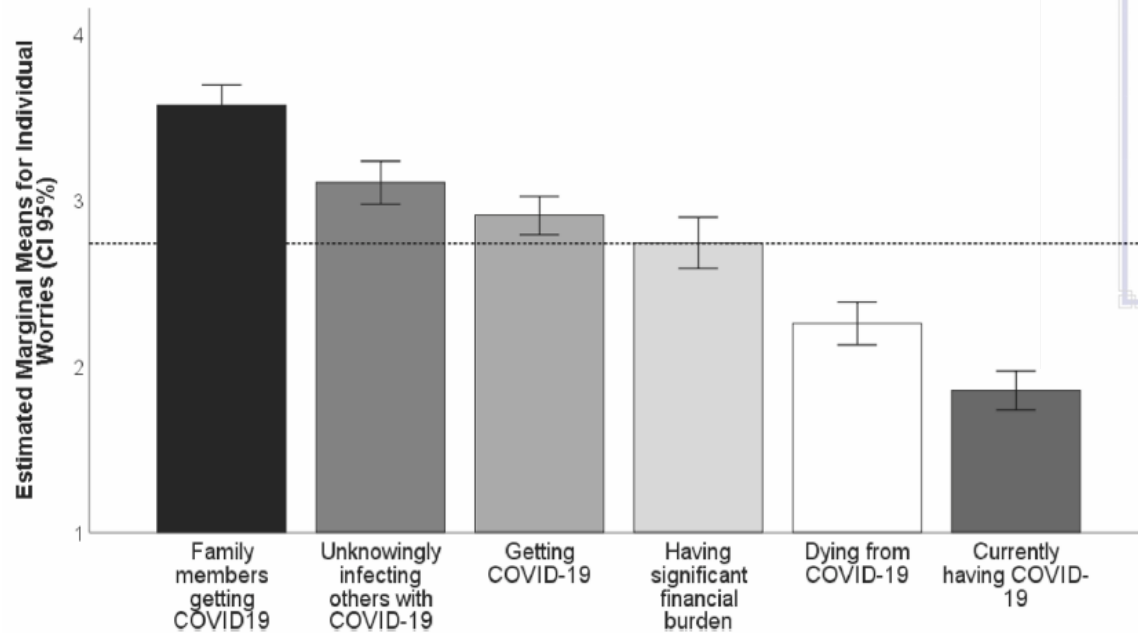
Assistant Professor

Psychological and Brain Sciences, College of Arts & Sciences





Coronavirus Outbreak Parenting and Emotions Study



PARTICIPANTS FOR RESEARCH STUDY NEEDED

Coping with COVID-19: Effects of a Pandemic on Children and Families

As COVID-19 continues, families worldwide face economic, physical, and psychological challenges. Addressing how families adjust during the pandemic is critical to help ensure that the right actions are taken to safeguard and support children and families.

Parents of young children, this is an opportunity to have your voice heard.

The DYSC Lab at Saint Mary's University, directed by Dr. Leanna Closson, is seeking parents to participate in a study about the experiences of families with young children during the COVID-19 pandemic. To thank you for your time, you can enter 6 monthly draws for a \$100 e-gift card per draw to a local grocery store or restaurant delivery service.



Investigators: Dr. Leanna Closson, Alicia McVarnock, & Amy Rubin
Saint Mary's University, SMU REB #20-105

Who: Parents of children between ages 3.5 to 6 years old living in Nova Scotia.
What: Parents will be asked to complete a series of confidential online surveys once a month for six months. Each survey will take 25-30 minutes to complete.
How: If you would like to participate in this study, please visit:

<https://dysclab.wixsite.com/website/covid19>

Know other parents who may be interested in participating?

Once you sign up for the study, we will provide you with a referral code that can be used to enter a bonus \$100 e-gift card draw.

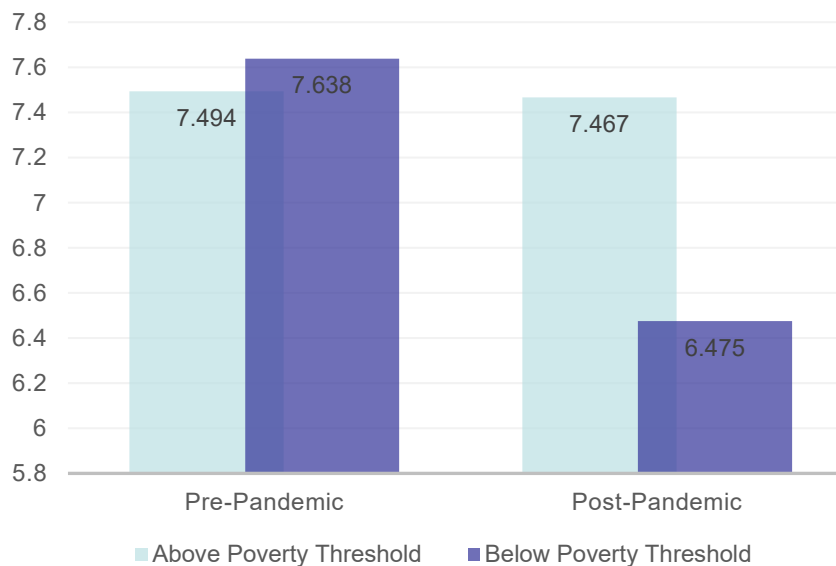
Questions or concerns?
Contact dysclab@gmail.com





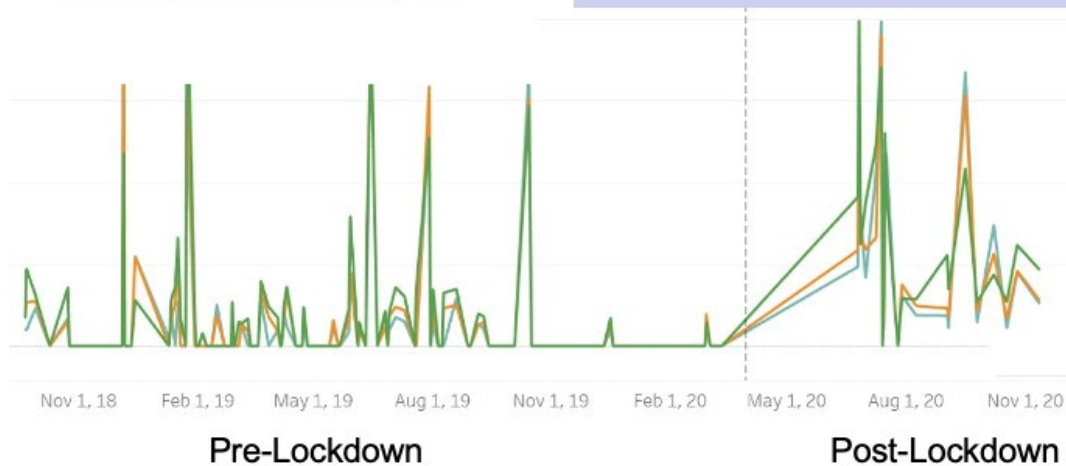
Brain and Early Experiences (BEE) Study

Impact of Pandemic on Birth Weight

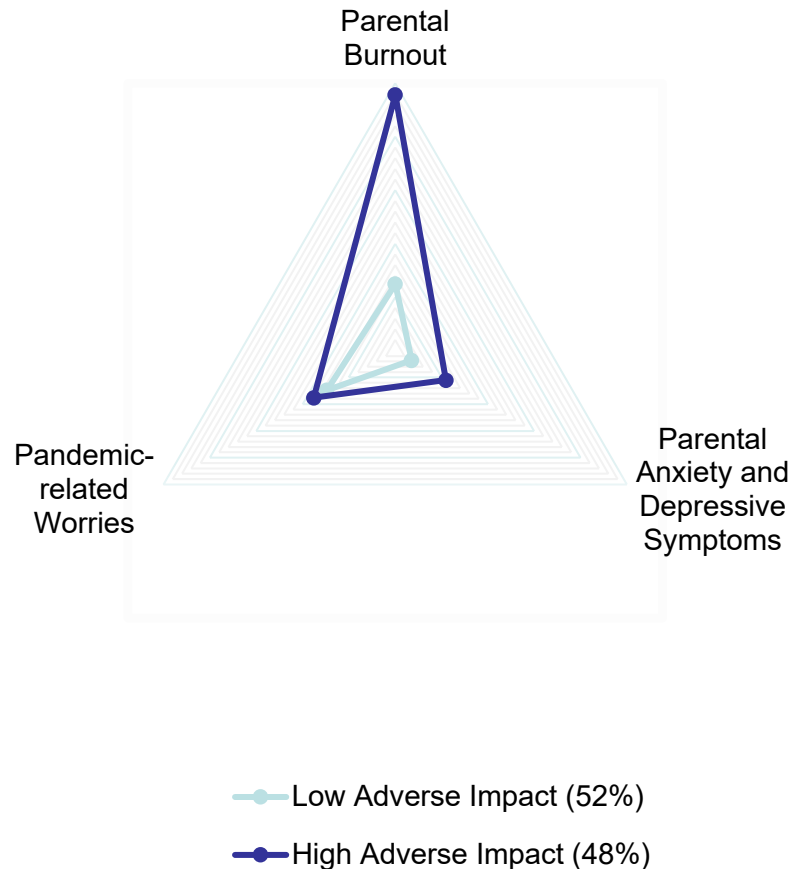


Hair Cortisol 01seg = 0 to 1 month
Hair Cortisol 12seg = 1 to 2 month
Hair Cortisol 23seg = 2 to 3 month

***Post-Covid-19 average cortisol levels increased 64.58% from pre- to post-lockdown**



Family and Child Emotion
Socialization (FACES) Study

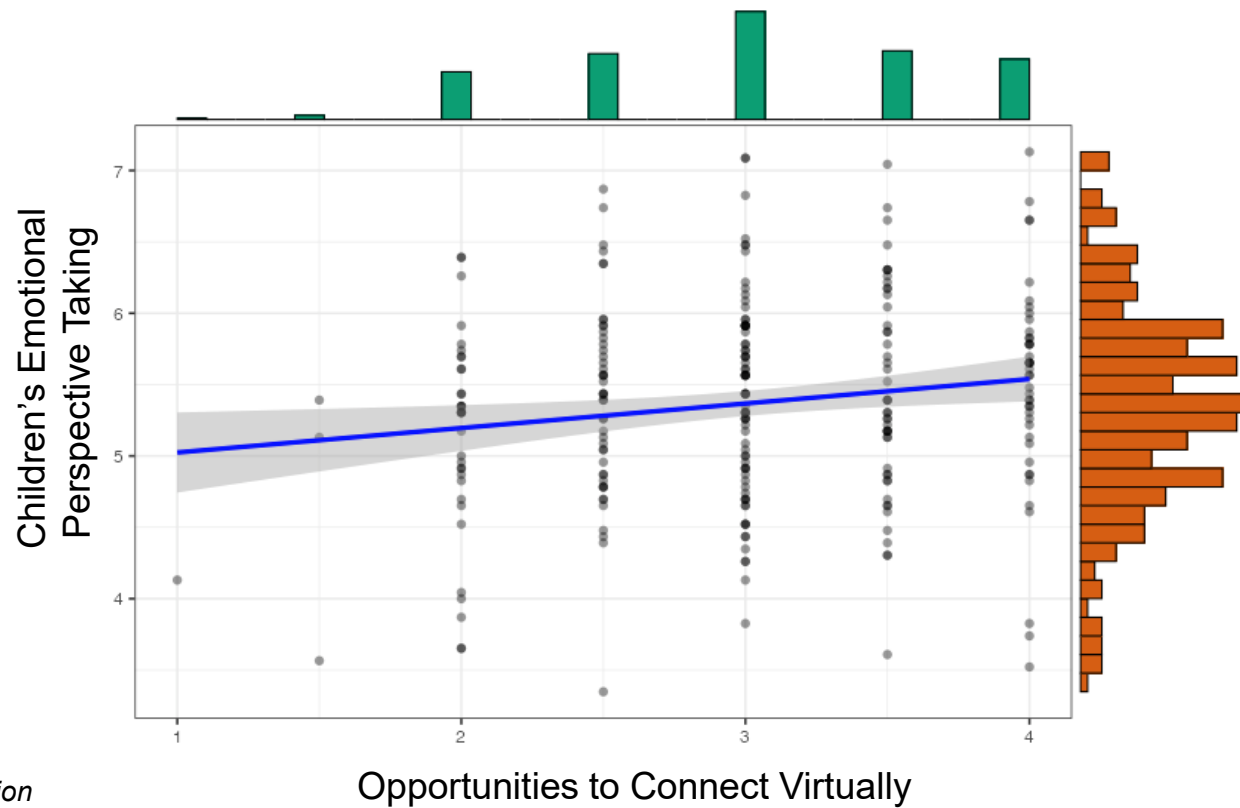
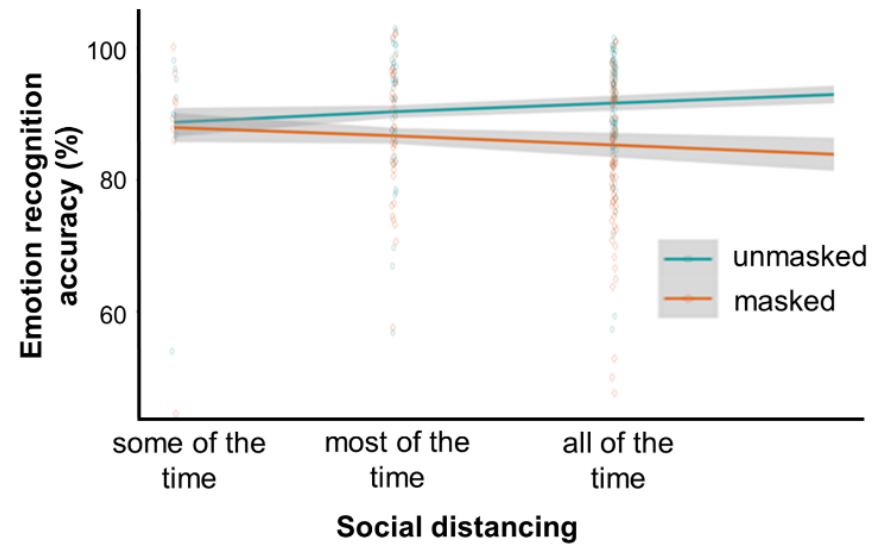
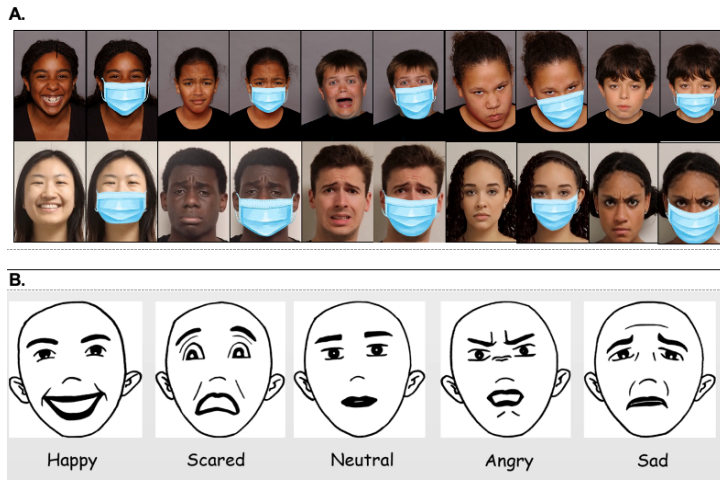


Across first 9 months of pandemic,
parents in high adverse impact group...

↑ intrusive and controlling
parenting

↑ children's aggression and other
forms of behavioral difficulties

↓ children's prosociality



Child Neurodevelopment in South Africa

Peter Rockers

Assistant Professor

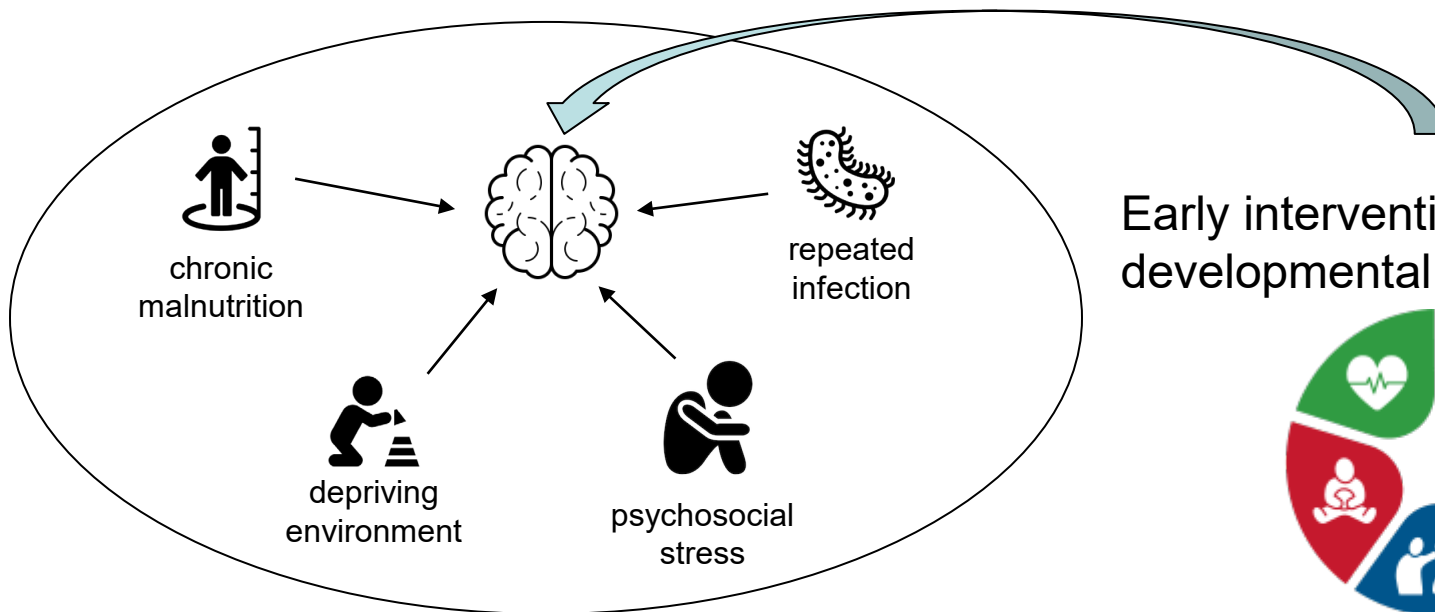
Department of Global Health, School of Public Health



Child Neurodevelopment in Global Context



250 million children under five (43%) in low- and middle-income countries are at risk of not reaching their developmental potential



Early intervention can improve developmental outcomes



NURTURING CARE
FOR EARLY CHILDHOOD DEVELOPMENT

Child Neurodevelopment in South Africa

Aim 1. Evaluate Impact

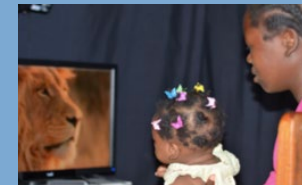
Intervention

- Monthly home visits
- Age-specific parental support related to:
 - Infection
 - Nutrition
 - Milestones
 - Play activities
 - Maternal well-being



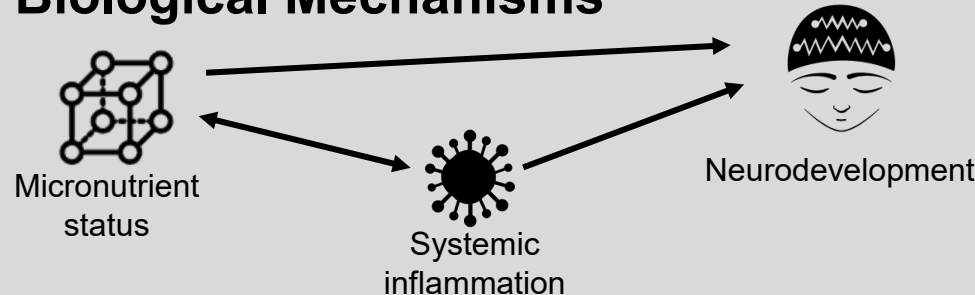
Outcome 1. EEG

*Collaboration with Prof. Amanda Tarullo
Dept. of Psychological and Brain Sciences

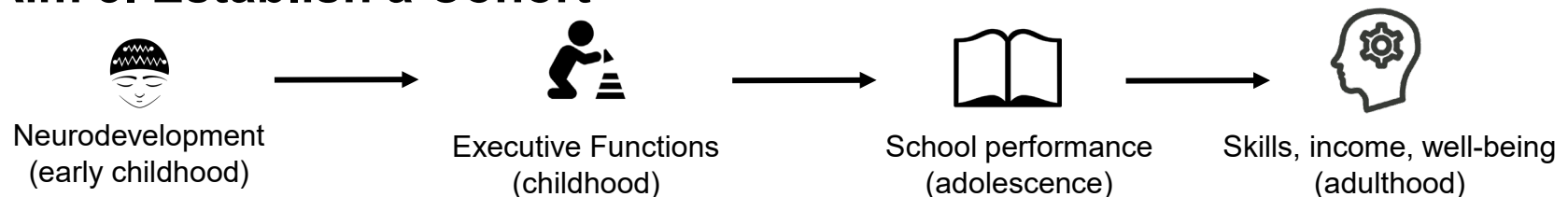


Outcome 2. Eye-tracking

Aim 2. Examine Biological Mechanisms



Aim 3. Establish a Cohort



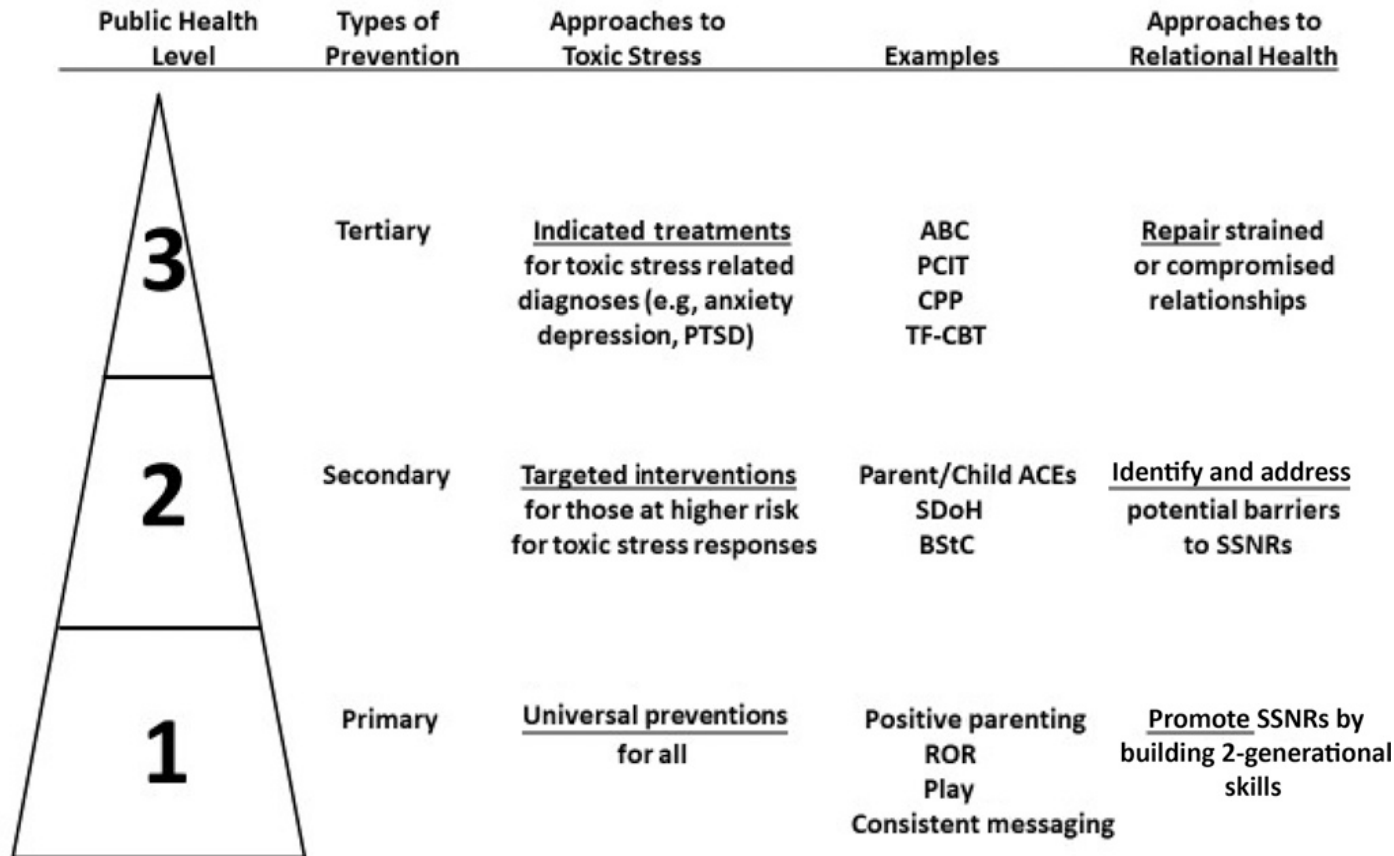
Improving Early Childhood Well-Being: Understanding and Addressing Maternal Adversity

Mei Elansary

Assistant Professor
Pediatrics, School of Medicine
elansary@bu.edu

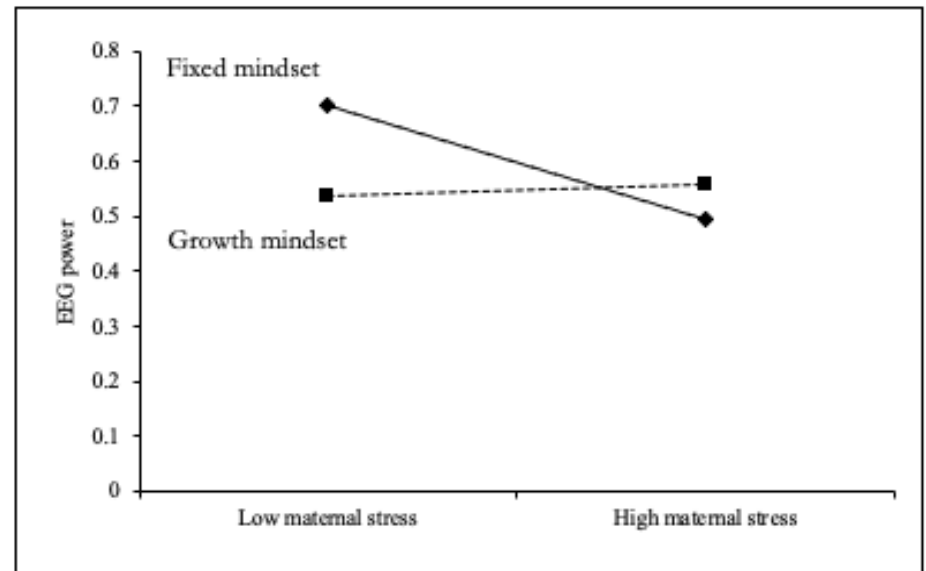
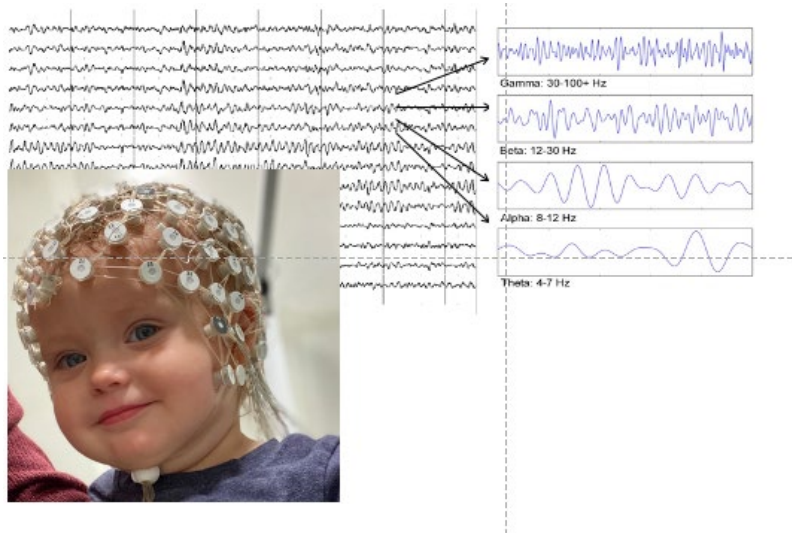


Importance of safe, stable, and nurturing relationships (SSNRs)



Garner A, Yogman M, COMMITTEE ON PSYCHOSOCIAL ASPECTS OF CHILD AND FAMILY HEALTH, SECTION ON DEVELOPMENTAL AND BEHAVIORAL PEDIATRICS, COUNCIL ON EARLY CHILDHOOD. Preventing Childhood Toxic Stress: Partnering With Families and Communities to Promote Relational Health. Pediatrics. 2021;148(2):e2021052582

Maternal Stress and Early Neurodevelopment: Protective Role of Maternal Growth Mindset



Interaction between maternal stress and mindset predicting one high-frequency EEG band (beta)

Elansary, Mei, Lara J Pierce, Wendy S Wei, Dana Charles McCoy, Barry Zuckerman, and Charles A Nelson. "Maternal Stress and Early Neurodevelopment." *Journal of Developmental & Behavioral Pediatrics*. Publish Ahead of (2021); *Journal of Developmental & Behavioral Pediatrics*. , 2021, Vol.Publish Ahead of. Web.

Maternal-Child Interactions, Trauma Exposure, and Posttraumatic Stress Symptoms

Composite		Trauma Non-Exposed N=79	Trauma Exposed, Asymptomatic N=58	Trauma Exposed, Symptomatic N=99
Maternal Sensitivity	Mean (Std Dev)	3.67 (0.84)	3.83 (0.85)	3.97 (0.78)
	β (95% CI)	Ref Group	0.12 (-0.16 to 0.41)	0.30 (0.03 to 0.56)
Maternal Intrusiveness	Mean (Std Dev)	2.38 (0.99)	2.37 (1.00)	2.15 (0.86)
	β (95% CI)	---	0.02 (-0.30 to 0.35)	-0.23 (-0.53 to 0.07)
Mother Withdrawal	Mean (Std Dev)	1.87 (0.92)	1.63 (0.84)	1.77 (0.83)
	β (95% CI)	---	-0.23 (-0.53 to 0.07)	-0.13 (-0.40 to 0.14)
Child Social Involvement	Mean (Std Dev)	3.29 (0.54)	3.24 (0.56)	3.35 (0.49)
	β (95% CI)	---	-0.04 (-0.22 to 0.14)	0.11 (-0.05 to 0.28)
Child Positive Emotionality	Mean (Std Dev)	3.59 (0.93)	3.47 (0.98)	3.45 (0.95)
	β (95% CI)	---	-0.08 (-0.40 to 0.24)	-0.06 (-0.36 to 0.24)
Dyadic Reciprocity	Mean (Std Dev)	3.06 (1.09)	3.09 (1.11)	3.43 (1.07)
	β (95% CI)	---	0.00 (-0.38 to 0.37)	0.36 (0.01 to 0.70)

Future Directions: Maternal Trauma Symptoms and Child Social Emotional Development and Preschool Readiness Skills



<https://dimock.org/service/child-and-family-services/early-head-start-and-head-start-programs-boston/>

Contrasting Children's Positive and Negative Behaviors Across Societies

Peter R. Blake

Associate Professor

Department of Psychological & Brain Sciences, CAS

Social Development & Learning Lab

www.bu.edu/sdll

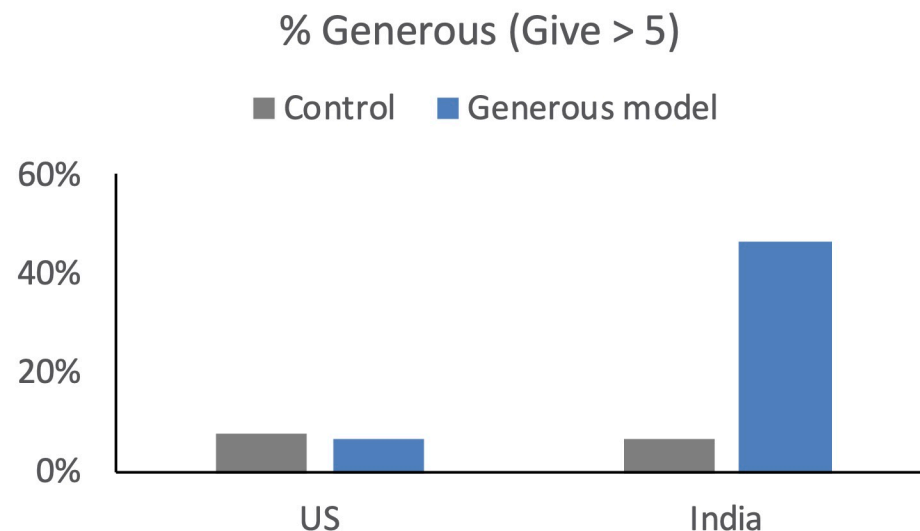
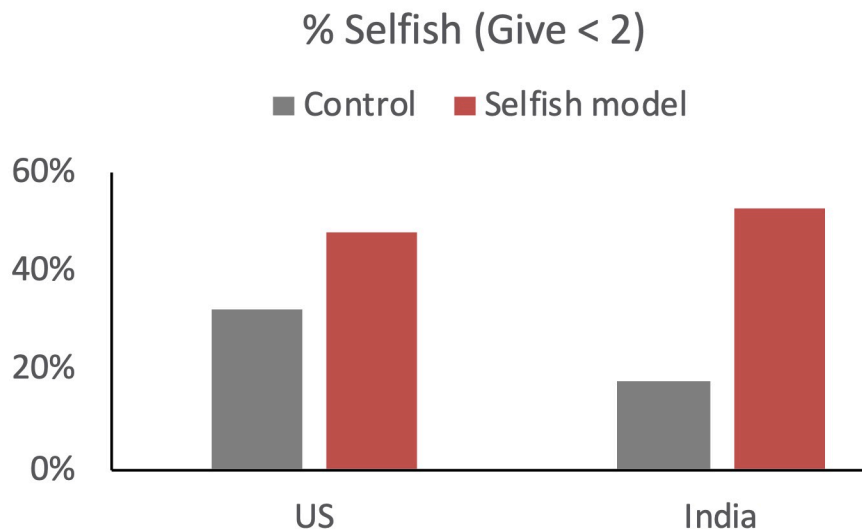


Well-being consists of positive and negative behaviors



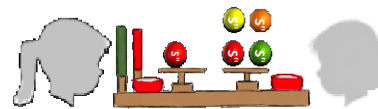
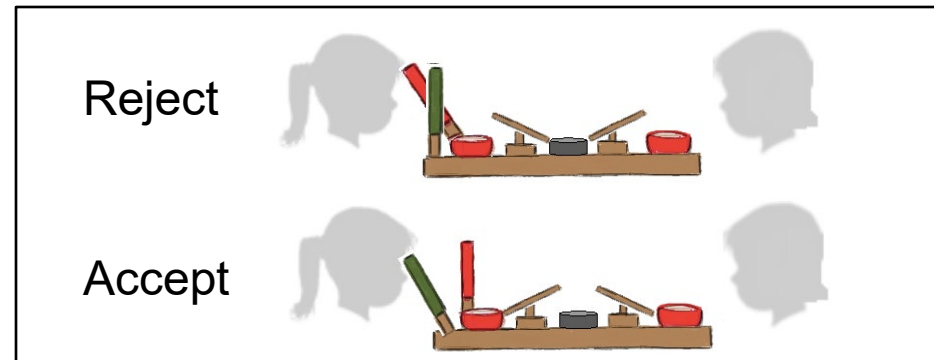
Learning to Give

- Boston and rural India
- Child watches parent give 1/10 (Selfish) or 9/10 (Generous). Control is no model
- Child then gives in private
- **Cultural variation for Generous**

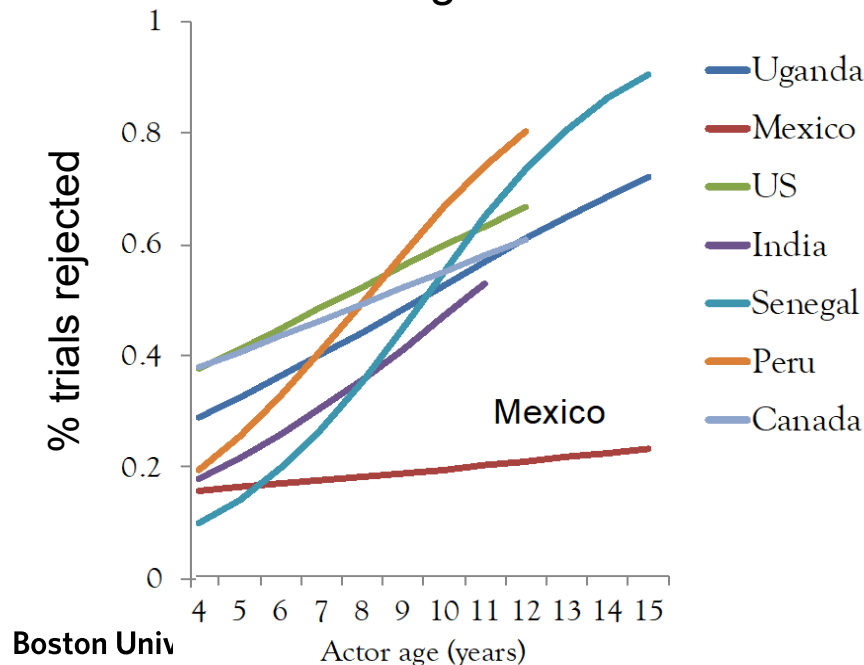


Two sides of Fairness

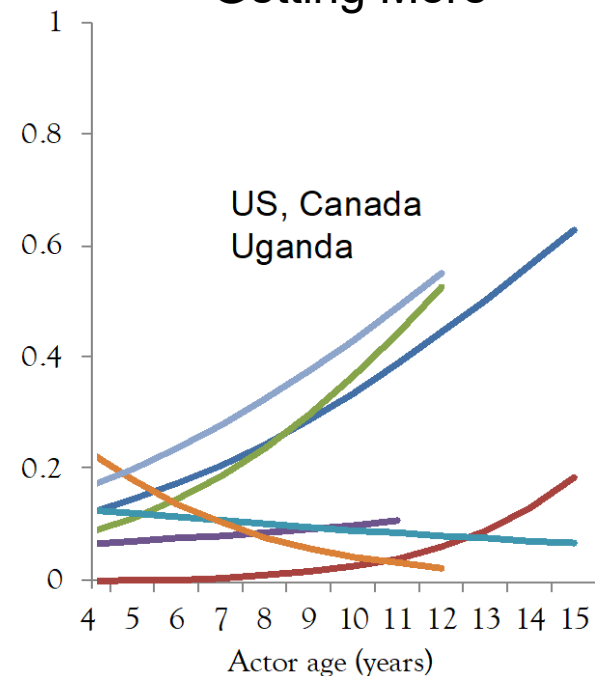
- 7 countries, pairs of children
- All reject Getting less
- Cultural variation for sacrificing advantage**



Getting Less

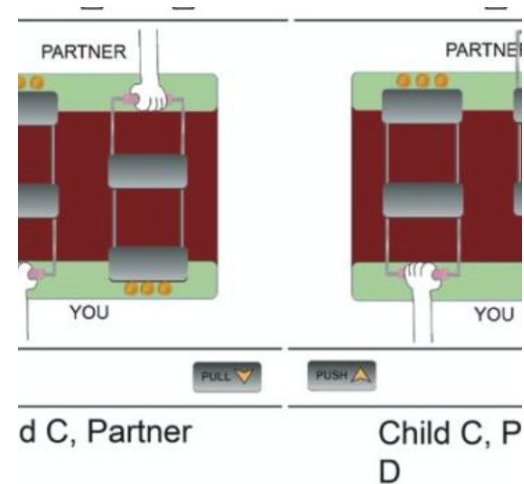
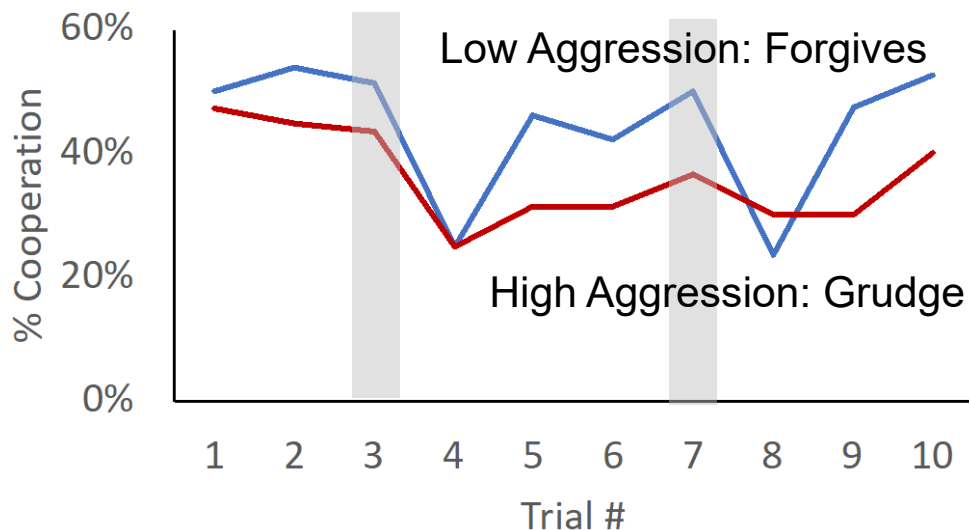


Getting More



Aggression & Forgiveness

- US only, 9-11 year olds
- Repeated Prisoner's Dilemma
- Child plays programmed partner
- Cooperate (push) or Defect (pull)
- **Different predictors for holding grudge vs forgiveness**



Both Coop

You: 3
Partner: 3

You C,
Partner D

You: 0
Partner: 4

Key take-away:

- Both positive and negative behaviors contribute to children's well-being but by different mechanisms

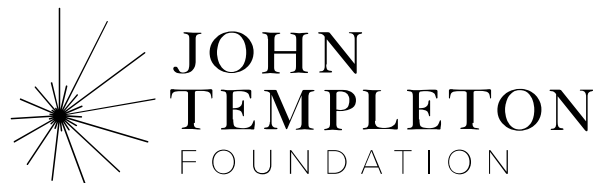
Collaborators:

- Tara Callaghan
- Meia Chita-Tegmark
- John Corbit
- Katherine McAuliffe
- Felix Warneken



<https://sites.lsa.umich.edu/CORI/>

Social Development & Learning Lab



Sleep Problems in Early Childhood: The Role of Biological Stress

Amanda Tarullo, Ph.D.

Associate Professor
Psychological & Brain Sciences, CAS



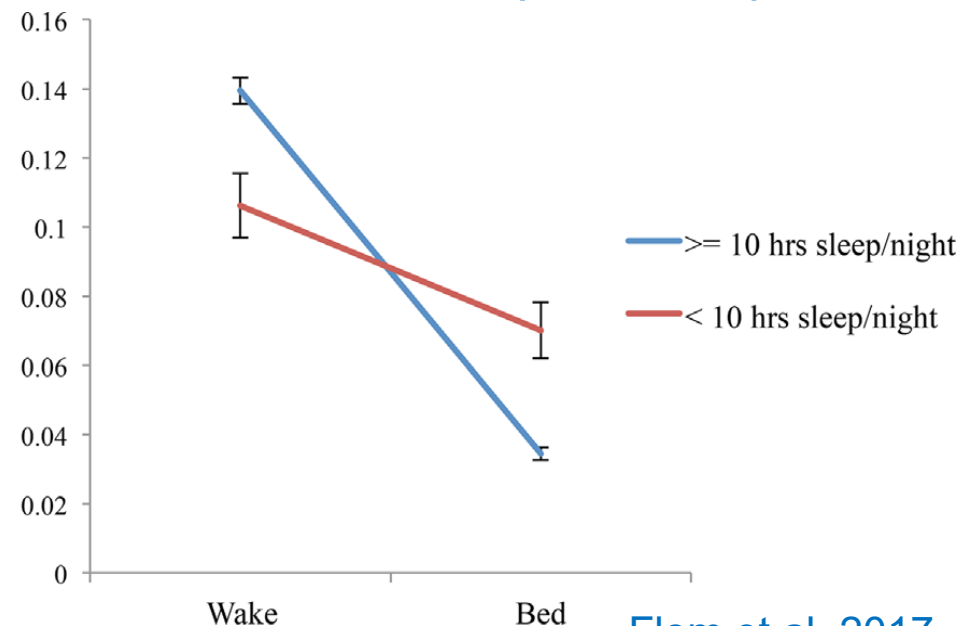
Background: Childhood Sleep Problems

- ~30% of young children have insufficient sleep, late sleep onset, or repeated night wakings Mindell & Owens, 2003
- Childhood sleep problems are detrimental to brain development, health, and academic performance EI Sheikh et al., 2007
- Sleep problems and behavior problems are closely linked Garrison 2015
- Early sleep problems are key mechanisms underlying enduring socioeconomic health disparities and achievement gaps Jarrin et al., 2014

Association of Infant Sleep and Biological Stress

- Sleep-wake system is immature at birth and develops in parallel with the hypothalamic-pituitary-adrenal (HPA) system Davis et al., 2004; De Weerth et al., 2003
- Infant sleep deprivation is linked to flattened diurnal cortisol slope and elevated hair cortisol Flom et al. 2017

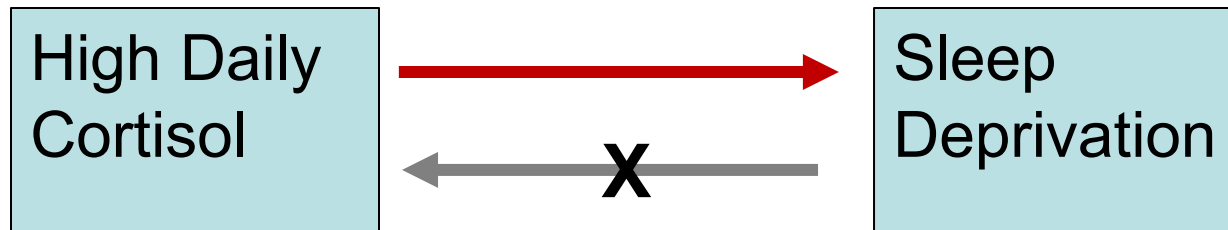
Infant Cortisol Slope & Sleep



Flom et al. 2017

Infant Biological Stress Predicts Sleep Problems

Tuladhar et al. 2021



- 3 nights actigraphy-derived sleep, 3 days salivary cortisol
- Higher cortisol at bedtime predicted later sleep onset that same night, $\beta = 0.260$, $p = .015$
- Higher total daytime cortisol predicted shorter sleep duration that night, $\beta = -0.308$, $p = .005$
- Sleep measures did NOT predict next day's cortisol

PATH Randomized Clinical Trial: Overcoming Barriers to Treating Sleep Problems in Young Children



- 500 toddlers with co-morbid sleep and behavior problems from low-income families
- Compare efficacy of parent coaching programs targeting sleep vs. behavior to improve child outcomes and reduce family stress
- Test strategies to enhance family engagement

UPCOMING EVENTS

Learn more & RSVP: bu.edu/research/events
Topic ideas & feedback: bu.edu/research/topic-ideas

RESEARCH ON TAP

Human Flourishing in Diverse
Populations and Contexts
11/3/21 | 4-6pm

Data Science for Racial Equity
11/30/21 | 4-6pm

RESEARCH HOW-TO

How to Use Social Media to Promote Your
Expertise and Engage Target Audiences
10/27/21 | 3-4:30pm

Finding Funding in Education: Meet the
Spencer Foundation
11/8/21 | 3-4pm

