Transforming Children's Care

GLOBAL COLLABORATIVE PLATFORM

Evidence for Impact Working Group

WEBINAR #12: Early Institutionalization Intervention Impact Project in Brazil

30 March 2023



This webinar Will begin momentarily.

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¡Bienvenidos!

Este evento cuenta con interpretación simultánea inglés-español. Cuando esté activada la interpretación, sigas esta instrucciones:

1.En los controles, presione la opción **Interpretación.**

2.Haga clic en el idioma que desee escuchar.



-Silenciar el audio

MODERATOR

Marian Bakermans-Kranenburg

Professor of Child and Family Studies, IPSA University Lisbon, Portugal



WELCOME

- This learning event is hosted by the Evidence for Impact Working Group of the Transforming Children's Care Global Collaborative Platform
- The platform establishes a way for organizations and advocates at local and global levels to collaborate to improve children's care and care systems
- Sign up at the link in the chat to join the platform and receive updates about future webinars



HOUSEKEEPING

- Introduce yourself in the chat (select "everyone" when sending a message so everyone can see it)
- This webinar is being recorded and the recording will be made available to you in Spanish and English.
- Remember to select the interpretation
- Use the Q & A to ask questions and upvote and comment on the questions of other attendees.



AGENDA

- Welcome
- Presentation of Early
 Institutionalization Intervention
 Impact Project in Brazil
- Q&A



PRESENTERS

Chuck Nelson

Professor of Pediatrics and Neuroscience and Professor of Psychology/ Harvard Medical School Dept of Psychiatry

Nathan Fox

Distinguished University Professor/ University of Maryland Dept of Human Development and Quantitative Methodology

Charley Zeanah

Mary Peters Sellars Polchow Chair in Psychiatry, Professor of Psychiatry and Pediatrics, at the Tulane University School of Medicine





From Bucharest to Brazil: The Early Institutionalization Intervention Impact Project.

Talk Presented to the Transforming Children's Care Webinar, 30 March 2023

Charles A. Nelson III

Professor of Pediatrics and Neuroscience Professor of Education Harvard University Richard David Scott Chair in Pediatric Developmental Medicine Research Boston Children's Hospital

Nathan A. Fox

Distinguished University Professor University of Maryland, College Park Department of Human Development and Quantitative Methodology

Charles H. Zeanah

Mary Peters Sellars Polchow Chair Psychiatry, Professor of Psychiatry and Pediatrics

Tulane University School of Medicin.









Part I: The Hazards of Raising Children in Institutions and the Benefits of Raising Children in Families





The Bucharest Early Intervention Project seeks to:

- Examine the effects of institutionalization on the brain and behavioral development of young children
- Determine if these effects can be remediated through intervention
 - In this case this is foster care
- Improve the welfare of children in Romania by establishing foster care as an alternative to institutionalization





Why institutional rearing might be bad for the brain

- Regimented daily schedule
- Non-individualized care
- Sensory, social-emotional, cognitive, and linguistic deprivation
- No response to distress
- Unchecked aggression
- Lack of psychological investment by caregivers
- High child/caregiver ratio
- Rotating shifts of caregivers





Children reared in institutions...

...are at dramatically increased risk for a variety of cognitive, social, and behavioral problems:

- disturbances of social relatedness and attachment
- externalizing behavior problems
- inattention/hyperactivity
- deficits in IQ and executive functions
- syndrome that mimics autism
- growth stunting (next slide)





Why did we conduct BEIP in Romania?

- Tens of thousands of institutionalized young children--mostly abandoned at birth
- Opportunity to study importance of early experiences in young children
- Invited to conduct study by Minister for Child Protection
- Interest in developing policies for intervening with abandoned children
 - Institutional care versus foster care







BEIP Study Design

First ever randomized controlled trial of foster care as intervention for social deprivation associated with institutionalization

>180 children screened by pediatric/neuro exam;



Dana Johnson, M.D., Ph.D.

- 136 institutionalized children between 6 and 31 months initially assessed at baseline (Mean Age=20 months)
- 68 randomly assigned to remain in institution (Care As Usual Group; CAUG); 68 randomly assigned to foster care (FCG);
- 72 never-institutionalized children (NIG) matched on age and gender serve as controls
- Following baseline assessment, children assessed comprehensively at 9, 18, 30, and 42 months... a limited 54 month assessment was performed...extensive assessments were then performed at ages 8, 12, and 16; and another is ongoing at age 21.





4

Institutional

Group

fazendohistória

5

FCG

n=68

EF3

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BEIP Study Design

NIG n=72

> After baseline assessment (pre-group assignment), comprehensive follow up performed at 30, 42, 54 months, 8, 12, and 16 years

CAUG

n=68

1



Domains of assessment

- Physical development
- Language
- Social Functioning/Social-Emotional
 Development
- Carefully characterize caregiving environment
- Cognition

- Temperament
- Attachment
- Brain Function (EEG, ERP)
- Brain Anatomy (MRI)
- Genetics/Epigenetics
- Psychopathology







Domains and Measures

ATTACHMENT and CHILD/CAREGIVER	Pagalina	20 mag	42 maa	E4 mag	9 1/10	12 1/20	16 1/10	21
	Daseillie	30 11105	42 11105	54 III05	o yrs	12 yrs	io yrs	21 915
Crowell Play Procedure	X	Х	X					
Disturbances of Attachment Interview (DAI)	Х	Х	Х	Х	Х	Х	Х	
Expressed Emotion Interview						х	х	
Fostering Experience Interview						х		
Life Experiences Interview						Х		
Life Events Scale						х	х	
Observational Record of Caregiving Environment (ORCE)	х	Х	Х					
Secure Base Script Test (SBST) - Child							х	х
Secure Base Script Test (SBST) - Parent							Х	
Security Scale Interview						х		
Stranger at the Door (SAD)				Х	х			
Strange Situation Procedure (SSP)	х	Х	Х					
This Is My Child Interview - Revised						х	Х	
Brief Family Relationship Scale								х
Conflicts Tactic Scale- 2								Х
Crisis in Family Systems (CRISYS)								Х





ATTENTION	baseline	30 mos	42 mos	54 mos	8 yrs	12 yrs	16 yrs	21 yrs
Dot Probe Task (behavioral)					behav only	behav only	behav only	
Flanker Task (behavioral)					Х	Х	Х	Х
Go No-Go (behavioral)					Х	Х	Х	Х
Posner Cued Attention (behavioral)					Х			
BRAIN	basalina	30 mos	42 mos	54 mos	8 vrc	12 vre	16 yrs	21 vrs
Cohoropoo Latorality & Power (EEC)	v	50 mos	42 mos	04 mos		12 yis	v	2 T y13
	~	~	~		~	~	A V	A V
							X	X
Emotional Intensity (ERP)						Х		
Emotion Intensity (behavioral)					Х	Х		
Facial Emotion Discrimination (ERP & VPC)	Х	Х	Х		ERP only			
Familiar-Unfamiliar Face Recogniton (ERP & VPC)	Х	Х	Х					
Flanker (ERP)					Х	Х	Х	Х
Go No-Go (ERP)					Х	Х	Х	Х
Magnetic Resonance Imaging (MRI)					Х		Х	Х
Mismatch Negativity (ERP)	Х	х	Х					
Posner Cued Attention (ERP)					behav only			
Monetary Incentive Delay (MID)								Х





BIOLOGY	baseline	30 mos	42 mos	54 mos	8 yrs	12 yrs	16 yrs	21 yrs
Cortisol						X		
Blood Pressure								
Buccal Swab							Х	
Dried Blood Spot (DBS) Inflammatory Markers, Telomeres							х	х
Questionnaire at time of Dried Blood Spot								Х
Genetics					DNA only	х	х	
Glycated hemoglogin and hemoglobin							Х	
Head Circumference	Х	Х	Х		Х	Х	Х	Х
Height	Х	Х	Х		Х	Х	Х	Х
Morris & Udry Pubertal Scale						Х	Х	
Weight	Х	Х	Х		Х	Х	Х	Х
Saliva Samples							Х	
Recent Health Behaviors Survey							Х	
Short Form 36 (SF-36)								Х
Blood Draw								Х
Questionnaire at time of blood draw								Х
International Physical Acitivity Questionnaire- short form								Х
Food Questionnaire								Х
Pittsburgh Sleep Quality Index								х





COGNITION	baseline	30 mos	42 mos	54 mos	8 yrs	12 yrs	16 yrs	21 yrs
Bayley Scales of Infant Development	х	х	х					
Weschler Preschool Primary Scale of Intelligence (WPPSI)				Х				
Weschler Intelligence Scales for Children (WISC-IV)					х	х	X*	
Weschler Adult Intelligence Scales								х
Vineland Adaptive Behavior Scales								х
Test of Non-Verbal Intelligence (TONI)								х
DEMOGRAPHICS/COVARIATES	baseline	30 mos	42 mos	54 mos	8 yrs	12 yrs	16 yrs	21 yrs
Age at Foster Care Placement	х							
Age at Institutionalization	х							
Demographics	х					х		
BEIP Demographics (updated)							х	
Total Placement Disruptions					х	х	х	х
Percent Time in Foster Care	х	Х	Х	Х	Х	Х	Х	Х
Percent Time in Foster Care Percent Time in Institution	x x	x x	x x	x x	x x	x x	x x	X X





LANGUAGE	baseline	30 mos	42 mos	54 mos	8 vrs	12 vrs	16 vrs	21 vrs
Language Sample		X	X		X	X	,	
Non-Word Repetition					х			
Rapid Naming					Х			
Receptive-Expressive Emergent Language Test (REEL)		Х	х					
Reynell Developmental Language Scales (Reynell)		Х	х					
Sentence Repetition					Х			
MENTAL HEALTH	baseline	30 mos	42 mos	54 mos	8 yrs	12 yrs	16 yrs	21 yrs
Infant-Toddler Social and Emotional Assessment	Х	Х	Х					
MacArthur Health Behavior Questionnaire (HBQ)-T					Х	Х	Х	
MacArthur Health Behavior Questionnaire (HBQ)-P						Х	Х	
Preschool Age Psychological Assessment (PAPA)				Х				
Preschool Age/Child-Adolescent Psychological Assessment (PAPA/CAPA)					x			
Diagnostic Interview Schedule for Children (DISC-IV)						х	Х	
Affective Reactivity Index							Х	
SCARED Questionnaire							Х	
Inventory of Callous Unemotional Traits							Х	
Disruptive Mood Dysregulation Disorder (DMDD)							Х	
Revised Adult Personality Functioning Assessment (RAPFA)								х
Child Trauma Questionnaire								Х
Diagnostic Interview Schedule with Substance Abuse Module								х
COVID Questionnaires								х
Juvenile Victimization Questionnaire								Х





MOTOR SKILL	baseline	30 mos	42 mos	54 mos	8 yrs	12 yrs	16 yrs	21 yrs
Bruininks-Oseretsky Test of Motor Proficiency (BOT-2)					х			
NEUROPSYCHOLOGICAL FUNCTION	baseline	30 mos	42 mos	54 mos	8 yrs	12 yrs	16 yrs	21 yrs
Bear-Dragon				х				
Cambridge Neuropsychological Test Automated Battery (CANTAB) (tablet version)								х
Cambridge Neuropsychological Test Automated Battery (CANTAB)					х	х	Х	
PHYSIOLOGICAL REACTIVITY	baseline	30 mos	42 mos	54 mos	8 yrs	12 yrs	16 yrs	21 yrs
Trier Social Stress Test for Children (TSST-C)						х	х	
Peer Evaluation Task						х	х	
Frustration Task (Number Game)						х	х	
Baseline							х	
Bells Task							х	
Reward Sensitivity Task (Pinata Game) (Modified Monetary Incentive Delay)						х	х	х
Pre-Post Task Questionnaire						_	x	_





RISK-TAKING BEHAVIOR	hasolino	30 mos	42 mos	54 mos	8 vrs	12 yrs	16 yrs	21 yrs
Balloon Analogue Risk Task (BART)	basenne	50 1103	42 11103	34 mos	0 913	X	X	21 913
Barratt Impulsivity Scale							X	
Behavioral Indicator of Resiliency to Distress						Х	Х	
Brief Sensation Seeking Scale (BSSS)						Х	Х	
CDC Youth Risk Behavior Survery - Modified (YRBS)						x	x	
Probabilistic Gambling Task (PGT)							Х	
Stoplight Task (alone and with peer)							Х	
Risk Taking 18								Х
SOCIAL-EMOTIONAL DEVELOPMENT	baseline	30 mos	42 mos	54 mos	8 yrs	12 yrs	16 yrs	21 yrs
Early Social Communication Scale (ESCS)	Х	Х	Х					
Friendship Quality Questionnaire						Х	Х	
Happy-Angry Task					х			
Interpersonal Competence Questionnaire						Х		
LAB-TAB Puppets & Peek-A-Boo	Х	Х	Х					
Network of Relationships Inventory							х	
Peer Relations Tasks					х		х	
Resistance to Peer Influence Questionnaire						х		
Self-Report Coping Questionnaire						Х		
Social Communication Questionnaire (SCQ)							Х	
Social Skills Rating System					Х	Х	Х	
Trust-Approach Task					Х			
Waisman Activities of Daily Living							Х	



Ethical Considerations

- Informed consent -- 3 US University IRBs, local authorities in Bucharest, parents/caregivers/guardians
- Randomization
 - Inherent bias possible in all extant studies
 - Policy debate about which intervention is preferred
 - Without the study, all children get care as usual
- No more than minimal risk of participation
- No stop rule was possible
 - Limited funds available to support foster care
 - Challenges of recruiting with no experience of foster care
- Policy of non-interference
- Provided outcome data to government as soon as it became available.

Miller FG (2009) The randomized controlled trial as a demonstration project: An ethical perspective. Am J Psychiatry. 166:743Y745. Millum, J. & Emanuel, E.J. (2007). *Science, 318*, 1874-1875. Rid, A. (2012). *The Journal of Nervous and Mental Disease*, 200, 248-249.





The Intervention: High Quality Foster Care

- Families received monthly stipend equivalent to average per capita income in Romania at the time
- Close monitoring (social workers visited the families every 10 days)
- Social workers/psychologists consulted with BEIP team every 7 days
- All material support
- 24 hour on-call pediatrician
- Romanian law required one parent to stay home with child
- All families licensed





BEIP: A child-centered model of foster care

- Orchestrated around needs of child for a stable, consistent emotionally available caregiver
- Foster parent becomes emotionally invested in child and advocates as if it were her own
- Social worker supports, monitors and intervenes with foster parent as needed, with frequent contact
- Weekly consultation from clinicians (based at Tulane University) throughout the trial.







Intent to Treat Approach

- The intention-to-treat (ITT) approach to randomized controlled trials analyzes data on the basis of treatment assignment, not treatment receipt.
- Alternative approaches:
 - as-treated analysis: compares based on treatment received at the end of the trial
 - adherers-only analysis: compares only subjects who did not deviate from the assigned treatment.





BEIP Conclusions/ Findings

- Neglect/deprivation increases risks for reduced brain power, lower IQ and executive functions, and serious psychopathology.
- The longer the exposure, the greater the probability of harm.
- Recovery is enhanced by:
 - Placement into foster families
 - Foster placement as early as possible
 - Stability of placements over time
 - Higher quality of care
- My two colleagues will now share more about the development and design of the EI-3 Project.



Part II: Early Institutionalization Intervention Impact Project: Cultural, Legal and Ethical Issues in Research on Care for Children



Charles H. Zeanah Melissa Middleton Edson Amaro George Tarabulsy Chantal Cyr Charles A. Nelson Nathan A. Fox









Child protection in Brazil

- Traditionally, heavy reliance on institutional care
- · 1990 Statute on the Child and Adolescent
 - Article 12 all children have right to grow up in a family
- · Gradual closing of large institutions
- Sistema de abrigos (Shelter system)
 - Originally limited to 30 children
 - Now 15 children
 - All mixed ages in São Paolo





Child protection in Brazil

- Children removed for maltreatment
- Majority for neglect related to substance abuse
- Some may be targeted for early adoption.





Child protection in Brazil















Charles Nelson Boston Childrens Hospital Harvard Medical School Nathan Fox University of Maryland Charles Zeanah Tulane University

Principal Investigators

Edson Amaro Pensi Institute University of São Paulo





Research Team









Julie Staples Watson *Project Director* Laura Vidaurreta *Research Coordinator*

Nara Britto *Research Assistant* Stella Kappler Research Assistant PROJECT



Domains of child development assessed







Foster Care Program Santa Fé Association









Glorialuz Lanz Executive Director Raquel Fernandes Silva Program Coordinator

Rebeca Nascimento Social Worker Barbara Liptak Fabrioni Psychologist



Ethical dimensions given vulnerability of population

- Agreement by Judiciary and Social Services that study would address an important problem and provide data to inform policy decisions.
- Risk/benefit ratio
 - Risks are minimal, activities and procedures similar to hundreds of other studies;
 - Benefits from enhanced care (AVI) for both arms of the trial (shelter and foster care).
- Non-interference
 - All placements ordered by Judge study team uninvolved
- Randomization
 - Strongest evidence
 - Social value
- Oversight
 - U.S. Universities IRB's; Pensi Institute Ethics Committee; Brazilian Federal Ethics Committee





Advancing BEIP findings in São Paolo

- Romania findings not applicable elsewhere
 - Another continent and very different child protection system
- Poor quality institutions
 - Smaller—15 children total, with better caregiver to child ratios
- No prenatal data
 - More consistent prenatal and pre-placement circumstances
- Foster care augmented but not institutional care
 - Both arms augmented in RCT
- Intervention applied too late
 - Instead of 22 months—initiation likely to be less than one year of age
 - Intervention immediate—prior to extensive institutional exposure
- Comparison group more advantaged
 - Less advantaged comparison group
- No economic analysis
 - Cost benefit comparison of two interventions







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EI-3 Summary

Provide scientific evidence about the best and most economical form of care for orphans and vulnerable children. Persuade governments and donors to make more evidence informed policies and investments to improve the lives of children currently in institutional care, and those who may soon enter into alternative forms of care.





Part III: Attachment Videofeedback Intervention Embedded within an RCT of Institutional Care versus Family Care for Young Children

Charles H. Zeanah Melissa Middleton Edson Amaro George Tarabulsy Chantal Cyr Charles A. Nelson Nathan A. Fox





AVI embedded with RCT

200 children placed in state's custody

100 placed in shelters

100 placed in families

EES

Attachment Videofeedback Intervention 8 sessions (2-3 months)

Outcomes 12, 24 and 36 months





Intervention Consultants





George Tarabulsy _{Laval}

Chantal Cyr University of Quebec at Montreal











Intervention Team

Instituto fazendo**história**



Melissa Middleton Intervention Director



Anna Clara Fusaro Rodrigues



Giovanna Donna



Melina Bertholdo



Lara Naddeo Intervention Coordinator



Vitoria Whately









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Attachment Video-feedba ck Intervention (AVI)

8 week intervention administered in "home"

Targets parental sensitivity and child attachment

Focus on verbal and non-verbal interactions

- responding to child distress signals with comfort and appropriate structuring.
- promoting and supporting active child exploration when the child is not distressed.







8 sessions of roughly 90 minutes in "home" setting

Attachment Video-feedback Intervention (AVI)

Visit 0: structured observations and generation of hypotheses about the dyad's needs

Visits 1-7: structured according to the hypotheses and closure of the process at the last meeting





Intervention targets aimed at improving attachment security

Sensitivity

• Caregiver ability to detect cues and interpret them correctly to provide appropriate, predictable, and loving responses to the child

Proximity

• Physical proximity of affectionate and frequent contact with the child

Responsiveness

 Sense of responsibility for the child and their safety as manifested by their behaviors regarding child safety, positive discipline, and knowledge of child development

Reciprocity

• Quality of the dialogue in the dyad, including the shared pleasures and the recognition of the unique character of the child





Weekly Sessions

10-15 min check-in

20 min Discussion Brief check-in regarding updates and review of any concerns or recent events

- Topic selected by intervenor for the dyad
 - child-related questions/discussions
- developing alternative understanding and responses to problematic parent_child interactions
 Activity individually chosen by the intervener as a function of child age and dyadic needs





Weekly Sessions

20 min Video feedback

> 10-15 min Wrap-up

Review just-completed filmed sequence and discuss parent's feelings and observations of self and child during the interaction. Probes focused on positive sequences and feedback that reinforces sequences

Highlights progress and encourages similar activities with the child during the coming week.

RCT evidence base for AVI

Study	Ν	Age	Sample	Parent outcomes	Child outcomes	Country
Moss et al,. 2011 (AVI v CAU)	67	12-71 mos	Maltreated or high-risk	Sensitivity d=0.47	Attach security d=0.77	Canada
Dubois Comtois et al., 2017 (AVI v CAU)	41	1-30 mos	Neglected or high-risk	Sensitivity d=0.77 Parenting stress d=0.86	Cognitive d=0.74 Motor d=0.86	Canada
Cyr et al., 2022 (AVI v PI)	41	19.75 mos (4-69)	Maltreated	Parent child interaction d=0.52	N/A	Canada
Eguren et al, 2023 (WLC)	41	35.4 mos (SD 14.6)	At risk for abuse or neglect	Emotional avail d=0.76-0.94 Reflect funct. d=0.83 Household chaos d=0.78	Emotional avail d=0.88-0.98	Spain



Cultural Considerations Institutional culture –sensitive caregiving during daily routines

Individual cultural beliefs about proximity with children

Culturally relevant interactive activities--toys, play, and games

Addition of transition letters at the end of the intervention for the children and for the caregivers (regardless of completion status)





Pilot intervention

<u>AVI completed</u> 10 dyads (foster care) 2 dyads (institution)

<u>AVI ended before</u> <u>completion</u> 0 dyads (foster care) 6 dyads (institution)

<u>AVI underway</u> 1 foster care 3 dyads (institution)

RCT

First child randomized to foster care recently.



Current Status

Thank You







Funders a:



HARVARD UNIVERSITY DAVID ROCKEFELLER CENTER FOR LATIN AMERICAN STUDIES BRAZIL











Maria Cecilia Souto Vidigal instituto

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THANK YOU FOR JOINING! The webinar recording, presentation and resources will be shared with all participants and posted to the Transforming Children's Care Platform.

You can find about more about the the Evidence for Impact Working Group at the link in the chat.

Thank you for joining us today

