



**SEMILLAS  
DE APEGO**

## Caregiver Mental Health and Early Childhood Development in Conflict-Affected Settings: Experimental Evidence from Colombia

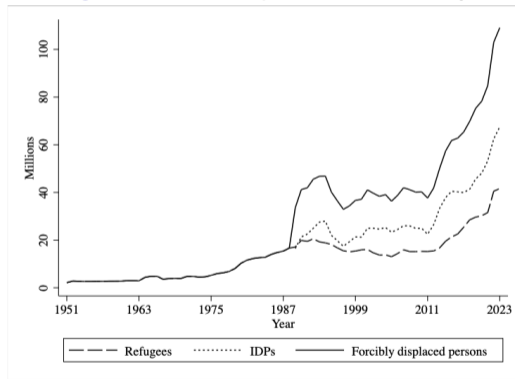
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June 2024

# Motivation: conflict and early childhood development

- Conflicts and forced displacement at a record high.
- Children are disproportionately affected:
  - 35% of the forcibly displaced are children.
- Young children are the most vulnerable:
  - Most important stage for brain architecture, health, and skills.
  - Most sensitive period to stress and adversities.

Figure: Forced Displacement Globally







*Photo: Jesus Abad Colorado (2005)*

How can we protect  
children and prevent the  
intergenerational  
transmission of trauma and  
poverty?

## A missing link: caregiver's mental health and ECD

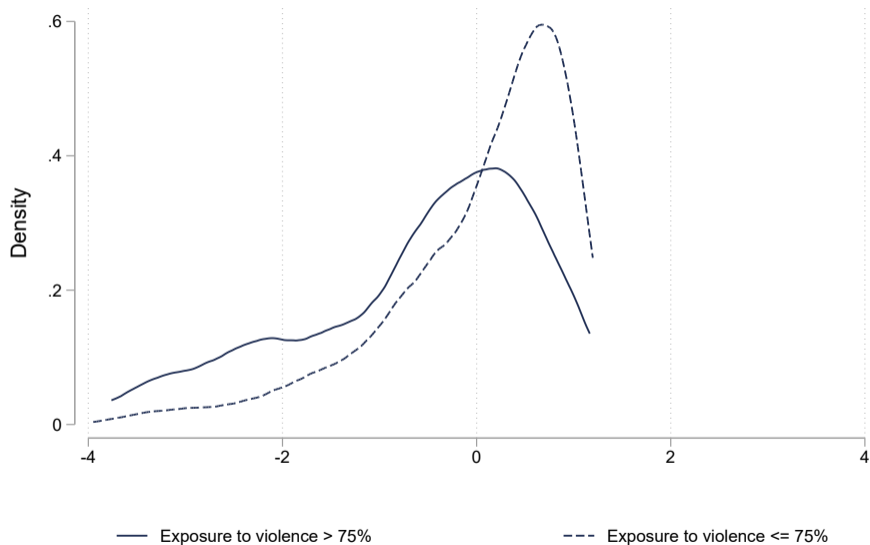
- **Nurturing and responsive relationships** are essential for early childhood development (Almond and Currie 2011; Black et al. 2016).

## A missing link: caregiver's mental health and ECD

- **Nurturing and responsive relationships** are essential for early childhood development (Almond and Currie 2011; Black et al. 2016).
- Can buffer the physiological effects of stress and early adversities ⇒ **Tolerable Stress**

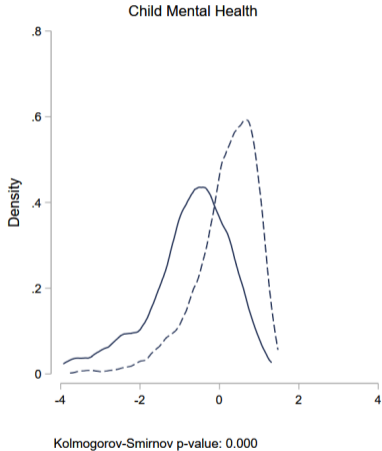
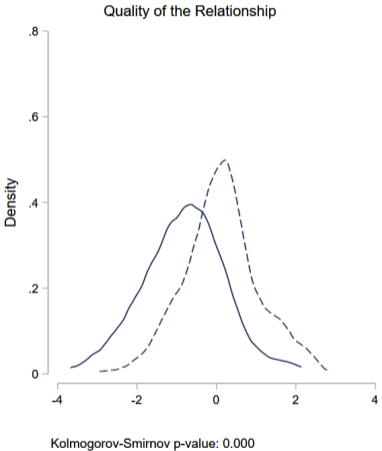


## Conflict takes a toll on caregivers' mental health (dose-response relationship)



Kolmogorov-Smirnov p-value: 0.000

# Caregivers' mental health problems affect child-caregiver relationships and child outcomes



— Above Risk Threshold

--- Below Risk Threshold

## This talk: experimental evaluation of Semillas de Apego

Community-based psychosocial model for caregivers of young children affected by conflict and forced displacement.

- Objective: Promote caregivers' mental health as outcome & as a vehicle to foster healthy child-parent relationships and early childhood development
- Experimental evaluation in a context of ongoing conflict.
  - 82% of participants are victims of violence, 54% IDP.
  - High levels of caregiver mental health problems at baseline.
- Positive results at the 8-month follow-up on 5 core dimensions:
  - Caregiver mental health: 0.17 sd
  - Quality and style of the child-caregiver relationship: 0.15 and 0.13 sd
  - Child mental health and development: 0.12 sd and 0.24 sd

# (Main) Contribution

## Address caregivers' mental health as a binding constraint in conflict-affected settings

- Different approach than successful parenting interventions.
  - Jamaica Home Visit Intervention and Reach-Up (Grantham-McGregor et al 1991; Black et al. 2017; Attanasio et al 2019; Bernal et al 2020); Adaptations for 'Ahlan Simsim' (IRC, SW, & NYU); Sugira Muryango (Betancourt et al 2020; Jensen et al 2020).
- These programs improve parenting practices by addressing 'cognitive constraints'.
  - Why and how to provide responsive care and stimulating environments.



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- These programs improve parenting practices by addressing 'cognitive constraints'.
  - Why and how to provide responsive care and stimulating environments.
- Caregiver mental health has been largely ignored in the ECD space.
  - Only 12% evaluations measure caregiver's mental health (Evans, Jakiela, and Knauer 2021).
  - Parenting interventions have limited impacts on caregivers' mental health (Jeong et al 2020)

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Our approach: similar BRAC's Home-Based Humanitarian Play Lab (Islam et al 2024).

# Semillas de Apego

Psychosocial model for caregivers of young children in conflict-affected settings



# Semillas de Apego

**Objective:** Promote caregivers' mental health as an outcome & vehicle to strengthen the relationship with the child and protect ECD.

- Multi-theory framework: attachment and developmental theories, trauma-informed and cognitive-behavioral models.
- Starting point: Child-Parent Psychotherapy (Lieberman, Ippen, and VanHorn 2006) & Building Bridges Community Program (Reyes 2011).
- Adaptations to local context:
  - Ongoing conflict and current/complex trauma;
  - Context-dependent parenting styles;
  - Deficits in mental health professionals and services.

# Semillas de Apego

## Community and group-based model

- 15 weekly sessions (2.5 hrs);
- Groups of 15-20 caregivers;
- Groups led by 2 community facilitators

## Core Dimensions Sequential Objectives

1. Caregiver mental health;
2. Early childhood development;
3. Child-caregiver relationships;
4. Parenting teams.



# Semillas de Apego

Sessions follow the same structure

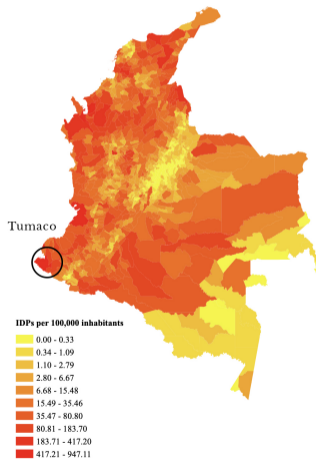
1. Emotional awareness & regulation;
2. Main activity: reflective practice w/ arts and crafts to ground information;
3. Group discussion.



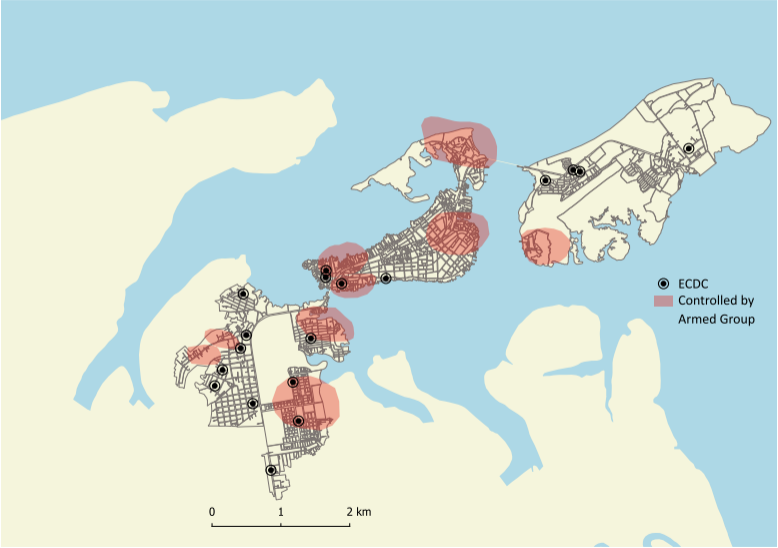
# Impact Evaluation - Tumaco, Colombia

- Protracted conflict (since 1950's);
- 8.5 million IDPs;
- $\approx$  11% of IDPs worldwide.
- Tumaco (study site):
  - Homicides: 101 vs 29 in Col;
  - Displacement: 943 vs 238 in Col;
  - Poverty: 45% vs 20% in Col.

Figure: Intensity of Forced Displacement



# Setting: active conflict and invisible borders





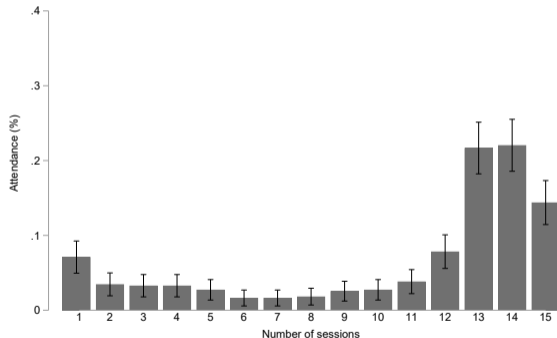
# Experimental design

- Two-stage clustered random assignment:
  1. Randomly assigned centers to treatment or control  $N^C = 18$ .
  2. Randomly assigned caregivers over 4 sequential cohorts.
- Treatment Arms:
  - Treatment: Semillas de Apego + services provided by childcare centers  $N_i^T = 714$ .
  - Control: Services provided by childcare centers  $N_i^C = 662$ .
- Statistical power with 18 clusters:
  - MDE of 0.17 sd after controlling for prognostic variables.
- Internal Validity Internal Validity

# Descriptives & Dosage

- 96% of participants were women;
- 82% victims of violence;
- 57% IDPs;
- 27 & 16% had at-risk symptoms of depression and anxiety. [Descriptives](#)

Figure: Dosage - 11 sessions on average



# Data



# Data

## 5 core dimensions measured at baseline and 1 and 8-month followups

### 1. Caregiver Mental Health:

- Symptom Checklist 90-R(Adapted).

### 2. Quality of the Child-Caregiver Relationship:

- Parental Stress Index (PSI - short form); Child-Parent Relationships (CPR).

### 3. Style of the Child-Caregiver Relationship:

- Survey module on positive/negative discipline strategies and routines.

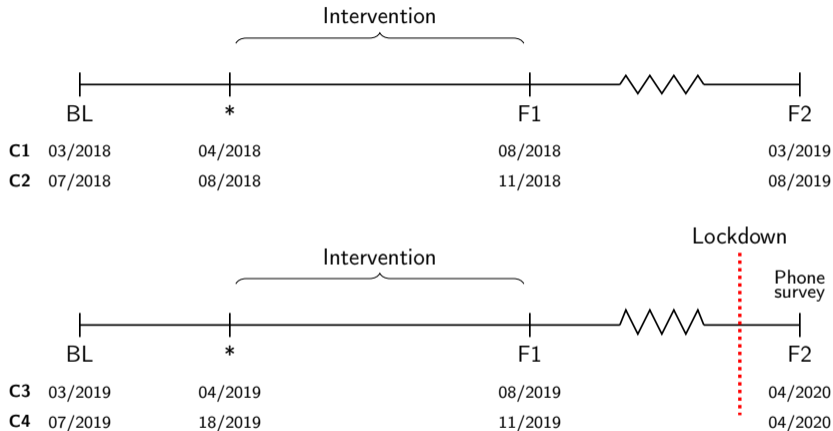
### 4. Child Mental Health

- Trauma Symptom Checklist for Young Children (TSCYC).

### 5. Early Childhood Development

- International Development Early Learning Assessment (IDELA); Brief Toddler Socioemotional Assessment (BITSEA).

## Covid-19 disrupted 8-month data collection for 3rd and 4th cohorts



- PAP amendment (04/2020): 2nd follow-up results using data from Cohorts 1 & 2.

# Results



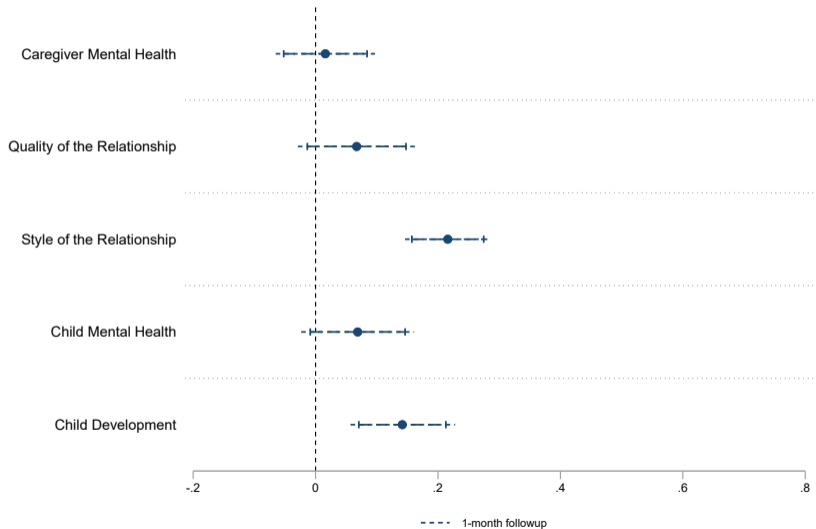
# Empirical Strategy

Exploits random assignment to treatment or control at the childcare center level

$$Y_{ic}^f = \gamma_0 + \gamma_1 \text{Treatment}_c + \gamma_2 Y_i^{bl} + \Gamma' X^{bl} + \phi_c + \epsilon_i$$

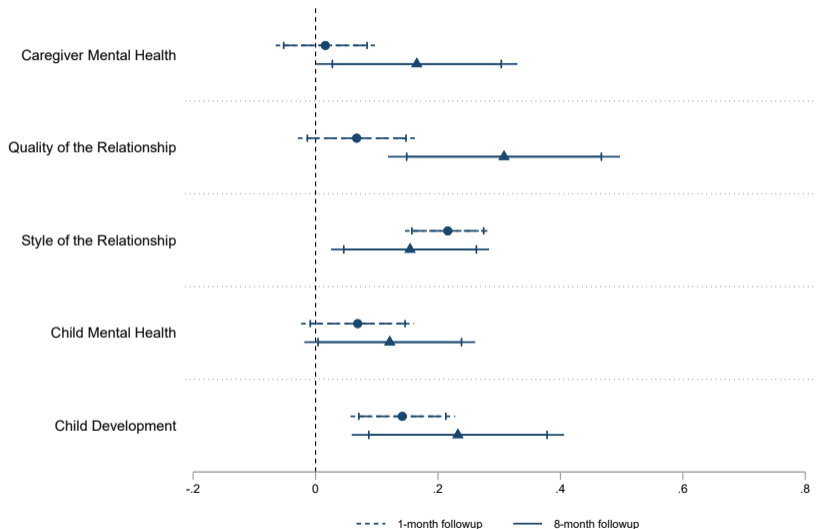
- $Y_{ic}^f$ : Outcome at follow-up 1 or 2
  - Composite Indices (Kling et al 2007) & individual scales and sub/scales
- $Y_{ic}^{bl}$ : Outcome at baseline
- $X^{BL}$ : Matrix of baseline controls (selected with LASSO procedure)
- $\phi_k$ : Cohort fixed effects
- $\epsilon_{ic}$ : Cluster-based standard errors (CR2) (Pustejovsky and Tipton 2018) & MHT q-values.

# Results: Summary Indices

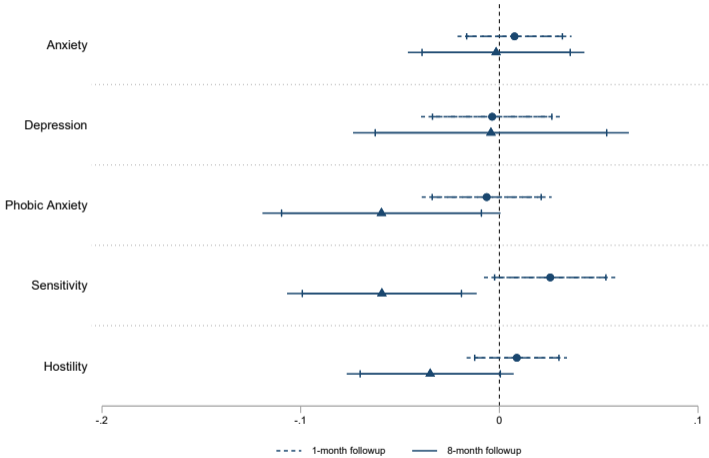




# Results: Summary Indices

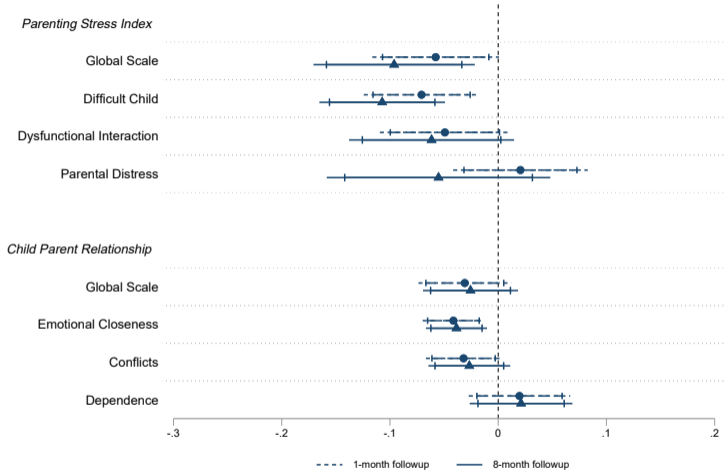


# Caregiver Mental Health (% at risk)



38% reduction in at-risk symptoms of phobic anxiety.

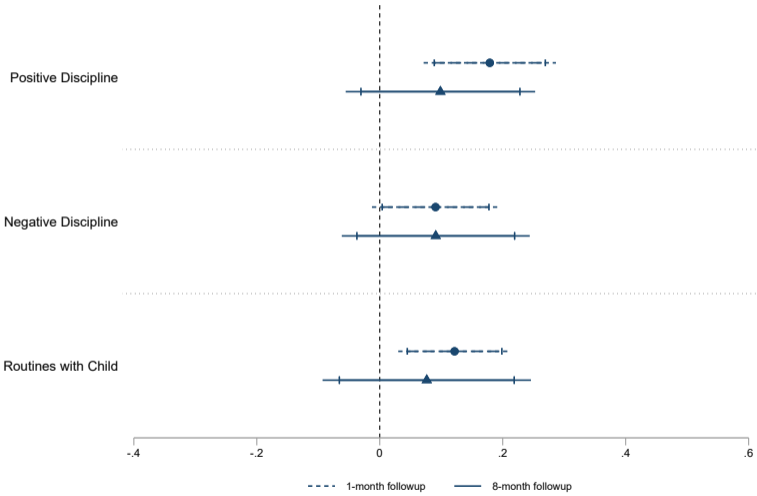
# Quality of the Child-Caregiver Relationship (% at risk)



32% reduction in at-risk parenting stress.

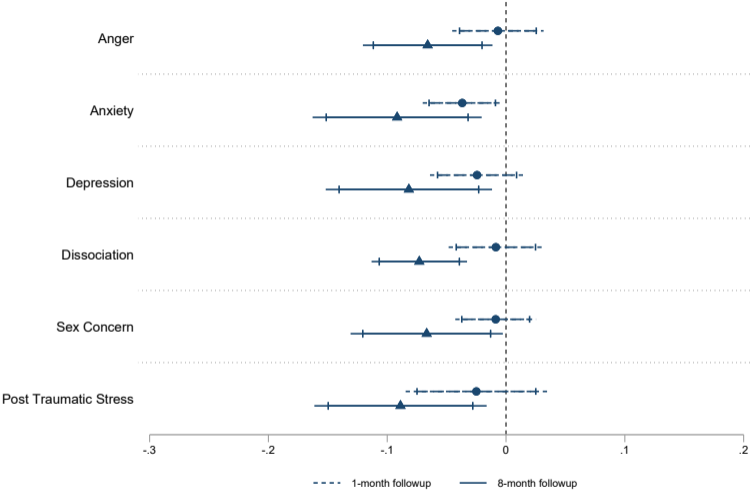
- Index
- ITT and % at Risk
- Balance % at risk

# Style of the Relationship (% at risk)



ITT

# Child Mental Health (% at risk)



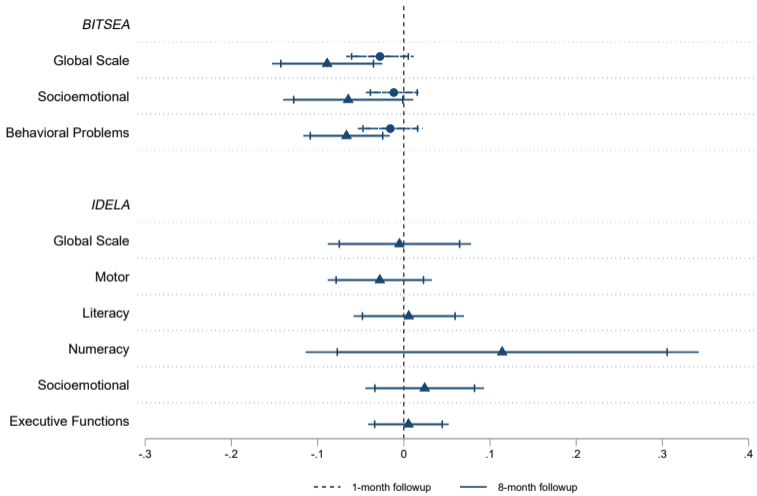
27 & 35% reductions in at-risk anger and anxiety.

[Index](#)

[ITT and % at Risk](#)

[Balance % at risk](#)

# Child Development (% at risk)



35% reduction in behavioral problems.

ITT and % at Risk

Balance % at risk

# Robustness, Heterogeneity, Cost-Effectiveness

- Robustness: random assignment to different cohorts within treated centers.
  - Alternative to randomization with a small # of clusters. Design Within Treatment Results
- Heterogeneity – largely exploratory b/c of power
  - Stronger impacts on caregivers with baseline MH problems; IDPs; younger children.
  - Smaller impacts on food-insecure households.
- Cost-effectiveness:
  - Cost per participant: US\$435 vs US\$600 of similar govt program.
  - Benefit to Cost: 2.45 - 12.5 under different scenarios (Bonet and Jaramillo 2024).

## Discussion

- Urgency of addressing mental health and early childhood development programs in conflict and humanitarian settings.
  - Tiny % of humanitarian funding dedicated to ECD.
  - Mental health is often considered a luxury in these settings.
- We demonstrate we can address both dimensions within a unified lens.
- Lessons not limited to this context:
  - Rising forced displacement worldwide & increasing refugee flows to the Global North
  - 970 million people globally were living with a mental health problem in 2019



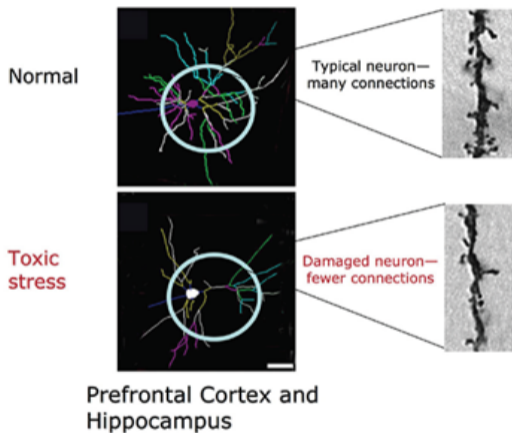
Thank you!



     
@semillasdeapego

# Appendix

## Persistent Stress Changes Brain Architecture



Source: Radley et al. (2004); Bock et al. (2005) [back](#)

**Table:** Main Dimensions and Objectives

Caregiver Mental Health	Early Childhood Development	Child-Parent Relationships	Parenting Teams
Understand the emotional toll of conflict and forced displacement.	Understand the processes of early childhood development and what children need.	Understand how nurturing child-parent relationships protect children from adversities.	Promote parenting teams and restore trust on existing ones.
Promote non-judgmental introspection.	Understand how children are affected by adversities.	Understand how adversities affect child-parent relationships.	Engage parenting teams into every-day child-rearing activities.
Promote sensory awareness and self-regulation.	Enhance the repertoire of developmentally appropriate parenting strategies.	Restore the capacity to provide sensitive and nurturing care.	Empower caregivers and create distance from gender-specific roles.
Recognize strengths and capacities for resilience.			

# Internal Validity

- Balance on ECDC characteristics [ECDC](#)
- Balance on individual and hh characteristics
  - Treatment vs Control [Child & Caregiver](#) [Household](#) [Violence](#) [Mental Health \(% at risk\)](#)
  - Joint Significance Test (F-test 2.139) [Selection](#)
- Attrition
  - $\approx$  between T & C across follow-ups (4 & 10%) [Attrition](#)
  - Not explained by baseline characteristics [Attrition Analysis](#)

[Design](#)

# Balance: ECDC

	(1)	(2)	(3)
	Control	Treatment	Diff (2)-(3)
<i>Panel A. Randomization variables</i>			
ECDC size	48.67 (22.417)	56.22 (56.835)	-7.56 [20.365]
Children age 1	0.17 (0.092)	0.18 (0.076)	-0.01 [0.040]
Children age 2	0.54 (0.125)	0.58 (0.100)	-0.04 [0.053]
Children age 3	0.30 (0.125)	0.25 (0.086)	0.05 [0.051]
Male children	0.50 (0.093)	0.48 (0.088)	0.02 [0.043]
SISBEN score	15.56 (2.158)	15.73 (2.668)	-0.17 [1.144]
Children's avg height	89.05 (1.473)	89.45 (1.746)	-0.40 [0.761]
Children's avg weight	13.06 (0.315)	13.07 (0.468)	-0.02 [0.188]
<i>Panel B. Other administrative information</i>			
Beneficiary is a victim of violence	0.00 (0.006)	0.02 (0.047)	-0.02 [0.016]
Beneficiary self-recognition of ethnic group	0.45 (0.483)	0.74 (0.989)	-0.30 [0.367]
Beneficiary belongs to Red de Unidos	0.00 (0.004)	0.07 (0.189)	-0.07 [0.063]
Mother is registered	0.91 (0.163)	0.89 (0.187)	0.02 [0.083]
Father is registered	0.52 (0.198)	0.56 (0.231)	-0.05 [0.101]
Observations	9	9	18

## Balance: Child & Caregiver

	(1) Total	(2) Control	(3) Treatment	(4) Diff (2)-(3)
<i>Panel A. Caregiver</i>				
Mother is caregiver (=1)	0.87 (0.335)	0.86 (0.351)	0.89 (0.319)	-0.03 [0.018]
Female (=1)	0.96 (0.199)	0.94 (0.236)	0.97 (0.157)	-0.03** [0.011]
Age	29.06 (9.259)	28.89 (9.015)	29.22 (9.484)	-0.33 [0.499]
Years of education	11.85 (3.673)	11.86 (3.552)	11.84 (3.785)	0.02 [0.198]
<i>Panel B. Child</i>				
Child Age in months	35.30 (8.376)	34.98 (8.231)	35.60 (8.503)	-0.62 [0.451]
Female (=1)	0.50 (0.500)	0.48 (0.500)	0.51 (0.500)	-0.03 [0.027]
Child birth order	1.90 (1.182)	1.88 (1.171)	1.91 (1.193)	-0.03 [0.064]
Observations	1376	662	714	1376

Internal Validity

## Balance: Household

	(1) Total	(2) Control	(3) Treatment	(4) Diff (2)-(3)
<i>Panel A. Household</i>				
Household size	5.00 (1.992)	4.98 (1.934)	5.02 (2.045)	-0.04 [0.107]
Number of children under 5yrs	1.29 (0.558)	1.26 (0.495)	1.32 (0.610)	-0.06 [0.030]
Two-parent hh (=1)	0.70 (0.457)	0.68 (0.468)	0.73 (0.446)	-0.05* [0.025]
Highest years of education	12.69 (3.314)	12.54 (3.315)	12.83 (3.309)	-0.29 [0.179]
Asset index	-1.64 (1.197)	-1.70 (1.189)	-1.59 (1.202)	-0.11 [0.064]
Hh income per capita	267.84 (629.664)	296.71 (837.952)	241.06 (334.884)	55.65 [34.896]
CCT beneficiary (=1)	0.43 (0.495)	0.42 (0.493)	0.43 (0.496)	-0.02 [0.027]
Head is employed (=1)	0.83 (0.379)	0.83 (0.380)	0.83 (0.378)	-0.00 [0.020]
Head has formal job (=1)	0.21 (0.406)	0.19 (0.393)	0.22 (0.417)	-0.03 [0.022]
Days hh head works in a month	23.75 (6.429)	23.58 (6.534)	23.92 (6.334)	-0.34 [0.388]
Observations	1376	662	714	1376



## Balance: Violence

	(1) Total	(2) Control	(3) Treatment	(4) Diff (2)-(3)
<i>Panel A. Violence</i>				
Victim of direct violence (=1)	0.82 (0.385)	0.80 (0.403)	0.84 (0.367)	-0.04* [0.021]
Number of violent events	2.36 (1.799)	2.23 (1.771)	2.48 (1.817)	-0.25** [0.097]
IDP (=1)	0.57 (0.495)	0.56 (0.496)	0.58 (0.494)	-0.02 [0.027]
<i>Panel B. Indices</i>				
Caregiver Mental Health	-0.08 (1.065)	0.00 (1.000)	-0.16 (1.118)	0.16** [0.057]
Quality of the Relationship	-0.04 (1.028)	0.00 (1.000)	-0.07 (1.054)	0.07 [0.055]
Style of the Relationship	-0.02 (0.978)	0.00 (1.000)	-0.03 (0.957)	0.03 [0.053]
Child Mental Health	-0.01 (0.995)	-0.00 (1.000)	-0.02 (0.990)	0.02 [0.054]
Early Childhood Development	-0.05 (1.069)	0.00 (1.000)	-0.09 (1.128)	0.09 [0.057]
Observations	1376	662	714	1376

## Balance: Mental Health (% at risk)

	(1) Total	(2) Control	(3) Treatment	(4) Diff (2)-(3)
Caregiver's Depression (=1)	0.27 (0.446)	0.23 (0.418)	0.32 (0.466)	-0.09* * * [0.024]
Caregiver's Anxiety (=1)	0.16 (0.367)	0.14 (0.351)	0.18 (0.380)	-0.03 [0.020]
Child's Depression (=1)	0.16 (0.369)	0.15 (0.357)	0.17 (0.379)	-0.02 [0.020]
Child's Anxiety (=1)	0.27 (0.446)	0.26 (0.440)	0.29 (0.452)	-0.02 [0.024]
Observations	1376	662	714	1376

Internal Validity

Table: Participation across waves

	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Total
<i>Panel A. Total</i>					
N	277	296	429	374	1376
Rate 1st followup	0.03	0.04	0.05	0.05	0.04
Rate 2nd followup	0.06	0.11			0.09
<i>Panel B. Treatment</i>					
N	133	151	237	193	714
Rate 1st followup	0.03	0.03	0.03	0.07	0.04
Rate 2nd followup	0.08	0.09			0.08
<i>Panel C. Control</i>					
N	144	145	192	181	662
Rate 1st followup	0.03	0.05	0.06	0.03	0.04
Rate 2nd followup	0.05	0.13			0.09

# Attrition

	1-month		8-month	
	(1)	(2)	(3)	(4)
Treatment	-0.003 [0.012]	-0.004 [0.012]	-0.007 [0.025]	-0.008 [0.025]
Child age in months	0.001 [0.001]	0.001 [0.001]	0.004* [0.002]	0.004 [0.002]
Female (=1)	0.000 [0.011]	0.001 [0.011]	0.012 [0.024]	0.012 [0.023]
Child birth order	-0.006 [0.007]	-0.006 [0.007]	0.021 [0.016]	0.021 [0.016]
Age	0.000 [0.001]	-0.000 [0.001]	-0.002 [0.002]	-0.002 [0.002]
Mother is caregiver (=1)	0.023 [0.022]	0.022 [0.022]	0.006 [0.043]	0.002 [0.043]
Household size	-0.003 [0.003]	-0.003 [0.003]	-0.014* [0.007]	-0.014* [0.007]
Number of children under 5yrs	0.006 [0.011]	0.007 [0.011]	-0.006 [0.020]	-0.004 [0.020]
Two-parent hh (=1)	-0.032* [0.014]	-0.032* [0.014]	-0.025 [0.031]	-0.027 [0.031]
Highest years of education	-0.005* [0.002]	-0.005* [0.002]	-0.010 [0.005]	-0.009 [0.005]
CCT beneficiary (=1)	-0.006 [0.013]	-0.005 [0.013]	-0.048 [0.028]	-0.045 [0.028]
Head is employed (=1)	0.024 [0.014]	0.023 [0.014]	0.012 [0.034]	0.008 [0.034]
Asset index	0.013* [0.006]	0.012* [0.006]	0.010 [0.012]	0.010 [0.012]
Number of violent events	-0.007 [0.004]	-0.007 [0.004]	0.003 [0.008]	0.003 [0.008]
IDP (=1)	0.013 [0.013]	0.013 [0.014]	-0.038 [0.028]	-0.038 [0.028]
Caregiver Mental Health	-0.007 [0.007]	-0.007 [0.007]	-0.023 [0.016]	-0.023 [0.016]
Quality of the Relationship	-0.002 [0.005]	-0.002 [0.005]	0.011 [0.013]	0.012 [0.013]
Style of the Relationship	-0.002 [0.007]	-0.001 [0.007]	0.017 [0.015]	0.019 [0.015]
Child Mental Health	0.006 [0.006]	0.006 [0.006]	0.034* [0.014]	0.032* [0.015]
Early Childhood Development	-0.008 [0.007]	-0.008 [0.007]	-0.001 [0.014]	-0.001 [0.014]
Cohort=2		0.005 [0.016]		0.036 [0.024]
Cohort=3		0.011 [0.016]		
Cohort=4		0.013 [0.015]		
Constant	0.088 [0.056]	0.084 [0.057]	0.157 [0.130]	0.149 [0.129]
Observations	1372	1372	572	572
R-squared	0.025	0.025	0.055	0.058
F-test	1.279	1.145	1.390	1.413
Cohort Fixed Effect	No	Yes	No	Yes

Table: Baseline characteristics

	Mean	SD	Min	Max
<i>Panel A. Caregiver</i>				
Female (=1)	0.96	0.20	0.00	1.00
Age	29.06	9.26	16.00	78.00
Caregiver is the mother (=1)	0.87	0.33	0.00	1.00
Years of education	11.85	3.67	0.00	22.00
Formal worker (=1)	0.13	0.34	0.00	1.00
<i>Panel B. Household</i>				
Asset index	-1.64	1.20	-4.90	2.87
<i>Panel C. Child</i>				
Female (=1)	0.50	0.50	0.00	1.00
Child Age	2.51	0.71	1.00	5.00
<i>Panel D. Conflict</i>				
Victim of direct violence (=1)	0.82	0.39	0.00	1.00
IDP (=1)	0.57	0.49	0.00	1.00
<i>Panel E. Mental Health (% at risk)</i>				
Caregiver's Anxiety (=1)	0.16	0.37	0.00	1.00
Caregiver's Depression (=1)	0.27	0.45	0.00	1.00
Child's Anxiety (=1)	0.27	0.45	0.00	1.00
Child's Depression (=1)	0.16	0.37	0.00	1.00

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# Psychometrics – Composite Indices

Table: Psychometrics – Composite Indices

	Cronbach's alpha	RMSEA
Caregiver's Mental Health	0.952	0.059
Quality of the Relationship	0.901	0.059
Style of the Relationship	0.476	0.077
Child Mental Health	0.921	0.054
Child Development	0.739	0.056

- $\alpha > 0.70$

Data

# Cronbach's Alpha

Table: Cronbach's Alpha

	SCL	PSI	CPR	Interactions	TSCYC	BITSEA	IDELA
All cohorts							
All waves	0.95		0.89	0.74	0.58	0.94	0.77
BL	0.95	0.89	0.57	0.94	0.74		
F1	0.95	0.9	0.74	0.59	0.95	0.79	
Cohorts 1 2							
All waves	0.95	0.89	0.69	0.56	0.93	0.74	
BL	0.95	0.89		0.56	0.93	0.74	
F1	0.95	0.9	0.68	0.63	0.95	0.78	
F2	0.95	0.9	0.7	0.59	0.93	0.77	0.83
Cohorts 3 4							
All waves	0.95	0.89	0.76	0.58	0.94	0.78	
BL	0.95	0.88	0.58	0.94	0.74		
F1	0.95	0.9	0.76	0.55	0.94	0.8	

- $\alpha > 0.70$

# Confirmatory Factor Analysis

Table: Confirmatory Factor Analysis

	Goodness of fit		
	RMSEA	CFI	TLI
<i>SCL</i>			
Anxiety	0.05	0.97	0.96
Depression	0.06	0.94	0.92
Phobic Anxiety	0.09	0.94	0.91
Hostility	0.11	0.93	0.89
Sensitivity	0.06	0.95	0.94
Global Scale	0.05	0.87	0.86
<i>PSI</i>			
Difficult child	0.07	0.88	0.86
Child parent dysfunctional interactions	0.06	0.92	0.91
Parental distress	0.08	0.88	0.85
Global Scale	0.05	0.85	0.84
<i>TSCYC</i>			
Anger	0.04	0.98	0.98
Anxiety	0.07	0.88	0.84
Depression	0.05	0.92	0.89
Dissociation	0.08	0.91	0.88
Arousal	0.07	0.86	0.82
Avoidance	0.04	0.97	0.96
Intrusion	0.05	0.96	0.95
Sex concern	0.07	0.89	0.85
Global Scale	0.04	0.80	0.79
<i>BITSEA</i>			
Competence Score	0.04	0.89	0.87
Problem score	0.05	0.71	0.69
Global Scale	0.04	0.67	0.65

- $RMSEA \leq 0.05$ ;  $TLI \geq 0.95$ ;  $CFI \geq 0.95$



## Baseline: % at Risk Caregiver Mental Health

	(1)	(2)	(3)	(4)
	Total	Control	Treatment	Diff (2)-(3)
Depression above risk threshold	0.27 (0.446)	0.23 (0.418)	0.32 (0.466)	-0.09* * * [0.024]
Anxiety above risk threshold	0.16 (0.367)	0.14 (0.351)	0.18 (0.380)	-0.03 [0.020]
Phobic anxiety above risk threshold	0.19 (0.390)	0.16 (0.363)	0.22 (0.413)	-0.06** [0.021]
Hostility above risk threshold	0.15 (0.361)	0.14 (0.349)	0.17 (0.372)	-0.02 [0.019]
Sensitivity above risk threshold	0.19 (0.393)	0.16 (0.370)	0.22 (0.412)	-0.05* [0.021]
Observations	1376	662	714	1376
Joint F-statistic	2.383			

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## Baseline: % at Risk Quality of the Relationship

	(1)	(2)	(3)	(4)
	Total	Control	Treatment	Diff (2)-(3)
<i>PSI</i>				
Global Scale above risk threshold	0.33 (0.469)	0.31 (0.463)	0.34 (0.475)	-0.03 [0.025]
Difficult Child above risk threshold	0.30 (0.459)	0.29 (0.453)	0.32 (0.465)	-0.03 [0.025]
Parent-Child Interaction above risk	0.24 (0.428)	0.24 (0.427)	0.25 (0.430)	-0.01 [0.023]
Parental Distress above risk threshold	0.42 (0.493)	0.40 (0.491)	0.43 (0.495)	-0.03 [0.027]
Difficult Child above risk threshold	0.30 (0.459)	0.29 (0.453)	0.32 (0.465)	-0.03 [0.025]
Observations	1376	662	714	1376
Joint F-statistic	1.852			

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## Baseline: % at Risk Style of the Relationship

	(1)	(2)	(3)	(4)
	Total	Control	Treatment	Diff (2)-(3)
Positive Discipline above risk threshold	0.15 (0.358)	0.15 (0.361)	0.15 (0.356)	0.01 [0.019]
Negative Discipline above risk threshold	0.17 (0.376)	0.16 (0.371)	0.18 (0.381)	-0.01 [0.020]
Routines with Child above risk threshold	0.19 (0.394)	0.19 (0.389)	0.20 (0.399)	-0.01 [0.021]
Observations	1376	662	714	1376
Joint F-statistic	2.079			

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## Baseline: % at Child Mental Health

	(1)	(2)	(3)	(4)
	Total	Control	Treatment	Diff (2)-(3)
Anger above risk threshold	0.23 (0.422)	0.22 (0.416)	0.24 (0.427)	-0.02 [0.023]
Anxiety above risk threshold	0.27 (0.446)	0.26 (0.440)	0.29 (0.452)	-0.02 [0.024]
Depression above risk threshold	0.16 (0.369)	0.15 (0.357)	0.17 (0.379)	-0.02 [0.020]
Dissociation above risk threshold	0.19 (0.391)	0.17 (0.373)	0.21 (0.407)	-0.04* [0.021]
Sex concern above risk threshold	0.24 (0.428)	0.23 (0.423)	0.25 (0.433)	-0.02 [0.023]
PTS total above risk threshold	0.26 (0.440)	0.24 (0.430)	0.28 (0.449)	-0.04 [0.024]
Observations	1376	662	714	1376
Joint F-statistic	1.948			

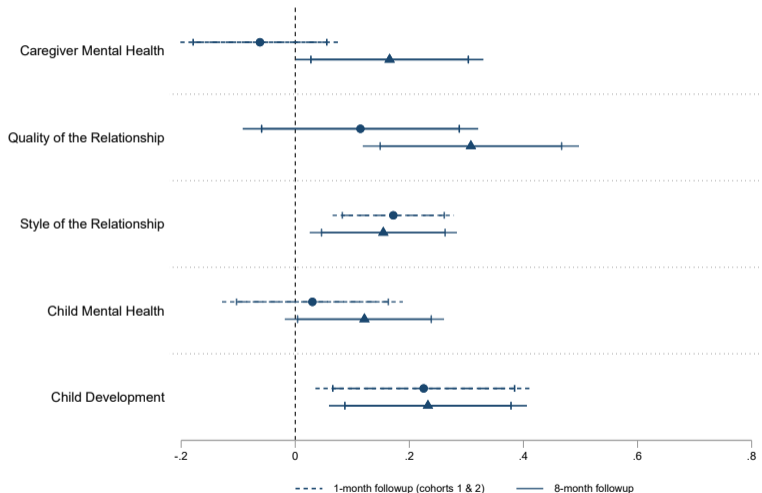
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## Baseline: % at Child Development

	(1)	(2)	(3)	(4)
	Total	Control	Treatment	Diff (2)-(3)
<i>BITSEA</i>				
Global Scale above risk threshold	0.19 (0.389)	0.18 (0.382)	0.19 (0.395)	-0.02 [0.021]
Socioemotional above risk threshold	0.17 (0.377)	0.17 (0.378)	0.17 (0.377)	0.00 [0.020]
Behavioral Problems above risk threshold	0.17 (0.379)	0.17 (0.373)	0.18 (0.385)	-0.02 [0.020]
Observations	1376	662	714	1376
Joint F-statistic	2.096			

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# Main Results : 1-month and 8-month followup (C1&C2)



## Results: Percentil Change at Follow-up 2

With respect to the control arm

	8 month follow-up
Caregiver Mental Health	8.69
Quality of the Relationship	16.11
Style of the Relationship	7.42
Chid Mental Health	5.6
Child Development	11.1

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## Caregiver Mental Health - Index

	ITT			ATT
	(1)	(2)	(3)	(4)
<i>Panel A. 1-month followup</i>				
Caregiver Mental Health	0.020 [0.046] (0.678)	0.026 [0.045] (0.518)	0.016 [0.041] (0.350)	0.027 [0.063] (0.286)
Observations	1317	1317	1316	1316
<i>Panel B. 8-month followup</i>				
Caregiver Mental Health	0.192** [0.077] (0.029)	0.199** [0.077] (0.024)	0.165** [0.084] (0.033)	0.316** [0.153] (0.020)
Observations	522	522	522	522
Lagged Dependent Variable	Yes	Yes	Yes	Yes
Cohort Fixed Effects	No	Yes	Yes	Yes
Controls	No	No	Yes	Yes



## Caregiver Mental Health - Scales

	ITT		% at risk	
	F1	F2	F1	F2
Anxiety	-0.007 [0.040]	0.081 [0.082]	0.008 [0.015]	-0.002 [0.023]
Depression	0.015 [0.051]	0.015 [0.089]	-0.004 [0.018]	-0.004 [0.035]
Phobic Anxiety	0.003 [0.043]	0.152* [0.087]	-0.006 [0.017]	-0.059* [0.031]
Sensitivity	-0.032 [0.054]	0.159* [0.087]	0.026 [0.017]	-0.059** [0.024]
Hostility	0.020 [0.047]	0.181** [0.071]	0.009 [0.013]	-0.035 [0.021]
Observations	1316	522	1317	522
Controls	Yes	Yes	Yes	Yes
Cohort Fixed Effects	Yes	Yes	Yes	Yes

## Child-Caregiver Relationships - Index

	ITT			ATT
	(1)	(2)	(3)	(4)
<i>Panel A. 1-month followup</i>				
Quality of the Relationship	0.070 [0.065] (0.393)	0.074 [0.066] (0.360)	0.067 [0.049] (0.184)	0.111 [0.075] (0.154)
Style of the Relationship	0.219*** [0.049] (0.001)	0.221*** [0.043] (0.001)	0.216*** [0.036] (0.001)	0.359*** [0.055] (0.001)
Observations	1317	1317	1316	1316
<i>Panel B. 8-month followup</i>				
Quality of the Relationship	0.260*** [0.095] (0.032)	0.256*** [0.096] (0.026)	0.308*** [0.097] (0.008)	0.592*** [0.174] (0.004)
Style of the Relationship	0.159** [0.081] (0.037)	0.165** [0.074] (0.026)	0.154** [0.066] (0.027)	0.299** [0.117] (0.015)
Observations	522	522	522	522
Lagged Dependent Variable	Yes	Yes	Yes	Yes
Cohort Fixed Effects	No	Yes	Yes	Yes
Controls	No	No	Yes	Yes



# Quality of the Relationship

	ITT		% at risk	
	F1	F2	F1	F2
<i>Panel. A Parenting Stress Index</i>				
Global Scale	0.014 [0.069]	0.215* [0.116]	-0.058* [0.030]	-0.096** [0.038]
Difficult Child	0.089 [0.061]	0.284*** [0.104]	-0.071*** [0.027]	-0.107*** [0.030]
Parent-Child difficult inter.	0.060 [0.071]	0.152 [0.095]	-0.049 [0.031]	-0.062 [0.039]
Parental distress	-0.106 [0.070]	0.088 [0.108]	0.021 [0.032]	-0.055 [0.053]
<i>Panel. B Child-Parent Relationship</i>				
Global Scale	0.069 [0.050]	0.048 [0.050]	-0.031 [0.022]	-0.026 [0.022]
Emotional closeness	0.104*** [0.037]	0.093** [0.037]	-0.041*** [0.014]	-0.039*** [0.014]
Conflicts	0.019 [0.054]	0.001 [0.051]	-0.032* [0.018]	-0.027 [0.019]
Dependence	0.009 [0.057]	0.004 [0.058]	0.020 [0.024]	0.021 [0.024]
Observations	1314	1316	1314	1316
Controls	Yes	Yes	Yes	Yes
Cohort Fixed Effects	Yes	Yes	Yes	Yes

## Early Childhood Development - Index

	ITT			ATT
	(1)	(2)	(3)	(4)
<i>Panel A. 1-month followup</i>				
Child Mental Health	0.026 [0.056] (0.678)	0.031 [0.052] (0.518)	0.069 [0.047] (0.147)	0.115 [0.074] (0.117)
Observations	1317	1317	1316	1316
Child Development	0.131* [0.074] (0.179)	0.137** [0.067] (0.090)	0.142*** [0.043] (0.003)	0.236*** [0.070] (0.002)
Observations	1315	1315	1314	1314
<i>Panel B. 8-month followup</i>				
Child Mental Health	0.116* [0.062] (0.029)	0.122** [0.060] (0.024)	0.121* [0.071] (0.037)	0.232* [0.122] (0.024)
Observations	522	522	522	522
Child Development	0.262** [0.109] (0.029)	0.263** [0.107] (0.024)	0.233*** [0.089] (0.018)	0.456*** [0.162] (0.011)
Observations	504	504	504	504
Lagged Dependent Variable	Yes	Yes	Yes	Yes
Cohort Fixed Effects	No	Yes	Yes	Yes
Controls	No	No	Yes	Yes

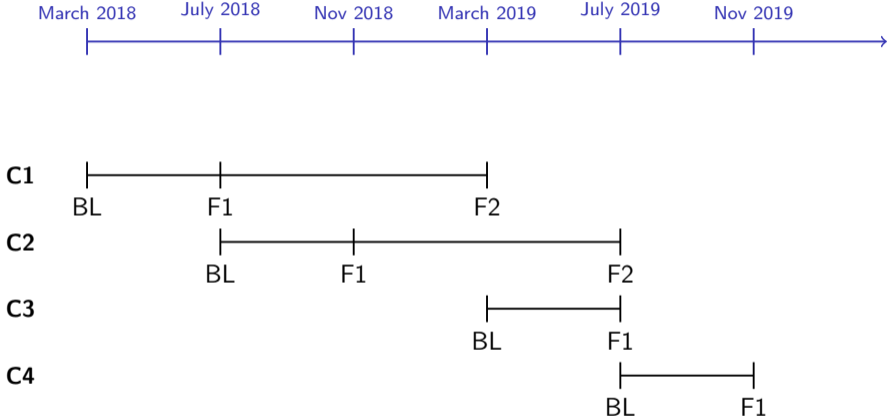
## Child Mental Health - Scales

	ITT		% at risk	
	F1	F2	F1	F2
Anger	0.055 [0.049]	0.121* [0.070]	-0.007 [0.020]	-0.066** [0.028]
Anxiety	0.106** [0.042]	0.077 [0.094]	-0.037** [0.017]	-0.092** [0.036]
Depression	0.050 [0.062]	0.220** [0.089]	-0.024 [0.020]	-0.082** [0.036]
Dissociation	0.004 [0.065]	0.060 [0.064]	-0.009 [0.020]	-0.073*** [0.021]
Sex Concern	-0.005 [0.048]	0.122* [0.065]	-0.009 [0.017]	-0.067** [0.033]
Post Traumatic Stress	0.018 [0.065]	0.126 [0.094]	-0.025 [0.030]	-0.089** [0.037]
Observations	1316	522	1317	522
Controls	Yes	Yes	Yes	Yes
Cohort Fixed Effects	Yes	Yes	Yes	Yes

# Child Development - Scale and Assessment

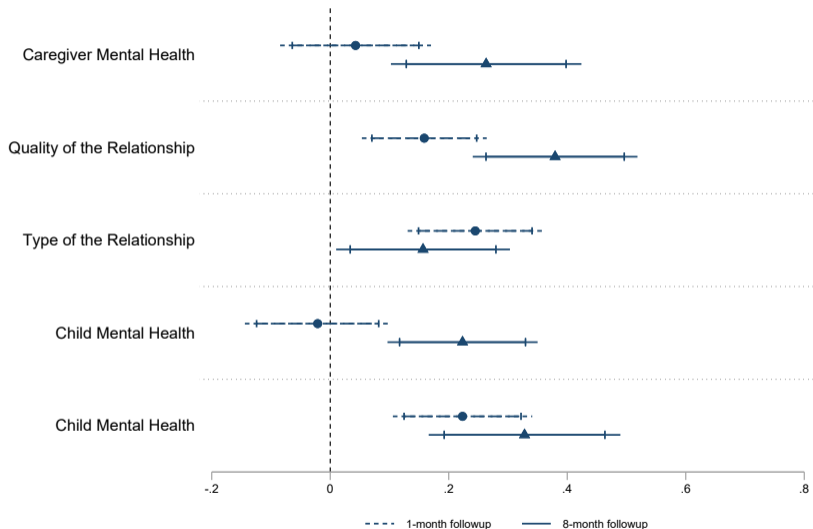
	ITT		% at risk	
	F1	F2	F1	F2
<i>Panel. A BITSEA</i>	0.144*** [0.043]	-0.028 [0.020]	0.227** [0.101]	-0.089*** [0.033]
Socioemotional	0.120** [0.047]	0.039 [0.108]	-0.012 [0.017]	-0.064* [0.038]
Behavioural problems	0.068 [0.054]	0.250*** [0.081]	-0.016 [0.019]	-0.066*** [0.026]
<i>Panel. B IDELA</i>		-0.078 [0.125]		-0.005 [0.042]
Motor		0.176 [0.125]		-0.028 [0.031]
Literacy		-0.002 [0.074]		0.006 [0.033]
Numeracy		0.114 [0.116]		0.018 [0.035]
Socioemotional		0.218 [0.263]		0.024 [0.035]
Executive functions		0.295* [0.171]		0.005 [0.024]
Observations	1376	506	1376	506
Controls	Yes	Yes	Yes	Yes
Cohort Fixed Effects	Yes	Yes	Yes	Yes

# Within-treatment variation: exploits random assignment to cohorts





# Results: Within Treatment



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# Heterogeneity : Violence

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# Heterogeneity : IDP

	1-month followup			8-month followup		
	Non-IDP	IDP	<i>pvalue</i>	Non-IDP	IDP	<i>pvalue</i>
Maternal Mental Health	0.055	0.048	0.944	0.103	0.213*	0.571
Observations	[0.082] 564	[0.072] 753		[0.171] 201	[0.120] 321	
Quality of the Relationship	0.072	0.055	0.877	0.432**	0.250**	0.245
Observations	[0.090] 564	[0.068] 754		[0.167] 201	[0.113] 321	
Style of the Relationship	0.313***	0.195***	0.445	0.110	0.162	0.762
Observations	[0.093] 564	[0.071] 753		[0.154] 201	[0.120] 321	
Child Mental Health	0.190**	0.056	0.146	0.137	0.220**	0.650
Observations	[0.090] 563	[0.077] 752		[0.159] 199	[0.108] 319	
Child Development	0.121	0.293***	0.192	0.474***	0.214*	0.188
Observations	[0.103] 414	[0.088] 523		[0.165] 195	[0.115] 309	

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# Heterogeneity : Maternal Mental Health

	1-month followup			8-month followup		
	Not At-Risk	At-Risk	<i>pvalue</i>	Not At-Risk	At-Risk	<i>pvalue</i>
Maternal Mental Health	-0.325*** [0.083]	0.468*** [0.095]	0.000	-0.167 [0.159]	0.677*** [0.161]	0.000
Observations	658	659		252	270	
Quality of the Relationship	0.143 [0.128]	0.038 [0.081]	0.410	0.007 [0.210]	0.453*** [0.138]	0.015
Observations	658	660		252	270	
Style of the Relationship	0.084 [0.123]	0.296*** [0.090]	0.149	-0.173 [0.208]	0.114 [0.142]	0.144
Observations	658	659		252	270	
Child Mental Health	0.002 [0.109]	0.115 [0.103]	0.430	-0.122 [0.176]	0.483*** [0.144]	0.006
Observations	657	658		248	270	
Child Development	0.019 [0.147]	0.236** [0.104]	0.148	0.198 [0.231]	0.293** [0.135]	0.687
Observations	483	454		240	264	

# Heterogeneity : Asset Index Above or Below the Median

	1-month followup			8-month followup		
	Above median	Below median	<i>pvalue</i>	Above median	Below median	<i>pvalue</i>
Maternal Mental Health	0.011	-0.004	0.908	0.495**	-0.122	0.019
	[0.112]	[0.124]		[0.201]	[0.220]	
Observations	659	658		260	262	
Quality of the Relationship	0.031	0.022	0.960	0.317	0.308	0.970
	[0.118]	[0.119]		[0.196]	[0.199]	
Observations	659	659		260	262	
Style of the Relationship	0.156	0.136	0.902	0.261	0.118	0.610
	[0.121]	[0.125]		[0.199]	[0.205]	
Observations	659	658		260	262	
Child Mental Health	0.114	-0.073	0.380	0.236	0.074	0.485
	[0.111]	[0.140]		[0.169]	[0.219]	
Observations	658	657		259	259	
Child Development	0.211	0.085	0.423	0.123	0.393*	0.210
	[0.145]	[0.143]		[0.209]	[0.209]	
Observations	467	470		256	248	

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# Heterogeneity : Child Age

	1-month followup			8-month followup		
	Age ( $\leq 3$ )	Age ( $> 3$ )	<i>pvalue</i>	Age ( $\leq 3$ )	Age ( $> 3$ )	<i>pvalue</i>
Maternal Mental Health	0.114*	-0.050	0.090	0.118	0.229	0.577
Observations	[0.064] 775	[0.077] 542	[0.112]	330	[0.145] 192	
Quality of the Relationship	0.051	0.033	0.865	0.347***	0.099	0.174
Observations	[0.062] 776	[0.080] 542		[0.104] 330	[0.139] 192	
Style of the Relationship	0.237***	0.247***	0.911	0.146	0.086	0.484
Observations	[0.066] 775	[0.080] 542		[0.104] 330	[0.148] 192	
Child Mental Health	0.150**	0.005	0.101	0.255**	-0.049	0.068
Observations	[0.066] 774	[0.086] 541		[0.102] 329	[0.131] 189	
Child Development	0.126	0.282***	0.305	0.309***	0.087	0.043
Observations	[0.078] 561	[0.095] 376		[0.109] 321	[0.146] 183	

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# Heterogeneity : Child sex

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