Caregiver's parenting beliefs, practices, and child developmental outcomes: Evidence from randomized controlled trials in rural China

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Caregiver's parenting beliefs, practices, and child developmental outcomes: Evidence from randomized controlled trials in rural China

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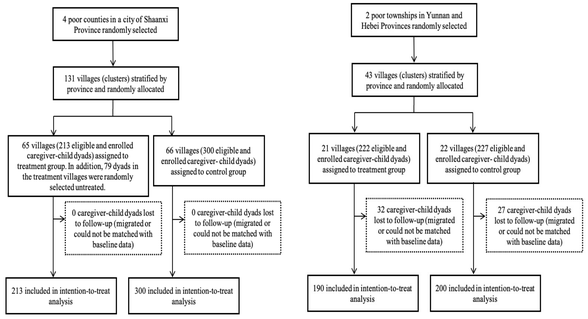
Introduction

- The first three years of life, due to high brain plasticity, are critical for child cognitive and social-emotional development.
- Early childhood interventions based on psychosocial stimulation are effective. There are mechanisms by which the interventions have short-, medium-, or long-run impacts.
- In rural China, the levels of early childhood development (ECD) and parenting practices are low.
- Small scales of Interventions that aim to improve child development have been conducted in rural China. All the interventions are found to have positive impact on ECD.

Objectives

- The overall goal is to Investigate the potential mechanisms through which an early childhood intervention affects child development in rural China. To achieve this goal, we have several objectives:
  - Estimate the effect size of the parental training/psychosocial stimulation intervention conducted in rural China on developmental outcomes of the children in the treatment group (compared to those in the control group), using intention-to-treat (ITT) analysis and dose-response analysis.
  - Examine the impact of the intervention on caregivers' parenting beliefs and parenting practices.
  - Investigate the mediating role played by caregivers' parenting beliefs and parenting practices, using a standard mediation analysis.
  - Examine the associations between caregivers' beliefs and parenting practices and identify whether caregivers' beliefs influence parenting practices and, thus, improve child developmental outcomes by adopting a multiple-step multiple mediation analysis.

Randomized Controlled Trials



(a). Trial profile of Trial 1

(b). Trial profile of Trial 2

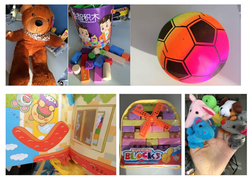
Methods

- **Sampling**
  - Trial 1
    - 1 province: Shaanxi
    - 131 villages
    - 513 babies aged 18-30 months
  - Trial 2
    - 2 provinces: Yunnan, Hebei
    - 43 villages
    - 449 babies aged 6-18 months

Data collection

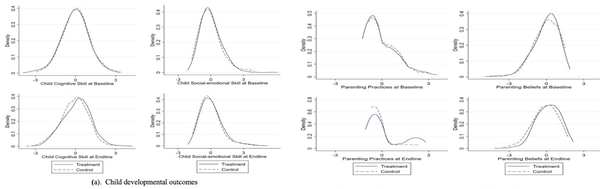
- Child cognitive development
  - Bayley Scales of Infant and Toddler Development (BSID-I) for Trial 1
  - The 3rd edition of BSID for Trial 2
- Child social-emotional development
  - Ages & Stages Questionnaire: Social-Emotional (ASQ:SE)
- Caregiver's parenting beliefs
  - Seven-item questionnaire including the beliefs of caregivers about the importance of interactions between the caregiver and child as well as each caregiver's perception of and confidence in the interactive parenting practices.
- Caregiver's parenting practices
  - Read books to the child
  - Tell the child stories
  - Sing the child songs
  - Play with child using toys
- Demographic characteristics
  - Child: gender, age, born prematurely
  - Household: whether the mother is the primary caregiver, age and educational level of the primary caregiver, whether the family received social security support

- **Intervention**
  - Curriculum
  - Loosely based on the Jamaican home visiting model
  - Adapted by child development psychologists in China
  - Delivered by the local Family Planning Commission
  - 6 months weekly age-appropriate sessions by home visiting for Trial 1
  - 12 months biweekly home visiting for Trial 2



Results

- Impacts of the interventions on child development, caregiver's parenting practices and beliefs



(a). Child developmental outcomes (b). Parenting Practices (c). Parenting Beliefs

- Mechanism of caregiver's parenting practices and beliefs

	Parenting beliefs factor z-score	Parenting practices factor z-score	Standardized cognitive score
	(1)	(2)	(3)
Treatment	0.307***	0.429***	0.139**
(1=yes)	(0.071)	(0.075)	(0.065)
Parenting beliefs factor z-score		0.185***	0.067**
		(0.029)	(0.026)
Parenting practices factor z-score			0.099***
			(0.031)
Controls	Yes	Yes	Yes
Adjusted R^2	0.041	0.170	0.203

- Indirect effects of caregiver's parenting practices and beliefs

	Effect	Bootstrap S.E.	95% CI (Percentile)	95% CI (BC)	95% CI (BCa)
	(1)	(2)	(3)	(4)	(5)
Total indirect effect	0.068***	0.019	(0.033, 0.107)	(0.033, 0.107)	(0.033, 0.108)
Indirect effect through primary caregiver's beliefs	0.020**	0.009	(0.004, 0.039)	(0.005, 0.042)	(0.005, 0.042)
Indirect effect through primary caregiver's practices	0.042***	0.014	(0.017, 0.071)	(0.017, 0.072)	(0.017, 0.072)
Indirect effect through primary caregiver's beliefs and practices in serial	0.006**	0.003	(0.002, 0.012)	(0.002, 0.013)	(0.002, 0.013)
Direct effect	0.139**	0.067	(0.006, 0.266)	(0.011, 0.267)	(0.008, 0.267)
Total effect	0.207***	0.069	(0.072. 0.344)	(0.074, 0.344)	(0.077, 0.344)

Conclusions

- No matter which implement strategy was used (i.e., either one that intervened through 6-month long weekly home visits or 12-month long biweekly home visits), the home visiting parenting intervention programs improved the cognitive development of children at the end of the intervention by 0.212 SD.
- A significant improvement (0.483 SD) in the parenting practices of the primary caregivers as well as higher levels of the parenting beliefs of the primary caregivers (an increase of 0.301 SD) can be observed.
- There are three possible mechanisms through which the parenting interventions affected child cognitive development: changing the parenting beliefs of the primary caregivers, shifting the parenting practices of the primary caregivers, and improving the primary caregivers' parenting beliefs, thus fostering better parenting practices.