

Evaluating the impact of high-quality infant-toddler centers and preschools

The Reggio Children Approach

Reggio Team

November 8, 2016

Research Question

Does high quality preschool (age 0-6) improve later life outcomes?

- High Quality Reggio Children Approach (RCA):
 - ▶ Innovative pedagogical approach
 - ▶ Scalable
 - ▶ Publicly funded
- Outcomes:
 - ▶ Socio-emotional skills
 - ▶ Physical and mental health
 - ▶ Education and labor market
- Basic approach:
 - ▶ Compare outcomes of RCA educated individuals with **others**
 - ▶ **Others** includes those who didn't attend pre-schools and those who attended alternatives

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Early Childhood Education in Italy

- 4 institutional types
 - ▶ Municipal
 - ▶ State
 - ▶ Religious
 - ▶ Private
- 2 age groups:
 - ▶ Age 0-3: 13% attendance rate (*asilo nido*)
 - ▶ Age 3-6: 94% attendance rate (*scuola materna*)

Reggio Children Approach: **municipal** infant-toddler centers and preschools (**age 0-6**) in **Reggio Emilia**

The Reggio Children Approach (RCA)

- Educational philosophy started by **Loris Malaguzzi** after World War II.
- First preschool 1963; first infant-toddler center 1972
- Famous and replicated all over the world
- Salient features:
 - ▶ Child-centered philosophy: child guides the learning
 - ▶ Co-teaching
 - ▶ Atelieristas and cooks are also teachers
 - ▶ Family and Community are integrated in learning process
 - ▶ Longer daily hours
 - ▶ Children as a group direct the learning process
 - ▶ Teacher and staff continuously training

Research Design - Data Structure

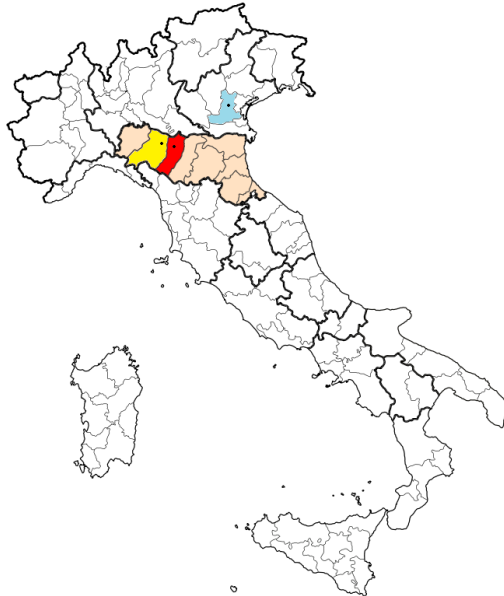
- **3 cities - Reggio, Parma and Padova**

- ▶ Similar geographic location
- ▶ Parma more similar to Reggio in terms of culture and history

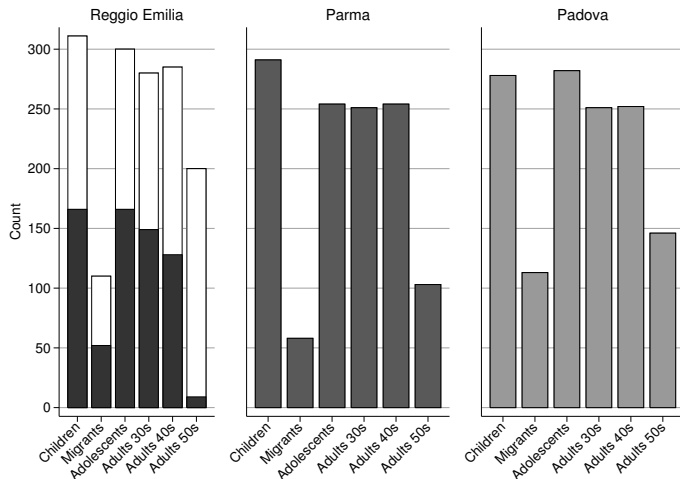
- **5 cohorts - Ages 6, 17, 30, 40 & 50**

- ▶ Age 6: Children entering elementary school
- ▶ Age 17: Adolescents reaching maturity
- ▶ Age 31-32: Adults at first life milestone
- ▶ Age 40-41: Adults at second milestone. First to get access to ITC
- ▶ Age 53-58: Adults born before RCA was implemented

Reggio Emilia, Parma, Padova

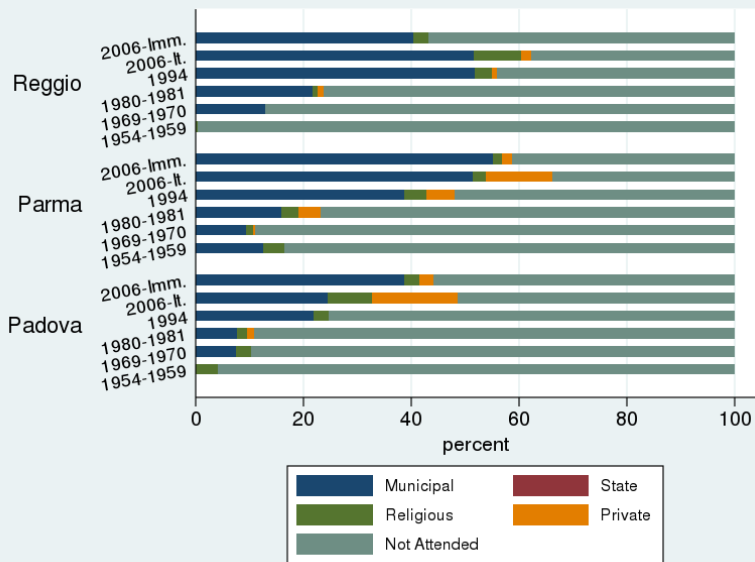


Sample by City and Cohort

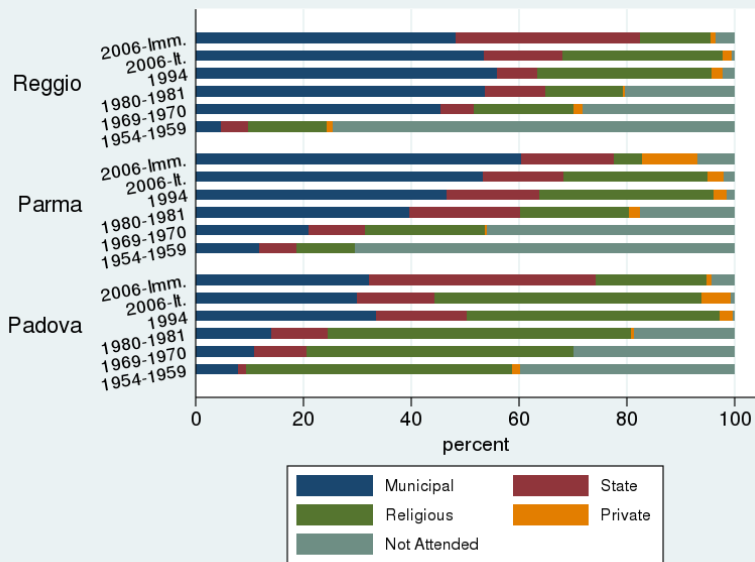


⁰ Note: Number of individuals by cohort and city. In Reggio Emilia we differentiate between those who attended municipal preschool (black bars) and those who did not (white bars).

Attendance Infant-toddler Centers (0-3)



Attendance Preschools (3-6)



Research Design -Treatment

Definition of Treatment

- **Treated:** Those who attended Municipal schools in Reggio
- **Control:** Those who didn't attend Municipal schools in Reggio
 - ▶ Attended non-Municipal schools in Reggio
 - ▶ Attended any school in Parma or Padova
 - ▶ Attended no preschool in any city

Potential Issues:

- Diffusion of Reggio Approach into control group
- Differential rates of diffusion over time, between schools, and across cities

↪ Recently conducted interviews to understand these differences

Method 1: OLS

First estimation strategy: ordinary least square

Requires absence of selection on unobservables: $\varepsilon_i \perp\!\!\!\perp R_i^a$

Check balance of observables at baseline for $a \in ITC, PS$ across 4 groups:

- Treated: $R_i^a = 1$
 - ▶ Reggio Children Approach (RCA)
- Control: $R_i^a = 0$
 - ▶ Reggio Emilia other other child-care type (rel, state, priv, none)

Method 2: Difference-in-Difference

All cities have municipal schools but only in Reggio Emilia they follow the RCA approach:

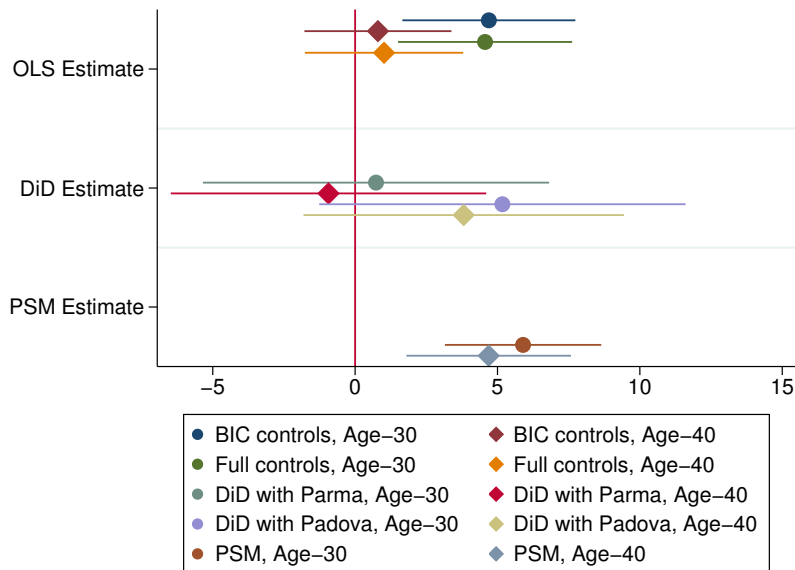
- **Diff 1:** Reggio Municipal - Parma Municipal
- **Diff 2:** Reggio None - Parma None

$$Y_i = \alpha_0 + \delta R_i + \alpha_{MC} MC_i + \alpha_{re} Reggio_i + \beta \mathbf{X} + \varepsilon_i$$

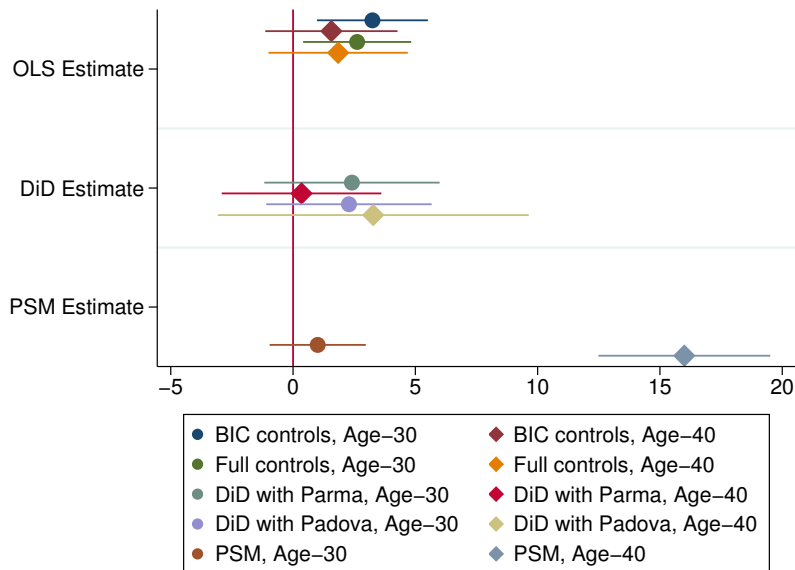
where $Reggio_i = 1$ if the respondent is from Reggio Emilia, $MC_i = 1$ if the respondent attended a *municipal* childcare center, and $R_i = MC_i \times Reggio_i = 1$ if the respondent attended a municipal childcare center in Reggio Emilia, therefore following the Reggio Approach.

Method 3: Propensity Score Matching

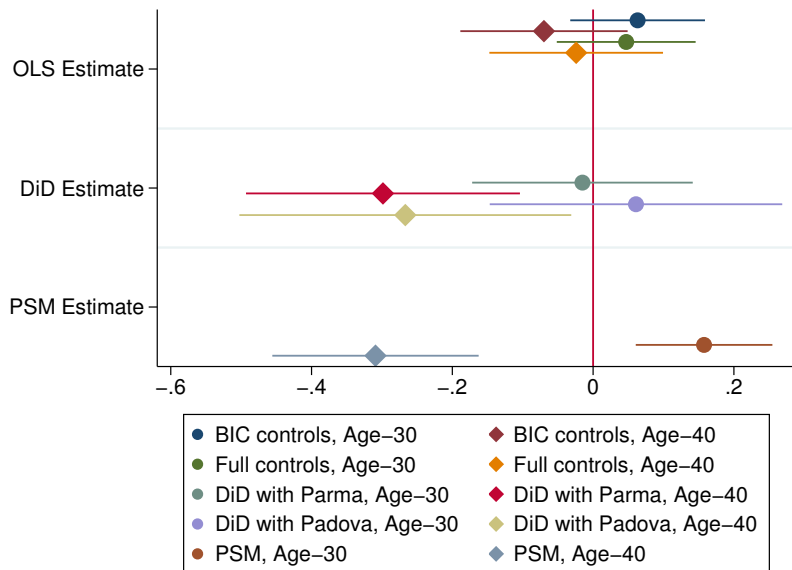
Treatment Effects on High School Grade



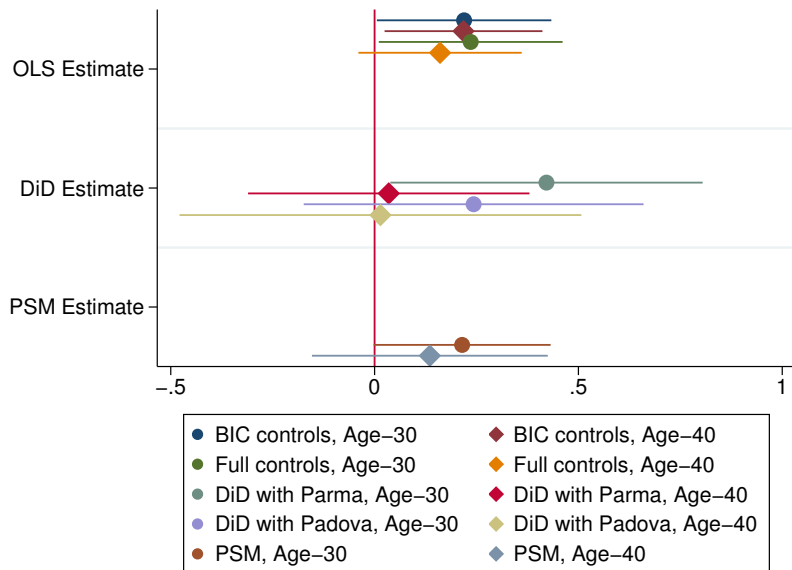
Treatment Effects on Hours Worked Per Week



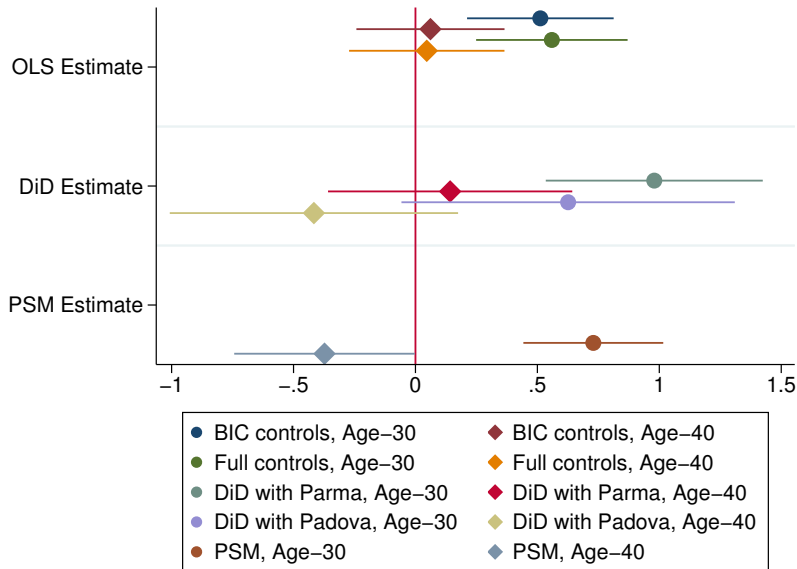
Treatment Effects on Obesity



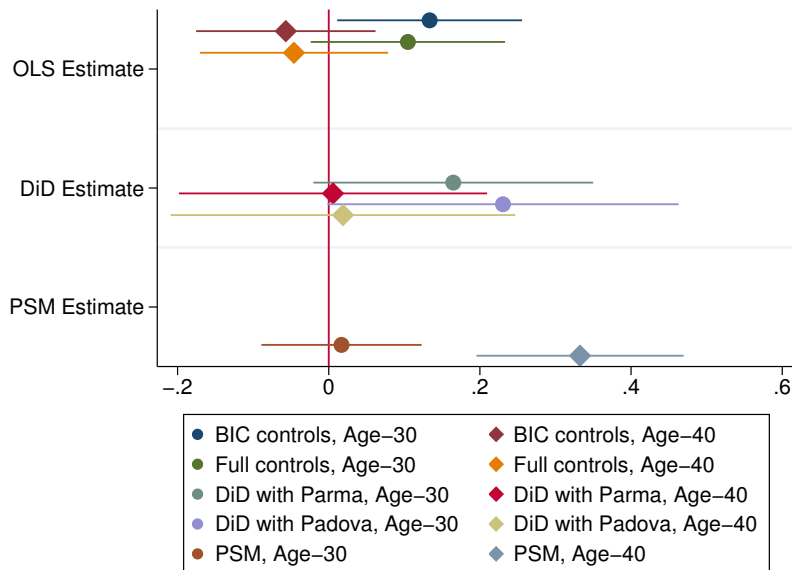
Treatment Effects on Satisfied with Work



Treatment Effects on Negative Reciprocity



Treatment Effects on Has Migrant Friends



Treatment Effects on Ever Voted for Regional

