

# Social Impacts of Piped Water Access

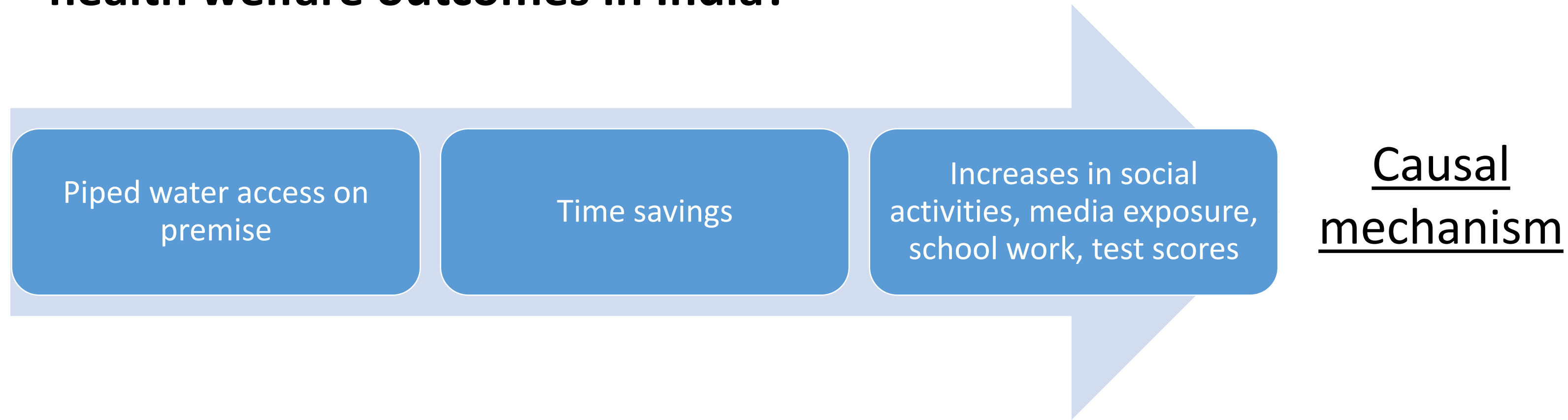
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\*UNICEF & WHO, 2010

## Research Question

What is the impact of piped water access (PWA) on different non-health welfare outcomes in India?



## Methods

- Instrumental variable analysis
- Instrument: A leave-out community ratio of PWA

$$\frac{\# \text{ HHs in the Community with PWA} - 1 \text{ if HH has PWA}}{\# \text{ HHs in the Community} - 1}$$

- First stage R-square: 0.58; F-statistic: 14,179
- Covariates and fixed effects (district and community-level) control for other heterogeneity

## Data

- India Human Development Survey, 2005

## Outcomes

- Time spent on water collection
- Adult participation in organizations
  - Non-governmental organizations (NGOs)
  - Credit and savings groups (CSGs)
  - *Mahila mandals* (women's groups)
  - Self-help groups (SHGs)
  - Parent teacher associations (PTAs)
- Female media exposure (newspaper reading)
- Children's educational activities
  - Time spent in school
  - Time spent on homework
  - Time spent in private tutorial lessons
  - Math, reading and writing test scores

## Results

- Time savings: Gains for all age and gender groups. Highest for women, lowest for boys

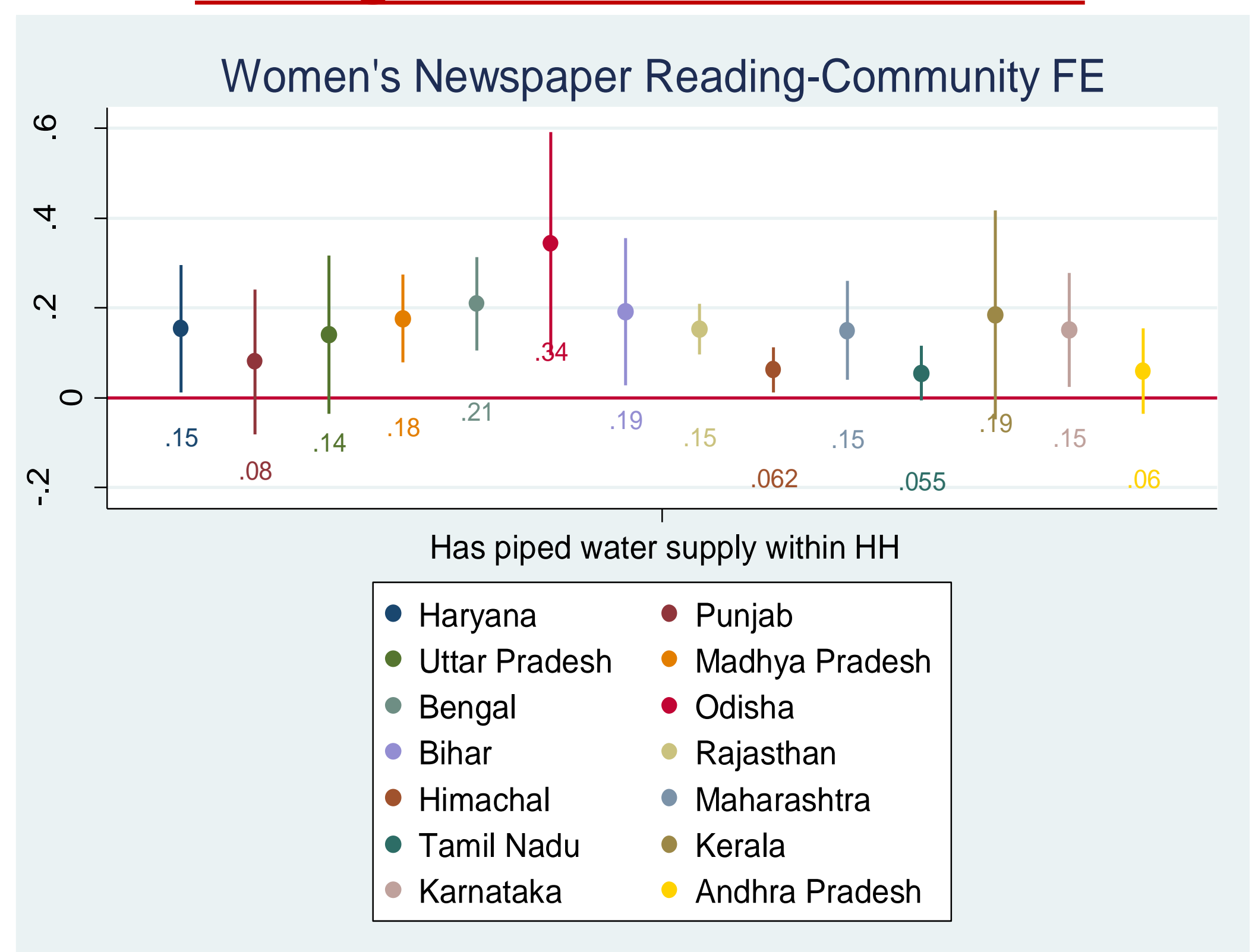
### Adults

- Higher participation in NGOs and PTAs
- Increase in newspaper reading frequency of women

### Children

- More time spent in school and on homework
- Gains in math and reading test scores for the all-children and girl samples

## Heterogeneous effects for female newspaper reading – effects in different states



## Discussion

- Piped water access leads to welfare gains in India: organizational activities and media exposure for adults, and educational activities for children
- Conforms with prior results on effects of water access: Devoto et al (2012), Morocco - more leisure activities; Meeks (2014), Kyrgyzstan - more leisure and market work; Ilahi and Grimard (2000), Pakistan - increases in female paid work; Koolwal and Van De Walle, multi-country (2013) - higher school enrollment rates