Determinants of prosocial behaviors in the dictator game

Evidence from children in El Salvador

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This paper

Aim: Study through variations of the dictator game the prosocial behaviors (or lack of) of children in a country characterized by high levels of violence, especially youth violence (gangs)

RQ1: Does changing the institutional settings in the game affect behaviors?

- Variation 1: enlarging the choice set - allowing the dictator to take from the initial endowment of the recipient
- Variation 2: inequality in the distribution of the initial endowment

RQ2: Do individual traits (cognitive and noncognitive skills) or environmental factors (violence exposure) correlate with prosocial behaviors?

RQ3: RQ1 x RQ2

To a large extent a descriptive and exploratory study

Motivation

Social preferences are relevant for a wide range of economic and social outcomes (Fehr and Schmidt, 1999; List, 2006, Andreoni and Miller, 2002)

Growing research studying social preferences in children (see Sutter et al., 2019)

The dictator "game" is widely used to measure social preferences in the lab and field (Kahneman et al., 1986; Camerer, 2011)

- however changes in the choice set and institutional setting lead to reactions which are not consistent with standard models of distributional preferences (Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000)
    - when the option to take from the recipient's endowment is made available, the dictator contributes less (List, 2007; Bardsley, 2008)
- no existing evidence on whether children are equally sensitive or its potential determinants

Context

El Salvador among the top 20 countries in terms of homicides rates

- Brutal civil war between 1979-1992: over 1 million people displaced, many in the US
- Lack of integration policies pushed youth to join or form local gangs
- In the 90s massive deportations of immigrants with criminal records
    - lead to the rise of gang violence in Central America (Sviatschi, 2022)

Study Design

Study setting and data collection

This data - baseline data of a 3 year intervention in the department of Chalatenango, financed by AICS

- Goal: lower drop-out, reduce violence and foster social inclusion (not an RCT)

Survey (March - April, 2019)

- 8 primary schools, cycles 1 and 2 (grades 1-6: age 6 to 13)
- approx. 300 students, stratified by school, cycle and gender
- demographics, cognitive and noncognitive skills, violence exposure

Lab-in-the field experiment (July, 2019)

- 278 students (8% attrition)
- sessions of 5-16 students (mean 11)
- Dictator games (this study)
- Risk preferences

Main survey variables:

- Cognitive skills (index)
  - Fluid Intelligence: Raven's Matrices (Raven and Court, 1998)
  - Inhibitory Control: Spatial Stroop (Stroop, 1935)
- Noncognitive skills (index) adapted from Luszczynska et al. (2005); Boyden (2012); Wagner et al. (2007); Hopko et al. (2005)
- Violence exposure (index) adapted from: Orpinas and Horne (2006); Boyden (2012); Wolke et al. (2000); Attar et al. (1994); Richters and Saltzman (1990)

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Experimental Design

Initially all students took on the role of the Dictator

- matched with students from other classes/schools
- randomly picked their role dictator/recipient before payoffs

Played 4 dictator games - in all the recipient had an endowment of 5 tokens while the dictator had to divide other 10

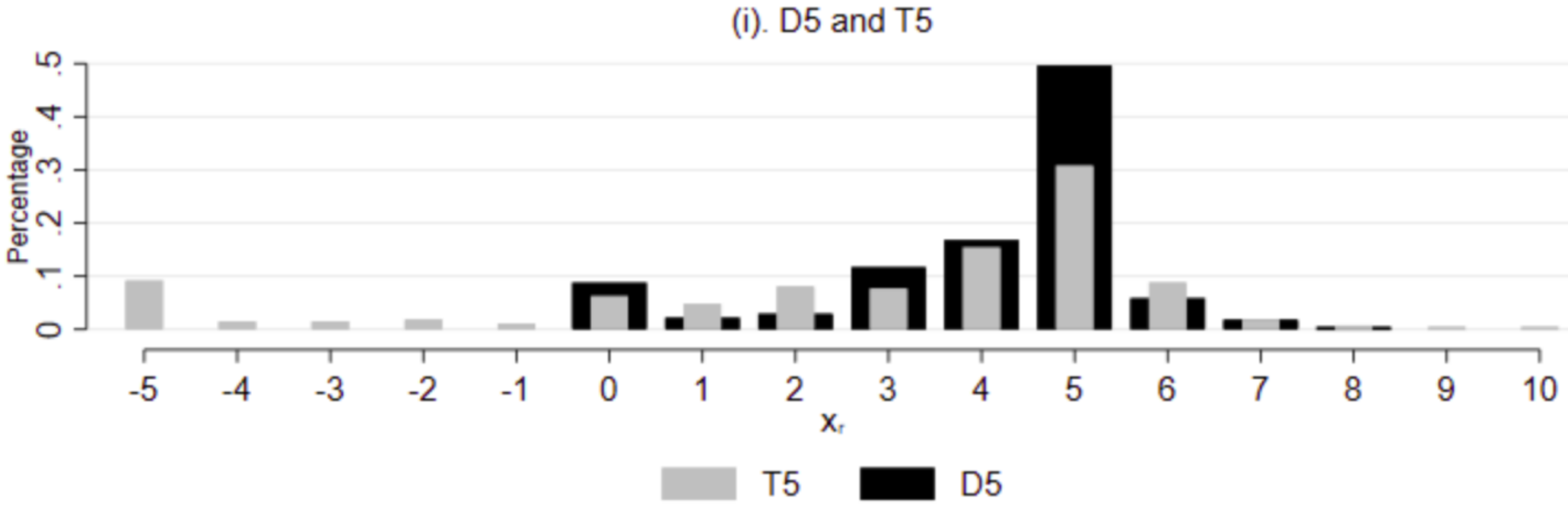
- Dictator 5 (D5): equal initial endowment
- Take 5 (T5): D5 with the option of taking from recipient's endowment
- Take 2 (T2): T5 with unequal initial endowment (2 for the dictator)
- Take 8 (T8): T5 with unequal initial endowment (8 for the dictator)

Description	Variable	Task			
		D5	T5	T2	T8
Dictator's endowment	e_d	5	5	2	8
Recipient's endowment	e_r	5			
Extra tokens	X	10			
Money transferred	x_r	$[0, X]$	$[-e_r, X]$		
Total payoff	Y	20	20	17	23
Taking		No	Yes		
Random order		No	Yes		

Results

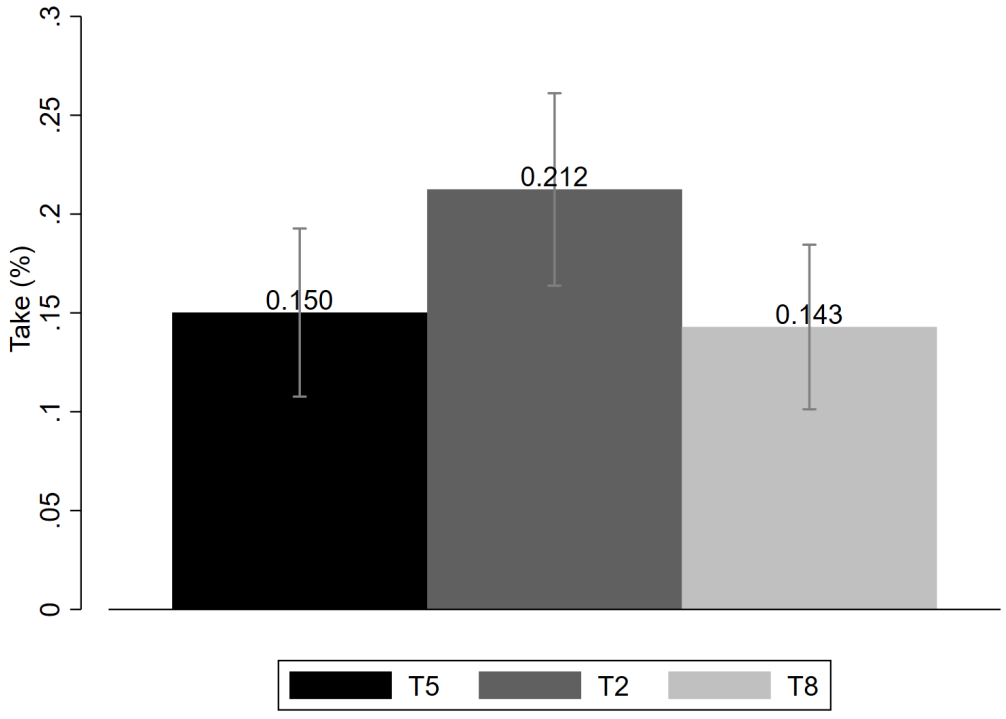
Results: "institutional" changes

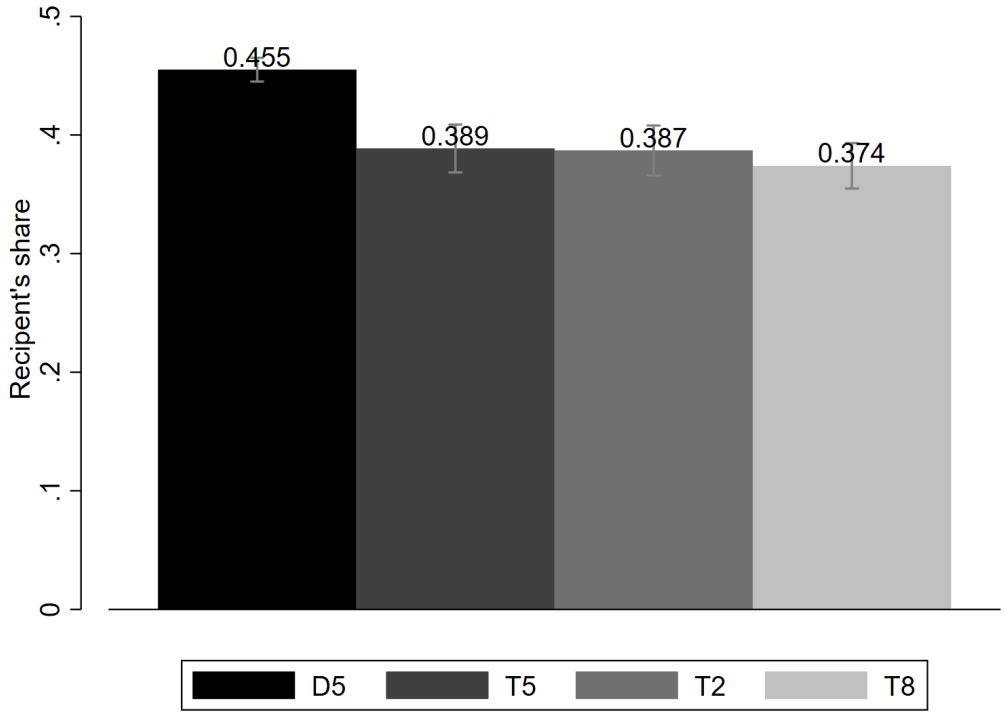
(a) Giving



Results: "institutional" changes

(b, c) Taking and final distribution





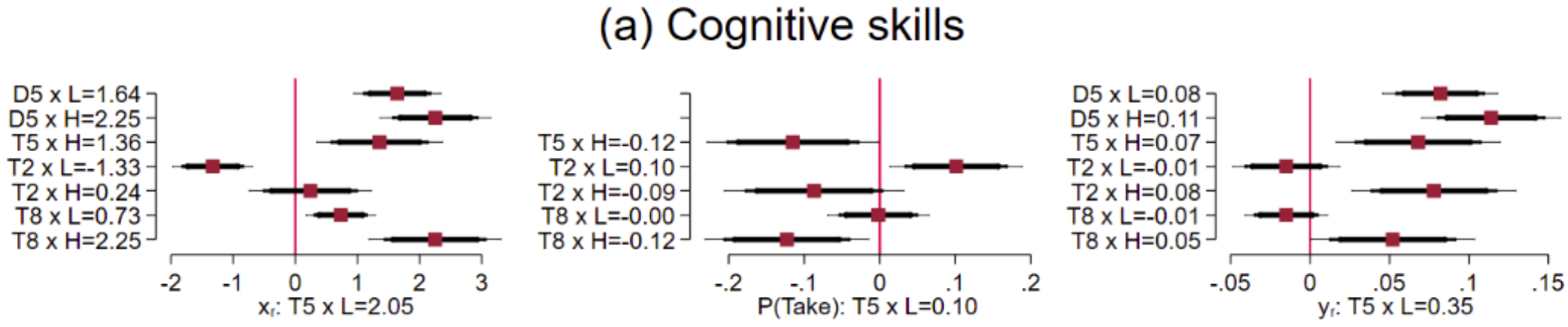
Results: skills, violence and behavior

	x_r	$P(Take)$	y_r
	(1)	(2)	(3)
Cognitive skills	0.539***	-0.064***	0.028***
	(0.148)	(0.019)	(0.007)
Noncognitive skills	0.141	0.002	0.007
	(0.142)	(0.018)	(0.007)
Violence index	0.076	0.008	0.004
	(0.166)	(0.021)	(0.008)
R^2-adj	0.161	0.070	0.115
N	1093	819	1093

Notes: OLS estimates with standard errors clustered at the individual level (N=278). Covariates are expressed as continuous indices (standardized measures). All specifications include the following controls: student gender (female), age, general health, sleep hours, a dummy capturing the individual perception of being a better student that the others, aspiring to university education, HH size, a dummy for low education of each parents (we do not exclude the missing values but we record them in a separate category), a dummy for low skill work for each parent. We always control for tasks and task order. *** significance at the 1% level, ** at the 5% level, * at the 10% level.

Results: 'institutional' changes x skills, violence

Reference group: T5 x L (low cognitive skills)



Null results for noncognitive skills and violence exposure

Discussion

Contributions:

- replicates List (2007) and Bardsley (2008) in a sample of children
- confirms the + correlation: cognitive skills - prosocial behaviors (Sutter et al., 2019) in a developing country setting
- finds that cognitive skills are - correlated with sensitivity to changes in the choice set (option of taking)
- irrespective of initial endowment, the final distributions of payoffs converge to the same relative values - not correlated with cognitive skills

Limitations:

- external validity: are higher cognitive skills children also less sensitive to changes in perceived social norms outside the lab?
- within subject design
  - prosociality decreases across rounds? (not in our case)
  - experimental demand effects?
  - stronger anchoring for higher cognitive skills children?
- measurement issues:
  - cognitive tasks vs self-reported scales (noncognitive and violence)
- violence exposure: not able to differentiate between in-group vs out-group