Does self-control influence alturism among children?

Zeynep Burcu Uğur

Social Sciences University of Ankara

Outline

- Motivation for the study
- The Literature
- Our Contribution
- Methodology
- Empirical Analysis
- Conclusion

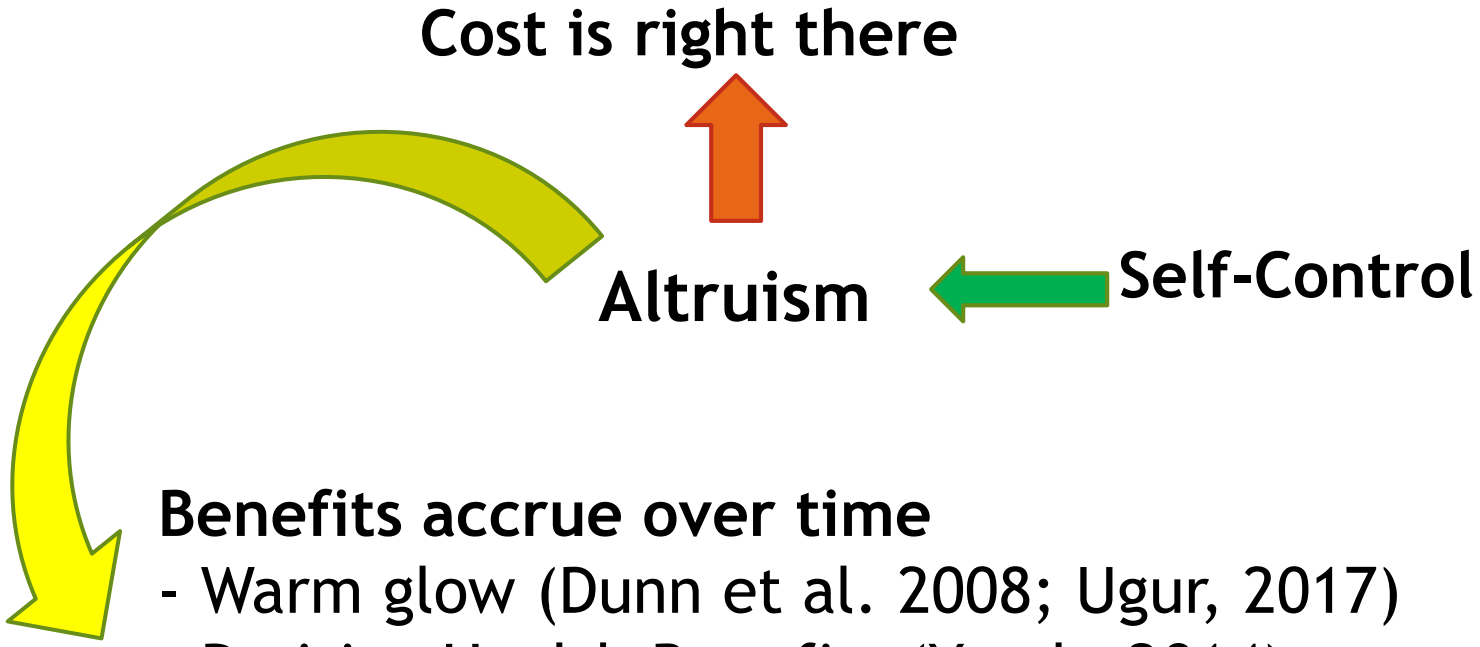
Motivation

- Social Capital is essential for smooth functioning of an economy

- Prosocial behaviours' of the members of a society constitute the social capital of that society

Which people can engage in Prosocial behavior?

- Given the strong relationship between childhood preferences and adulthood behaviors (Moffitt et al. (2011)



Benefits accrue over time

- Warm glow (Dunn et al. 2008; Ugur, 2017)
- Positive Health Benefits (Yoruk, 2014)
- Increased Reputation (Harbaugh 1998)
- Better social network (Milinski, Semmann & Krambeck, 2001)

Our hypothesis: Those having higher self-control are more likely to give
Those having higher self-control give more

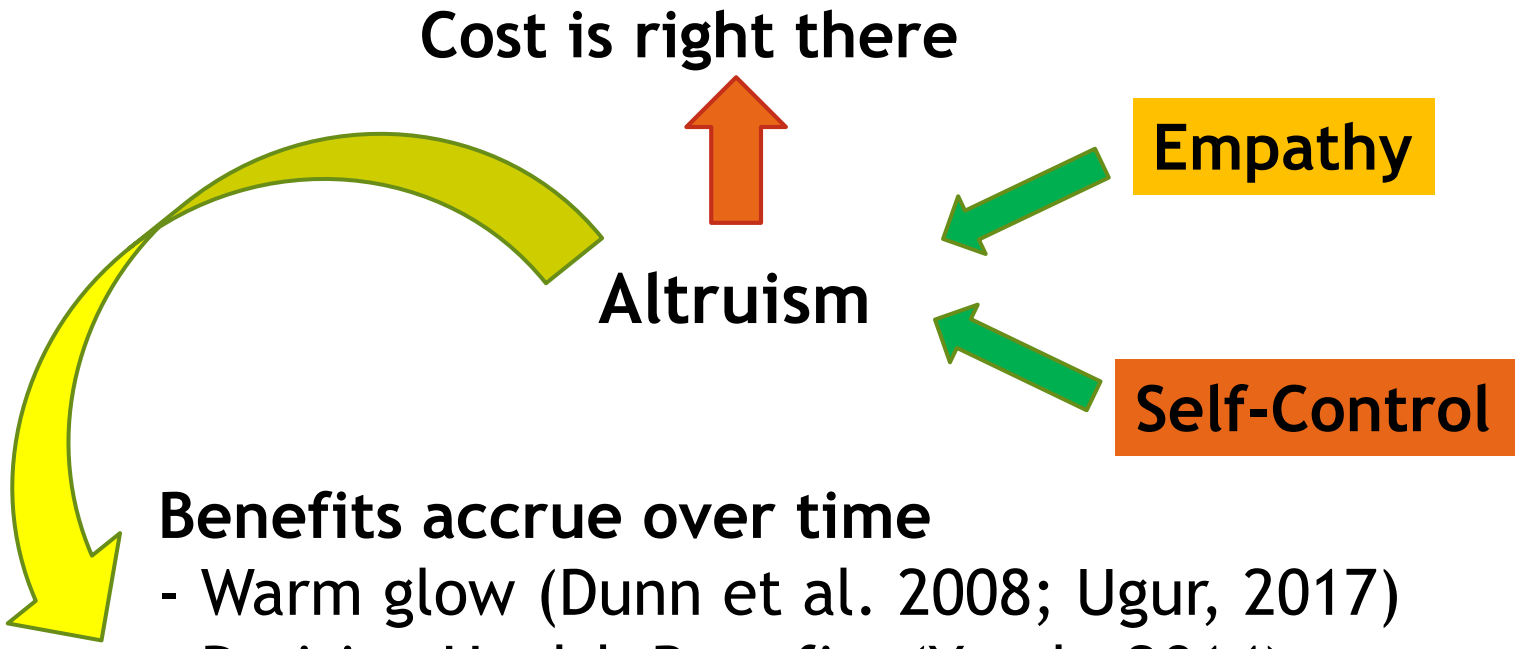
Why children?

- In order to minimize the influence of
  - Formal education
  - Social norms (List, 2007; Bardsley,2008)
  - Religious training
  - Ideologies such as justice and fairness

- Children display human's basic prosocial behavior clearer

Literature

- From infancy, children show some sort of pro-social behavior. (Hay& Cook, 2007; Liszkowski, 2005; Warneken & Tomasello, 2007)
- Alturistic behavior in children is similar to adults (Harbough & Krause, 2001)
- Girls (women) are more pro-social than boys (men)(Gummerum,2008; Eckel & Grossman,2001)
- Also, girls have more self-control compared to boys (Bettinger & Slonim, 2007)
- Older children are more pro-social (but not statistically signiticant) (Gummerum,2008; Harbough & Krause, 2001)
- Also, older children have higher self-control than younger ones(Bettinger & Slonim, 2007)



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Study Setup

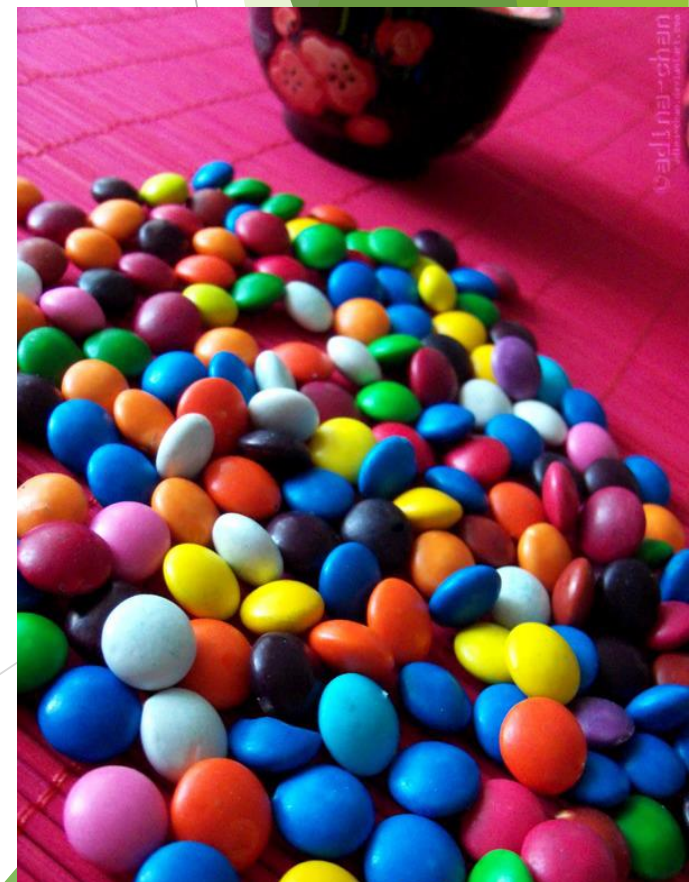
- Field Experiment with 12 preschools in Ankara/Turkey
- 4-8 year old children from 26 classrooms
- Out of 327 children, 315 are used for this study
- Each child was taken individually
- The study was conducted in a private room
- All the experiments were conducted by Zeynep

1) 5 games for measuring cognitive ability
   (Taken from Piaget's cognitive development test
   - Empathy Test (a version of the Sally-Anne Test)
2) Dictator Game with Chocolates
3) Experimentally Elicited Self-Control Measure
   (a version of Marshmallow test)

- The subject chooses one suprise egg
  - One Toy
  - One Bag of Chocolate
  - One Tatoo
- The subject is asked her first choice between the chocolate bag and the toy
- Usually subjects say they want both
- Make sure that they love chocolate
  - Otherwise, legos
- Their first preference is recorded

Dictator Game with Chocolates

- 15 chocolates were given to the subject
- The experiment asks subject's best friend in the school
  - Subject is told that she can keep all these chocolates for herself.
  - If she wants, she can give some of her chocolates to the friend.
  - Ensure that her friend does not know her allocation etc.
- Chocolates rather than money to make the reward more salient for the children
- Split between yourself and your best-friend to make the game more natural and unambigious for the subject
  - Reciprocity → **Future Benefit**



Self-Control Measure

- A version of Marshmallow test
- The subjects were given their 2nd preference right away
- Told that if they want to get their 1st preference, too, they need to wait 15 minutes.
- The subjects are told that they can anytime get their 2nd preference and go back to their classroom.
- Comprehension questions about the rules of the game
- Their waiting time is our self-control measure

Descriptive Statistics

	Entire Sample	No Self-Control	Some Self-Control	Full Self-Control
% Giving no chocolates	0.35 [0.48]	0.45 [0.50]	0.52 [0.50]	0.21 [0.41]
% Giving some chocolates	0.65 [0.48]	0.55 [0.50]	0.48 [0.50]	0.79 [0.41]
Average # of chocolates given	3.12 [3.33]	2.01 [2.76]	2.27 [2.83]	4.14 [3.54]
Average # of chocolates given among givers	4.83 [2.99]	3.63 [2.84]	4.58 [2.33]	5.32 [3.13]
% Waiting not at all (No self-control)	0.24 [0.43]			
% Waiting some time (Some self-control)	0.27 [0.45]			
% Waiting 15 minutes (Full self-control)	0.49 [0.50]			
Average waiting time	9.09 [6.45]			

Table 2: OLS Estimates of # of Cholates Given (N=315)

	(1)	(2)
Self-control	0.130***	0.111***
	(0.030)	(0.029)
Female	-0.418	-0.436
	(0.365)	(0.352)
Age in Years	0.291	0.962***
	(0.286)	(0.330)
Empathy	0.136	0.069
	(0.455)	(0.445)
Mind Games Score	0.139	0.261
	(0.187)	(0.185)
Private School Dummy	-0.676	
	(0.479)	
School Fixed Effects	-	+
R-squared	0.097	0.223

Standard errors (in parentheses), * $p < .1$, ** $p < .05$, *** $p < .01$

IV Estimation

- When other kids are out/in break time → **Cost of Waiting Increases**
- Before lunch time
- Before going home time

→ **Ego Depletion**

Table 3: First Stage Regression of Self-Control

Break time+Before Lunch Break+Before going home time Instrument	-4.618***
	(0.716)
Female	0.732
	(0.625)
Age in Years	1.965***
	(0.458)
Empathy	-1.738**
	(0.731)
Mind Games Score	1.173***
	(0.249)
Private School Dummy	1.219
	(0.908)
R-Squared	0.262
Test of Ho: the instrument is 0	
F statistic (Chi2)	41.60
N	315

Standard errors (in parentheses), * $p < .1$, ** $p < .05$, *** $p < .01$

Table 3: IV Estimates of # of Cholates Given (N=315)

	(1)	(2)
Self-control	0.203***	0.164**
	(0.078)	(0.081)
Female	-0.477	-0.475
	(0.374)	(0.354)
Age in Years	0.132	0.873**
	(0.324)	(0.341)
Empathy	0.267	0.142
	(0.468)	(0.451)
Mind Games Score	0.032	0.195
	(0.211)	(0.206)
Private School Dummy	-0.754	
	(0.484)	
School Fixed Effects	-	+
R-squared	0.079	0.215

Standard errors (in parentheses), * $p < .1$, ** $p < .05$, *** $p < .01$

Conclusion

- Does self-control influence alturism among children?
- Using data from 315 children between ages of 4-8,
- OLS Results
- We find evidence that self-control is an important factor for explaining altruism
- Instrumental Variables
- Increasing self-control causes increase in giving significantly

Cognitive Ability Games

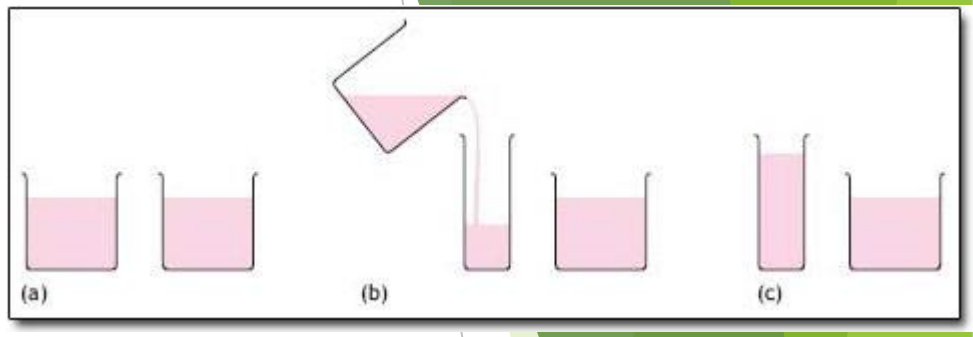
- Game 1
- **More red legos or more legos?**
- The experimenter puts legos from a bowl and counts. There are 6 legos and 4 red legos right. The child confirms.
- The experimenter asks “Are there more legos or more *red legos?*
- In some cases, the experimenter asks «Are there more red legos or more *legos?*»
- Intended to measure class inclusion or set theory
- **Younger children usually answer «There are more red legos»**
- **Only 7% of children in our sample correctly answered.**

- **Game 2**
- **Which dog has more to eat?**
- The experimenter introduces two dogs and says that the Dark Brown eats only yellow legos and the light Brown dog eats both yellow and green legos. Asks which dog has more to eat?
- Intended to measure set theory again
- **65% of children in our sample correctly answered.**

- **Game 3**
- **Where will Rabbit Tati look?**
- The experimenter introduces Rabbit Tati.
- The experimenter shows both the subject and the Rabbit she put the ball under the pink cup. The experimenter asks the child where Rabbit Tati thinks the ball is up until the subject confirms that it is under the pink cup
- Then, Tati goes out.
- While Tati is out, the experimenter puts the ball under the green cup and gets the subject's confirmation that that Tati did not see the change.
- Then, the subject brings Rabbit Tati in the room again.
- The experimenter asks the subject: Where will Tati look for the ball?
- A version of the Sally-Anne Test to measure «**Empathy**»
- **55% of children in our sample correctly answered.**
- **43% of children in our sample chose Green Cup (Ego-centric)**

- **Game 4**
- **Are there the same number of dominos?** The experimenter counts 4 blue dominos and 4 red dominos and asks the child that there are the same number of dominos in each row. The child confirms.
- Then, the experimenter alters rows--pushing together the dominos in the upper row and making dominos in 2nd row more distant from each other.
- The experimenter asks “Are the number of blue and red dominos the same or the red dominos more or the blue dominos more?
- **23% of children in our sample correctly answered, 66% said that red dominos are more.**

- **Game 5**
- **Is there the same amount of water in each cup?**
- The experimenter fills the cup and tells the subject to stop when both cups have the same amount of water.
- Then, the experimenter pours one of the cups into a narrower but longer cup.
- The experimenter asks “Do cups have the same amount of water or narrower cup has more or wider cup has more water?
- **Only 8 % of children in our sample correctly answered, 80% said that the narrow cup has more water.**



Thanks for your attention!