

Pre-Analysis Plan
Delinquent identity of problematic children - An economic
experiment

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April 2016

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1 Introduction

Individual preferences and traits form mostly during childhood and adolescence (Almås et al. 2010, Cunha et al. 2016, Fehr et al. 2008, Bettinger and Slonim 2007) and the environment in which children grow up plays an important role in this process (Almås et al. 2012, Bauer et al. 2014, Heckman 2006). Apart from pro-socially oriented behavior, children may not only acquire bad behavioral and moral principles in poor environment, but may also develop delinquent identities tied with those principles (Benabou and Tirole 2002). Moreover, those identities may be strengthened by parents and peers. One typical approach how to change such antisocially oriented behavioral development is to place problematic children into special institutions (detention centers). There teachers, psychologists and special educators work with children to improve their development. However, it is still unclear what effect those institutions really have on children and their preferences. The detention centers are assumed to reverse the process of formation of the delinquent identity of children, but as is the case of prison (Cohn et al. 2015), it may actually strengthen it. The channels through which the delinquent identity formation is influenced may be the peer-effects and the stress from the separation from family and the general society. The present project investigates how the detention centers affect formation of the delinquent identity and subsequent cooperative and norm-violating behavior of problematic children. In order to do this, we run a lab in the field experiment with children and adolescents from detention centers in the Czech Republic.

This pre-analysis plan presents in the first chapter the design of the experiment where we discuss treatments, games and a manipulation check. Chapter two presents empirical strategy.

2 Experimental design

Our overall study design combines two elements - priming and time comparison based on the exogeneity of placing children into detention centers. Approach 1 (priming) will give us a clear measure of whether emphasizing an institution identity has a causal effect on outcome variables (cooperation and rule-violation). Approach 2 (time comparison) will show us how the effects of identity change over time. It is of policy relevance how interventions should be designed.

2.a Our sample

We will run our experiment in detention centers in the Czech Republic. Detention centers are public correctional and educational institutions where are placed problematic children based on a writ. Unlike prisons detention centers resemble more regular schools with dormitories and children placed there do not have to commit a crime. They very often have problems with authorities (parents, teachers), truancy or aggression. The mean stay of a child in a detention center is approximately one year. The sampling period is planned to start in April 2016 and end during June 2016. The target sample is 300 children, which means 150 in each treatment. Based on power calculations it should identify 0.32 SD effect, given significance level of 0.05 and statistical power of 0.80.

2.b Treatments

We employ the identity priming as developed by (Cohn et al. 2015) and adjust it slightly for the environment of detention centers. Participants are randomly assigned either to the prime treatment or the control treatment. Randomization will take place on the session level. The purpose of the prime treatment is to make the institution (detention center) salient.

The first part of the survey contains one question on subjective well-being and three questions on standard demographics. It is followed by five priming questions reminding them of the institution where they stay in (e.g. "For how long have you been here?", "How the staff treats you?", "If you could change two things in your detention center, what would it be?"). They resemble to a maximum extent the original protocol. The participants in the control treatment are asked general questions about TV, computer and music (e.g. "What kind of music do you like?", "Do you like more TV or computer?").

We have made one change. The question on reasons for placement (reasons for incarceration in the original protocol) was left out. Detention center is not only correctional but also an educational institution. We decided to measure the causal effect of *institution* on behavior, which would be affected by questions on life before the placement.

The second part of the questionnaire will be followed by a standardized question on general risk attitudes (Dohmen et al. 2011) and two questions on mood. Risk preferences and mood may also be affected by the priming, therefore we will control for them in regressions.

2.c Games

We plan to conduct three experimental games - the Prisoner's dilemma game, the Dictator game and a cheating task. Prisoner's dilemma game and dictator game will be implemented in a counter-balanced order so as to control for the order effect and cheating task will be always the third game.

The Prisoner's dilemma game - captures an individual willingness to cooperate and beliefs about cooperation of others. In this activity, children from detention centers will be randomly matched with children from regular primary school. Then a child is endowed with 20 tokens¹ and is asked to decide if to cooperate (framed as not change tokens) or not to cooperate (take 10 tokens from the other child and get 5 tokens in exchange). First, the decision is elicited unconditionally, then we ask about first and second order beliefs² and then the decision is made conditionally on the decision of the other child.

The Dictator game - captures an individual's altruism towards others. In this activity, participants are informed that they were randomly paired with a child from a primary school, but with another one than in the Prisoner's dilemma game. Then each participant is endowed

¹one token is of app. value 3 CZK (10 euro cents)

²incentivized by two tokens

with 20 tokens and should decide how to distribute tokens between himself and the other kid.

The Cheating game - captures the willingness to violate rules. In this activity, children receive a token and toss it twenty times. Each time a child tosses head, he receives a token, otherwise he does not. They report their tosses on a sheet of paper. Because they are not monitored, they can misreport their tosses.

2.d Manipulation check

After playing all three games, we will measure if the priming was successful. We will ask participants to solve a word stem completion task. They will be presented with initial letters of three words which they finish. For example, they could complete the word stem "st..." with the delinquent-related word "steal" or unrelated words such as "store". We will compare the mental accessibility of delinquent-related constructs across treatments.

3 Empirical strategy

To identify the effect of identity (associated with detention center) on cooperation and rule violation, we compare treatment and control treatment. In particular, we use an indicator variable $Treatment_i$ (taking value 1 for those participants receiving the identity prime and taking value 0 for participants receiving the control treatment). Our main specification of interest is then:

$$y_i = \beta_0 + \beta_1 Treatment_i + \epsilon_i \quad (1)$$

Our main coefficient of interest is β_1 which measures the effect of identity prime on behavior. To control for alternative mechanisms than prime on identity, we will include several controls including risk preferences ($Risk_i$) and mood ($Mood_i$).

$$y_i = \beta_0 + \beta_1 Treatment_i + \beta_2 Risk_i + \beta_3 Mood_i + \epsilon_i \quad (2)$$

Then we will analyze if β_2 and β_3 differ significantly from zero.

3.a Change over time

Children are placed to detention centers based on a writ. They are sent there during the whole school year and their behavior is firstly reexamined at the end of given school year (end of June). It gives us the opportunity to study the effects of length of the stay on behavior during first months of the stay (up to 12 months) because it is not affected by selection. We will collect data at the end of the school year and therefore we will gather substantial variation in the length of stay across children.³ Then, we estimate how our treatment effect influences differentially

³We will examine the exogeneity of placement to detention centers in detail - differences across children coming in different parts of year, institutional details or decisions of judges.

children with various length of stay:

$$y_i = \gamma_0 + \gamma_1 Treatment_i * Length_i + \gamma_2 Treatment_i + \gamma_3 Length_i + \epsilon_i \quad (3)$$

Where $Length_i$ is a number of months a child stays in a detention center. The estimation will be restricted to those coming this school year. In an alternative specification $Length_i$ is a dummy variable equals to 1 for stays shorter than 6 months and 0 otherwise. Our main coefficient of interest is γ_1 showing how the identity interacts with the time spent in the detention center.

3.b Heterogeneous treatment effects

We will explore heterogeneous treatment effects along several dimensions:

1. Gender
2. Reasons for placement
3. Cognitive skills (if they have special education plan)
4. Family background (coming from family or orphanage)

3.c Outcome variables

Cooperation: Measured as a share of cooperative choices.

Beliefs: In order to disentangle the effects of identity on behavior and beliefs, we will estimate effects on both first and second-order beliefs in the Prisoner's dilemma game.

Altruism: Measured as a number of tokens kept. It should also help us to disentangle effects on behavior and beliefs.

Cheating: Measured as a share of heads reported.

Manipulation check: Share of crime and delinquent related words in the word stem completion task.

4 References

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5 Appendix A

Instructions

Priming questionnaire

Prisoner's dilemma

Manipulation check

Questionnaire (English translation)

1. When were you born? Day _____ Month _____ Year _____
2. Are you a) girl b) boy
3. Which school year are you in? _____
4. In general, how would you say you are satisfied with your life: (1 – not at all, 10 – maximally)

1 2 3 4 5 6 7 8 9 10

5. How many months are you in detention center? _____

In following questions you can choose more than one answer

6. Are you in the detention center for the first time? YES NO
7. Choose two things you would change, if you could:
 - a) more free-time b) more possibilities to visit parents c) more time out d) more computer/TV time
 - e) more free-time activities – sport, art f) less homework g) more trips and tournaments
 - h) more attention from staff ch) better food i) more private time
 - j) other: _____

8. How good are you treated by the staff? (1 – very poorly, 10 – perfectly)

1 2 3 4 5 6 7 8 9 10

9. What daily activity do you like the most and what the least?

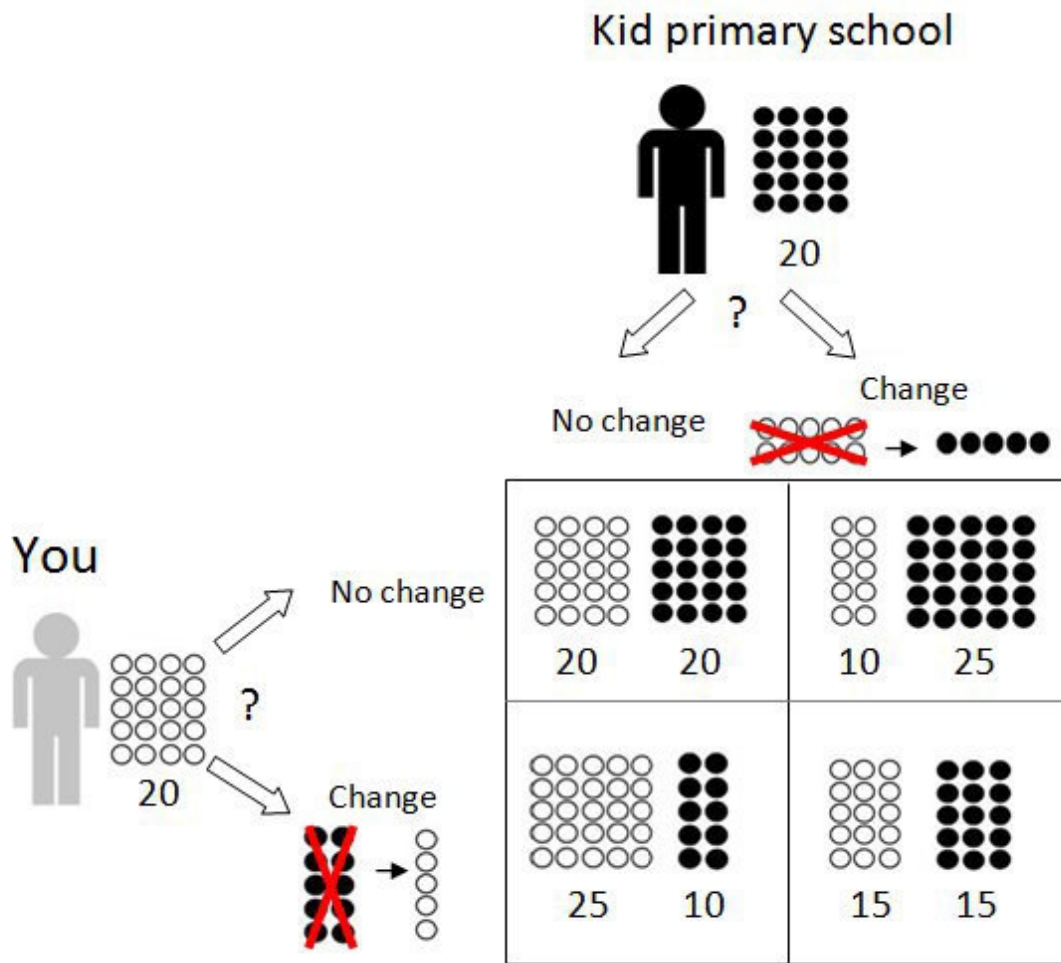
Favorite: _____

Least favorite: _____

10. How do you see yourself: Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?

0 1 2 3 4 5 6 7 8 9 10

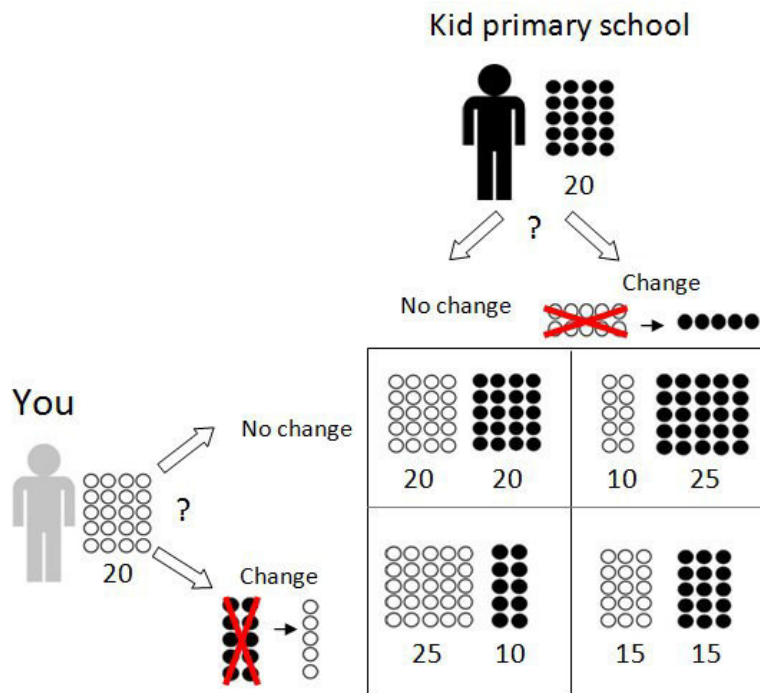
Activity 1 (english translation)



Control questions:

1. If you do not change tokens and the child from primary school do change them, how many tokens do you get? _____ How many tokens get PS child? _____
2. If you do change tokens and the child from primary school do change them as well, how many tokens do you get? _____ How many tokens get PS child? _____
3. If you do not change tokens and the child from primary school do not change them as well, how many tokens do you get? _____ How many tokens get PS child? _____
4. If you do change tokens and the child from primary school do not change them, how many tokens do you get? _____ How many tokens get PS child? _____

Activity 1

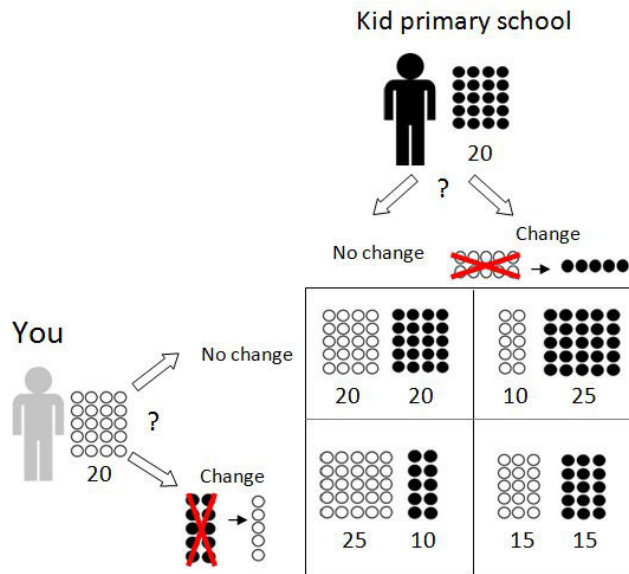


What to you want to choose? (Circle your chosen answer):

a) Do not change number of tokens

b) Change number of tokens – Take 10 tokens from the other kid and get 5 in return

Activity 2



Decision 1: What do you think the kid from primary school did choose?

- a) Do not change tokens
- b) Change – take 10 from you and get 5

Decision 2:

What does PS kid think that you chose?

- a) Do not change tokens
- b) Change – take 10 and get 5

Decision 3:

Imagine following situation. The PS kid has decided **not to change tokens**. If you knew about it, what would you do?

- a) Do not change tokens
- b) Change – take 10 and get 5

Decision 4:

Imagine following situation. The PS kid has decided **to change tokens – take 10 from you and get 5 in return**. If you knew about it, what would you do?

- a) Do not change tokens
- b) Change – take 10 and get 5

Activity 3

	Heads (1 token)	Tails (0 tokens)
Token 1	<input type="checkbox"/>	<input type="checkbox"/>
Token 2	<input type="checkbox"/>	<input type="checkbox"/>
Token 3	<input type="checkbox"/>	<input type="checkbox"/>
Token 4	<input type="checkbox"/>	<input type="checkbox"/>
Token 5	<input type="checkbox"/>	<input type="checkbox"/>
Token 6	<input type="checkbox"/>	<input type="checkbox"/>
Token 7	<input type="checkbox"/>	<input type="checkbox"/>
Token 8	<input type="checkbox"/>	<input type="checkbox"/>
Token 9	<input type="checkbox"/>	<input type="checkbox"/>
Token 10	<input type="checkbox"/>	<input type="checkbox"/>
Token 11	<input type="checkbox"/>	<input type="checkbox"/>
Token 12	<input type="checkbox"/>	<input type="checkbox"/>
Token 13	<input type="checkbox"/>	<input type="checkbox"/>
Token 14	<input type="checkbox"/>	<input type="checkbox"/>
Token 15	<input type="checkbox"/>	<input type="checkbox"/>
Token 16	<input type="checkbox"/>	<input type="checkbox"/>
Token 17	<input type="checkbox"/>	<input type="checkbox"/>
Token 18	<input type="checkbox"/>	<input type="checkbox"/>
Token 19	<input type="checkbox"/>	<input type="checkbox"/>
Token 20	<input type="checkbox"/>	<input type="checkbox"/>