Does perspective taking reduce prejudice: Pre-analysis plan

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Abstract

In this proposal we outline the design of and the pre-analysis plan for a field experiment aiming at reducing prejudice against the Roma among Hungarians. The intervention consists of encouragement to play an online gamebook, in which participants make decisions playing the character of a Roma teenager. Based on the psychological theory of perspective taking, we hypothesize that participation in this game can reduce prejudice against the outgroup through shared experiences and empathy. Our research design overcomes several issues in the testing of this theory in the field by (1) using entairtainment as opposed to instruction (2) individual level assignment of treatment and (3) non-obstrusive measurement strategy.

1 Background

Although intergroup prejudice has been recognized as one of the most important problem by social scientists and governments spend great resources on programs aiming to reduce prejudice, surprisingly little is known about what kind of interventions work in practice (Paluck and Green, 2009). Decades of research have accumulated a vast array of theories seeking to explain prejudice by individual differences in personality (Adorno et al, 1950), social norms (Plant and Devine, 1998), and the structure of interaction between groups (Allport, 1954). In principle these theoretical results could be used to generate policy recommendations to reduce feelings of antipathy against out-group members. At the same time, credible research designs are lacking and much of the empirical evidence is based on correlational studies or interventions on captive audiences in experimental labs (Paluck and Green, 2009).[1]

This project seeks to contribute to this literature by testing the effect of an intervention that is based on replicated results of lab experiments but implemented on the field. As such, it has the potential to combine the internal validity of laboratory experiments while achieving a greater extent of external validity (eg. Gerber and Green, 2012). The proposed intervention is an encouragement to play an online gamebook that allows players to take the perspective[2] of a young Romani orphan who arrives to Budapest, Hungary to start a new life. The reader participates in the story by making choices that causes the narrative to branch along various potential paths.

We seek to evaluate the effect of participation in this game by a followup survey taking place three weeks after the intervention. Our measurement strategy is aided by our intended use of a sampling frame (described below in greater detail) that includes measures of prejudice against the Romani along with other variables. This sampling strategy not only allows us to make before-after comparisons but also to use covariate adjustment based on pre-treatment covariates that we expect to be strongly related to the outcomes of interest.

[1] Though see Paluck (2011); Samii (2014) and Enos (2014) among others as design based approaches in a field setting.
[2] As most gamebooks, the story is written in second person in order to help the reader to identify with the main character.

2 Literature

Our intervention is based on the psychological paradigm of perspective taking. The key element of perspective taking intervention is to "change peoples perspectives so that they are coordinated with the experiences of members of other groups" (Dovidio et al., 2004, p. 1537). This research tradition has been exclusively characterized by lab experiments. For instance, studies induced empathy by asking experimental subjects to write an essay taking a the perspective of a member of an out-group (Galinsky and Moskowitz 2000, Vescio et al. 2003) or asking subjects to be emphatic when reading a story or watching a film about discrimination (Stephan and Finlay 1999; Esses and Dovidio 2002).

While the results of these studies are promising, the settings in which they take place are artificial. As a consequence, even though these findings are valuable as evidence supporting theories of prejudice their practical applicability remain limited. For instance, Paluck (2010) reports on the results of an intervention in the Democratic Republic of Congo that used a talk show to encourage perspective taking and discussion of intergroup conflict. The study finds that while the intervention indeed increased discussion it actually *increased* intergroup prejudice.

Our proposed intervention uses an online gamebook as a "perspective-taking exercise". In contrast with previous approaches that used explicit instructions for perspective taking in either the field (Paluck, 2010) or the lab (Galinsky and Moskowitz 2000) our approach encourages it by design (e.g. the book is written in second person, the player can make choices for the character etc.). On one hand, this approach reduces the possibility of demand effects: subject will feel arguably less of an expectation to "comply. On the other hand, this approach might also decrease the possibility of the treatment backfiring, simply because the perspective taking will not be a conscious by participants.

3 Experimental design

The study employs a treatment-placebo encouragement design in which participants are invited to try an "online game". Subjects are randomly assigned to either the treatment game (the role-play) or a placebo game (an emotion-guessing game)[3]. We estimate the immediate effect of the intervention by comparing the responses to a battery of questions tapping anti-Roma prejudice across those in the treatment and the control group. After a buffer period both treated and placebo individuals are invited to participate in an ostensibly unrelated survey that again measures the outcomes of interest.

3.1 Treatment

The Gypsy-maze recounts the story of a 18 years old Roma adolescent who arrives to Budapest after being acquitted from an orphanage with some 700$ worth of cash to start a new life. The narrative features a realistic account of what it might be like for a Roma adolescent: the story consists of vignettes in which the main character is looking for a sublet, tries to buy groceries and looks for a job. The story is based on an actual role-playing book (Kardos and Nyari, 2004) which is edited for style and brevity to be more suitable for an online game. We also produce two separate versions of the story to match the gender of the participant.

Two features of the game enhance perspective taking. At several points of the story participants can make decisions that ostensibly affect the narrative (e.g. they can choose which job ad to respond to or which apartment to see). At other times, participants are asked to flip a coin and continue the story line based on the coin-flip. In fact, the narrative is *unrelated* to these choices but this remains unknown to participants.[4]

[3]Because we use the responses to the emotion guessing game to assess a potential mechanism we also ask individuals in the treatment group to play that game (see Table 1).

[4]We chose to fix the narrative so that each participants in the treatment group are exposed to the same narrative.

3.2 Sampling frame and recruitment

Our sampling frame consists of the subset of participants of Hungarian Life Course Survey (HLCS) with available online contact information ($n = 4,000$). The HLCS was a six-wave panel survey that was administered annually between 2006 and 2012 to a sample randomly selected from the population of 8th-graders in Hungary. While face-to-face interviews were discontinued after 2012, email addresses were obtanied from participants. The HLCS is described in great detail in Simonovits and Kezdi (2016).

Because the participants in the HLCS are habitual survey-takers, we use no compensation for participation. We invite participants via email and ask them to participate in the testing of an online game. With a series of of pilot experiments conducted in September to October, 2016 we found that the response rate for these emails approached 15%, securing a large enough sample size to detect substantively meaningful treatment effects.

3.3 Outcomes

The main outcome of interest is a battery of six questions tapping anti-Roma prejudice. The survey questions are the following: (1) Every Roma child has the right to study in ethnically mixed classes. (2) There are no more criminal among the Roma than among the non-Roma of similar status. (3) Criminality is in the blood of the Roma. (4) Many Roma do not work because they do not get jobs. (5) It is great that there are still bars that do not admit Roma. (6) The Roma should be completely separated from the rest of the society because they cannot coexist.

The response options for each question are "Strongly agree", "Rather agree", "Rather disagree" and "Strongly disagree". This measure is available for each individual in the sampling frame measured in 2009 and it shows high internal consistency ($\alpha = 77$) and is a strong predictor of vote intention for the far right party, Jobbik. To the extent that these attitudes are stable, the baseline measure can increase the precision of treatment effects to a great deal.

In order to increase the statistical power of our design, we use the pre-treatment measure of prejudice to create 10 equally sized strata. Moreover, to allow for a separate analysis of the effect on males and females we cross these strate with an indicator for gender to form 20 blocks within which the treatment is randomly assigned. In our empirical analysis we control for these blocks to attain more precise estimates.

Table 1: Experimental protocol

Wave 1	Control	Treatment
Introductory questions	✓	✓
Treatment	✗	✓
Outcomes	✓	✓
Emotions game	✓	✓
Wave 2		
Introductory questions	✓	✓
Outcomes	✓	✓

4 Analysis

We define the dependent variable of our experiment as a simple index of the responses to the 6 survey items about the Roma standardized by the mean and variance in the control groups at wave 1[5]. We opt for this simple measurement strategy for clarity and because of the extremely high correlation of these measure with other versions estimated via factor analysis in the baseline measurement. We operationalize the outcomes observed pre-treatment (i.e. the 2009 wave of the HLCS) and in the second wave similarly.

4.1 Main analysis

Let T_i denote the treatment status of participant i. Furthermore, let Y_i^0 and Y_i^1 denote the outcome variable observed at wave 1 and wave 2 respectively and B_i the block in which individual i belongs to. Our analysis relies on estimating the following regression equations

[5]We reverse the scoring for the questions where agreement indicates no prejudice against the Roma

$$Y^1 = \alpha_1 + \beta_1 T + B_i + \delta_1 X + \epsilon \quad (1)$$

$$Y^2 = \alpha_2 + \beta_2 T + B_i + \delta_2 X + \epsilon \quad (2)$$

The quantities of interests are β_1 and β_2, the immediate and the long-run effects of the treatment which we can estimate via simple OLS. In each of these specification we adjust for block fixed effects, as well as gender, highest education completed and ethnicity (Roma or non-Roma). Adjusting our estimates using these covariates serve the purpose of increasing statistical power. Because of the small expected sample size we do not specify hypotheses and tests corresponding to individual level moderators.

4.2 Non-compliance, attrition and self-selection into the study

Non compliance with the treatment in this experiment would entail that some participants pay limited or no attention to the game and simply "click-through" the game. We can get a sense of the gravity of non-compliance by (1) comparing the average duration of the survey across treatment and control groups or (2) analyzing responses to manipulation-checks that check attention to the game ex-post. Based on the results of the pilot, most respondents either spent considerable time and attention to the treatment so we will restrict our attention to intent-to-treat effects that factor in the possibility of non-compliance.

A more problematic issue is attrition from the survey. Attrition can take to forms: first, some respondents might drop out of the survey during the first wave so that we cannot observe their responses to the outcome questions. Second, some respondents may not response to the follow-up survey. Attrition would bias our estimates if it was systematically related to potential outcomes conditional on the pre-treatment covariates that we use to adjust our estimates. We can test for systematic attrition by comparing the distribution of these covariates among those providing missing responses and correct for it using extreme bounds as described in Gerber and Green (2012).

A final issue concerns the external validity of our estimates. While the baseline sample of the HLSC was representative of the the population of Hungarian 8^{th} graders as of 2006, selection to the sampling frame of this study was clearly non-random as it required that potential participants (1) were successfully recontacted and (2) gave their email addresses to the researchers of HLCS. Moreover, individuals' choice to opt into the study may also depend on observed or unobserved covariates. Because we do not view the initial population of the HLCS as particularly relevant for policy purposes we will present unweighted estimates and simply report summary statistics that compare the distribution of covariates in (1) the baseline sample (2) the sampling frame for this study (3) participant who opt in the first wave and (4) participants in the second wave.

4.3 Mechanism

The experimental design offers one possible way to test the key theoretical mechanism behind the treatment. While the reason we include the"emotions game" in our study is primarily to maintain the motivation of the study (i.e. testing an online game) among respondents in the control group we can use responses to this game as a measure of empathy. The idea behind this is that if perspective-taking affects prejudice through an increase in empathy we can expect that those in the treatment group will be more successful in guessing the emotions in the faces provided in the emotions game.

To test this possibility, we calculate a measure of empathy by counting the number of faces that a participant guessed correctly in the emotions game. This measure can range from 0 to 10 as each participants is randomly assigned ten faces to evaluate. As before, we standardize these responses using the mean and variance of this scale observed in the control group. We estimate the potential impact of the intervention on empathy using the same regression equation as before. Because the experiment does not manipulate empathy separately from the treatment we refrain from using formal mediation analysis.

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