Replication Project

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Abstract

Hager, Krakowsi, and Schaub show that exposure to ethnic violence negatively affects prosocial behavior to both the opposing ethnic group, but also one's own. I was almost entirely successful in replicating their main statistical models that demonstrate the negative effect the 2010 Osh, Kyrgyzstan ethnic riots had on prosocial behavior, but their work does have some replication issues. My own extensions explore confounders for their Uzbek sample—the victimized ethnic group— and more intensely explore their Kyrgyz—the aggressor ethnic group— sample. I find a stronger confounder in common language usage and also identify that for affected Kyrgyz, prosocial behavior was actually partially positively affected by victimization, which is contradictory to the authors' argument. My results demonstrate that the effects of ethnic violence on community relations differs on a case-by-case basis and arguing that general trends exist is problematic.

Introduction

I will be replicating the paper "Ethnic Riots and Prosocial Behavior: Evidence from Kyrgyzstan" written by Anselm Hager, Krzysztof Krakowski, and Max Schaub.[1] Using survey data gathered in Osh, Kyrgyzstan after the 2010 ethnic riots that includes 1200 responses, this paper explores the question of whether exposure to ethnic riots has a negative effect on both in and out group prosocial behavior. Previous literature on prosocial behavior following ethnic violence suggests that prosocial behavior towards the aggressor group is negatively affected. Some literature also suggests that prosocial behavior towards the in-group, or the victim group, should improve as a result of shared conflict. This paper finds, however, that prosocial behavior for both in and out groups are negatively affected. The authors measure prosocial behavior by having their research subjects complete a prisoner's dilemma (PD) scenario and dictator's game (DG) hypothetical to measure prosocial behavior towards both the in-group and out-group. After running linear regressions measuring the outcomes of these tests as a result of being affected in the riots, they find that there is a strong negative effect on prosocial behavior towards both the in-group and out-group. Using the same models, they test for confounders and then explore an instrumental variable—distance to armored personnel carrier (APC), which were used in the riots— to further improve their robustness testing. Throughout this testing they find their original conclusions hold true and they offer theoretical, qualitative reasoning for why prosocial behavior is negatively affected towards both in and out group members.

I have replicated the key models and figures from the paper using R to perform all statistical analysis and visualizations.[2] The replications are also based off of the raw data and code the authors provided and uploaded at the American Political Science Review Dataverse. [3] My specific replication code, results, and later extensions are available on Github. [4] The replications that I have included and will discuss in this paper are the key models the authors of the original paper use to evidence their key finding of universal lower prosocial behavior. I would like to note, however, that I have not included figures from the original paper that were created using GIS software or other, non-R, programs. I have also not included any models from the author's Appendix that are not relevant to my own extension models, but I will include a link to their online appendix as well. [5] I have successfully replicated almost all of the author's key figures with the exception of certain instrumental regressions that rely on spatial weights. While I have found a non-replicable issue with the original paper's work, I argue that their findings are still strong despite this flaw. I also argue that there are certain areas of their data that should be more thoroughly explored. I have chosen to explore these aforementioned areas through my own extension models. This is not to say that my extensions are exhaustive, but they illustrate areas of the author's original work that I believe warrant greater attention. The author's models focus primarily on how the Uzbek sample of their survey data was affected by the riots in terms of prosocial behavior. The majority of their robustness testing focuses on this sample as well. The authors explored confounders besides victimization that might explain prosocial behavioral outcomes including wealth, community state capacity, community policing, and accessibility. I believe they neglected to include their subject's general attitude towards outgroup members as a potential confounder even though they measure for this in their survey. In extending their analysis to include this measure, I found that while victimization is still statistically significant, a subject's set prosocial attitude intuitively plays an influential role in prosocial outcome. I also believe the authors generally neglected to explore their Kyrgyz comparative sample as extensively as they did their Uzbek sample. Analyzing prosocial behavior among the Kyrgyz sample with the same methodological approach the authors took to with the Uzbek sample, reveals a partial improvement in prosocial behavior towards the outgroup, which is somewhat contradictory to the author's findings. I believe the authors purposefully presented their Kyrgyz modelling in a manner that would ignore this complication of their narrative.

This paper will consist of a review of the relevant literature for understanding scholarship on prosocial behavior and the ethnic riots of Osh, Kyrgyzstan. It will also spend some time to introduce and describe the

[1] Hager, Krakowski, and Schaub 2019

[2] R Core Team (2019). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria.URL https://www.R-project.org/.

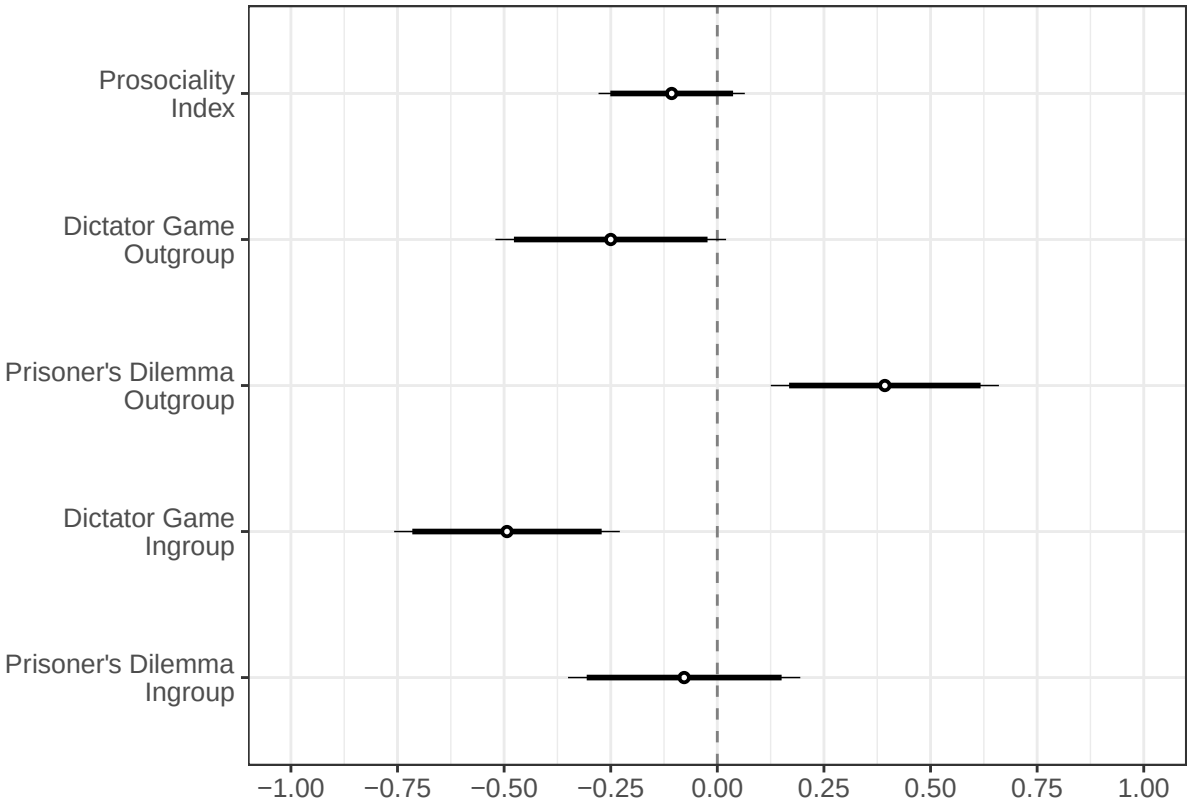
[3] https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/WVBZNE

[4] https://github.com/CianStryker/Replication_Data

[5] https://static.cambridge.org/content/id/urn:cambridge.org:id:article:S000305541900042X/resource/name/S000305541900042Xsup001.pdf

survey data that the authors provided because this paper is non-observational and more attention should be paid to the data itself, the author's data gathering methodology, and the general demographical spread on their survey sample. Then there will be a discussion and analysis of the author's key models and findings with attention paid to areas of potential weaknesses and non-replication. This will then lead into a presentation of my own extensions and what they add to both the original paper's findings, but also to the broader fields of ethnic riots and Central Asian studies. All replications and extensions can be found in the tables and figures section with all code included in the appendix available online. [6]

Figure 1: Affected Kyrgyz Prosocial Behavior



[6] https://github.com/CianStryker/Replication_Data

Table 1: Kyrgyz Data

	Dependent variable:				
	Prisoner's Dilemma (In-Group)	Dictator Game (In-Group)	Prisoner's Dilemma (Out-Group)	Dictator Game (Out-Group)	Cooperation-Index
	(1)	(2)	(3)	(4)	(5)
Destruction	−0.078 (0.143)	−0.522*** (0.138)	0.391** (0.139)	−0.273 (0.142)	−0.121 (0.089)
Wealth index	−0.572 (0.660)	−0.436 (0.639)	0.020 (0.643)	0.039 (0.655)	−0.237 (0.412)
State capacity index	0.112 (0.256)	0.015 (0.248)	0.345 (0.250)	0.255 (0.254)	0.182 (0.160)
Community policing index	0.095 (0.070)	0.132 (0.067)	0.051 (0.068)	0.110 (0.069)	0.097* (0.043)
Accessibility index	−0.534 (0.619)	0.502 (0.599)	1.013 (0.603)	0.276 (0.614)	0.314 (0.386)
AJ Constant	0.252 (0.659)	−0.770 (0.638)	−0.400 (0.642)	−0.885 (0.654)	−0.451 (0.411)
Observations	222	222	222	222	222
R^2	0.018	0.080	0.068	0.034	0.043
Adjusted R^2	−0.009	0.055	0.042	0.007	0.016
Residual Std. Error (df = 215)	1.005	0.972	0.979	0.996	0.626
F Statistic (df = 6; 215)	0.654	3.133**	2.624*	1.263	1.614

Note: *p<0.05; **p<0.01; ***p<0.001

Model 2: Kyrgyz Prosocial Behavior with Instrumental Variable

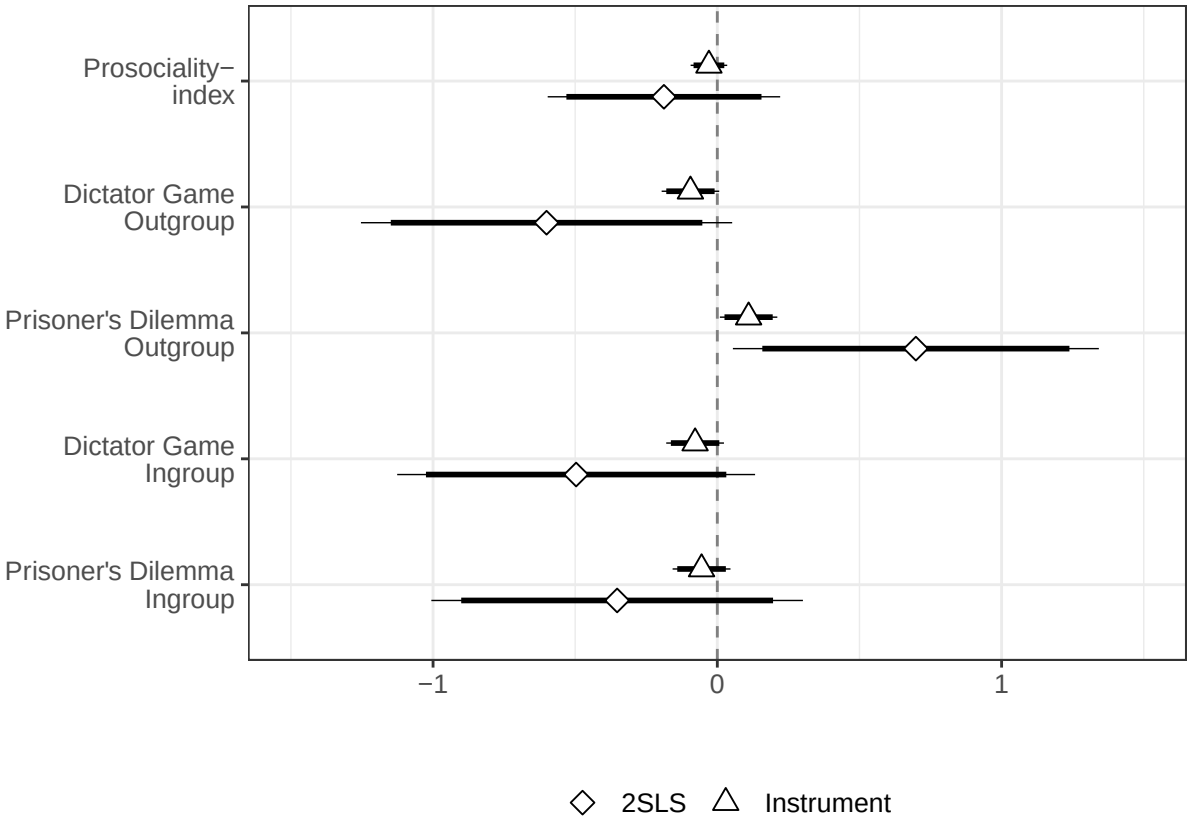


Table 2: Uzbek Confounders

	Dependent variable:				
	Prisoner's Dilemma (In-Group)	Dictator Game (In-Group)	Prisoner's Dilemma (Out-Group)	Dictator Game (Out-Group)	Cooperation-Index
	(1)	(2)	(3)	(4)	(5)
Destruction	−0.221** (0.068)	−0.428*** (0.066)	−0.143* (0.068)	−0.417*** (0.065)	−0.303*** (0.048)
Common Language Usage	0.054* (0.024)	0.109*** (0.023)	0.050* (0.024)	0.161*** (0.023)	0.094*** (0.017)
Education	−0.014 (0.021)	−0.036 (0.021)	0.002 (0.021)	−0.043* (0.020)	−0.023 (0.015)
Kyrgyz Employer	0.149 (0.129)	0.202 (0.125)	0.158 (0.130)	0.187 (0.123)	0.174 (0.090)
Uzbek Employer	0.259 (0.312)	0.241 (0.303)	0.280 (0.314)	0.304 (0.298)	0.271 (0.219)
Russian Employer	0.131 (0.101)	0.217* (0.098)	0.205* (0.101)	0.283** (0.096)	0.209** (0.071)
Unemployed	0.369** (0.133)	0.180 (0.130)	0.320* (0.134)	0.196 (0.128)	0.266** (0.094)
Constant	−0.365* (0.165)	−0.582*** (0.160)	−0.430** (0.166)	−0.750*** (0.158)	−0.531*** (0.116)
Observations	877	877	877	877	877
R^2	0.027	0.081	0.016	0.110	0.091
Adjusted R^2	0.019	0.074	0.009	0.103	0.083
Residual Std. Error (df = 869)	0.990	0.963	0.996	0.947	0.695
F Statistic (df = 7; 869)	3.464**	10.941***	2.077*	15.399***	12.398***

Note: *p<0.05; **p<0.01; ***p<0.001

Table 3: Uzbek Victimization and Common Language Usage Interaction

	Dependent variable:				
	Prisoner's Dilemma (In-Group)	Dictator Game (In-Group)	Prisoner's Dilemma (Out-Group)	Dictator Game (Out-Group)	Cooperation-Index
	(1)	(2)	(3)	(4)	(5)
Destruction	-0.350^{*} (0.160)	-0.484^{**} (0.156)	-0.267 (0.161)	-0.389^{*} (0.154)	-0.372^{***} (0.113)
Common Language Usage	0.062 (0.034)	0.094^{**} (0.033)	0.058 (0.034)	0.123^{***} (0.033)	0.084^{***} (0.024)
Interaction	0.039 (0.046)	0.013 (0.045)	0.037 (0.046)	-0.016 (0.044)	0.018 (0.032)
Constant	-0.313^{**} (0.115)	-0.533^{***} (0.112)	-0.260^{*} (0.115)	-0.625^{***} (0.110)	-0.433^{***} (0.081)
Observations	877	877	877	877	877
R^2	0.018	0.070	0.010	0.093	0.075
Adjusted R^2	0.015	0.067	0.006	0.090	0.072
Residual Std. Error (df = 873)	0.992	0.966	0.997	0.954	0.699
F Statistic (df = 3; 873)	5.411^{**}	21.927^{***}	2.904^{*}	29.827^{***}	23.619^{***}

Note: *p<0.05; **p<0.01; ***p<0.001