

Decision-making games in z-proso

Alexander Ehlert & Heiko Rauhut

University of Zurich, Institute of Sociology

Z-proso Research Workshop
Zurich, Oct. 2018

Integrating two paradigms

Survey questions and behavioral games

self-stated behavior



e.g. fairness
violence (self-reports)
honesty

High external validity

Representative subject pools

factual behavior



e.g. cooperation
altruistic punishment
honesty

High construct validity

Interactive decisions with real consequences

Altruistic cooperation and collective good provisions

1st order

Environmental protection



Ostrom et al., 1999, Science

2nd order

Admonish those who litter in public



Winter & Zhan, 2017, PNAS

Trust in online markets



Negative feedback for abused trust

+	Positive	30	215	215
0	Neutral	6	6	6
-	Negative	73	73	73

Diekmann et al. 2014, ASR

Silence norm in public transport

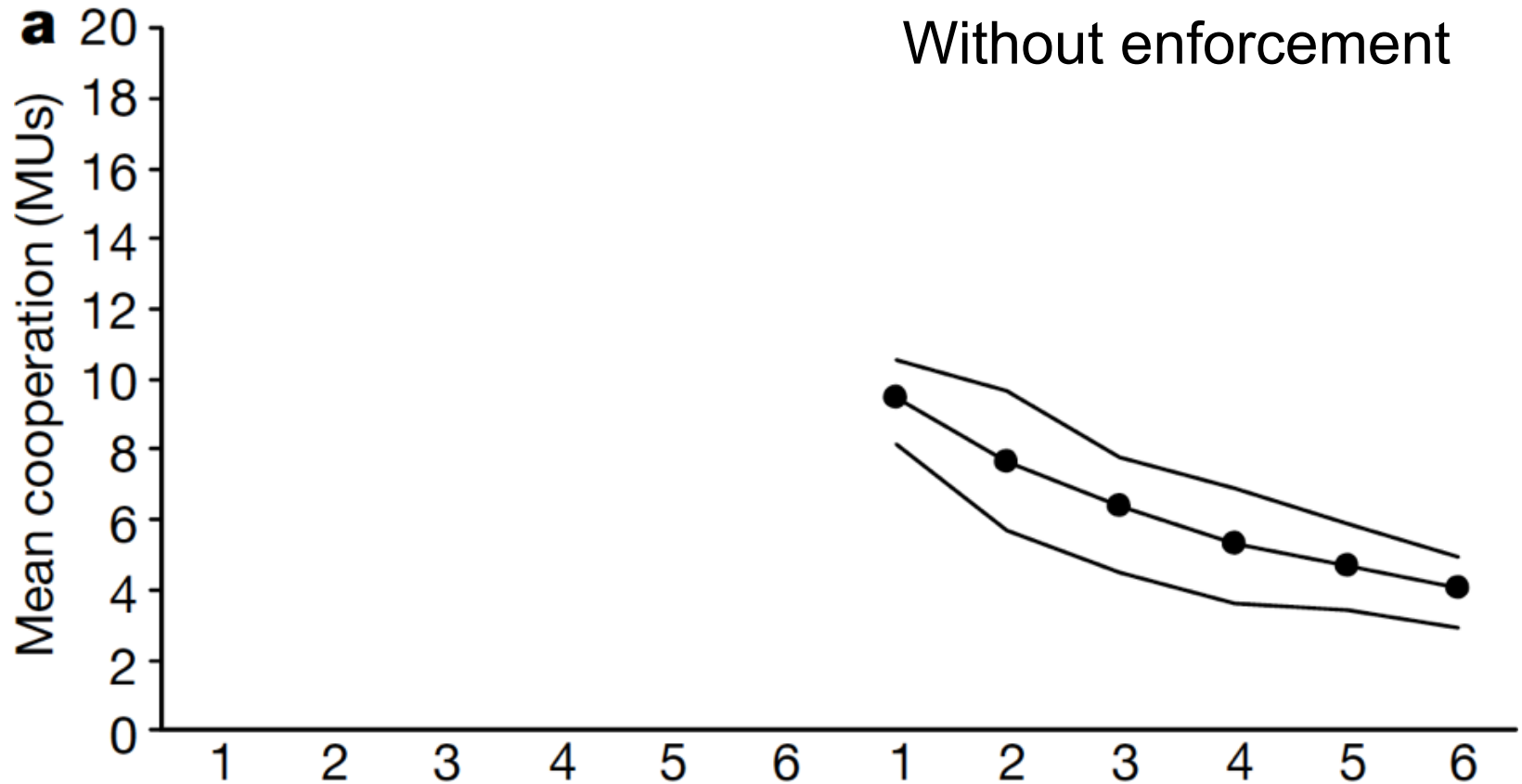


Reprimanding noise-makers



Przepiorka & Berger, ESR

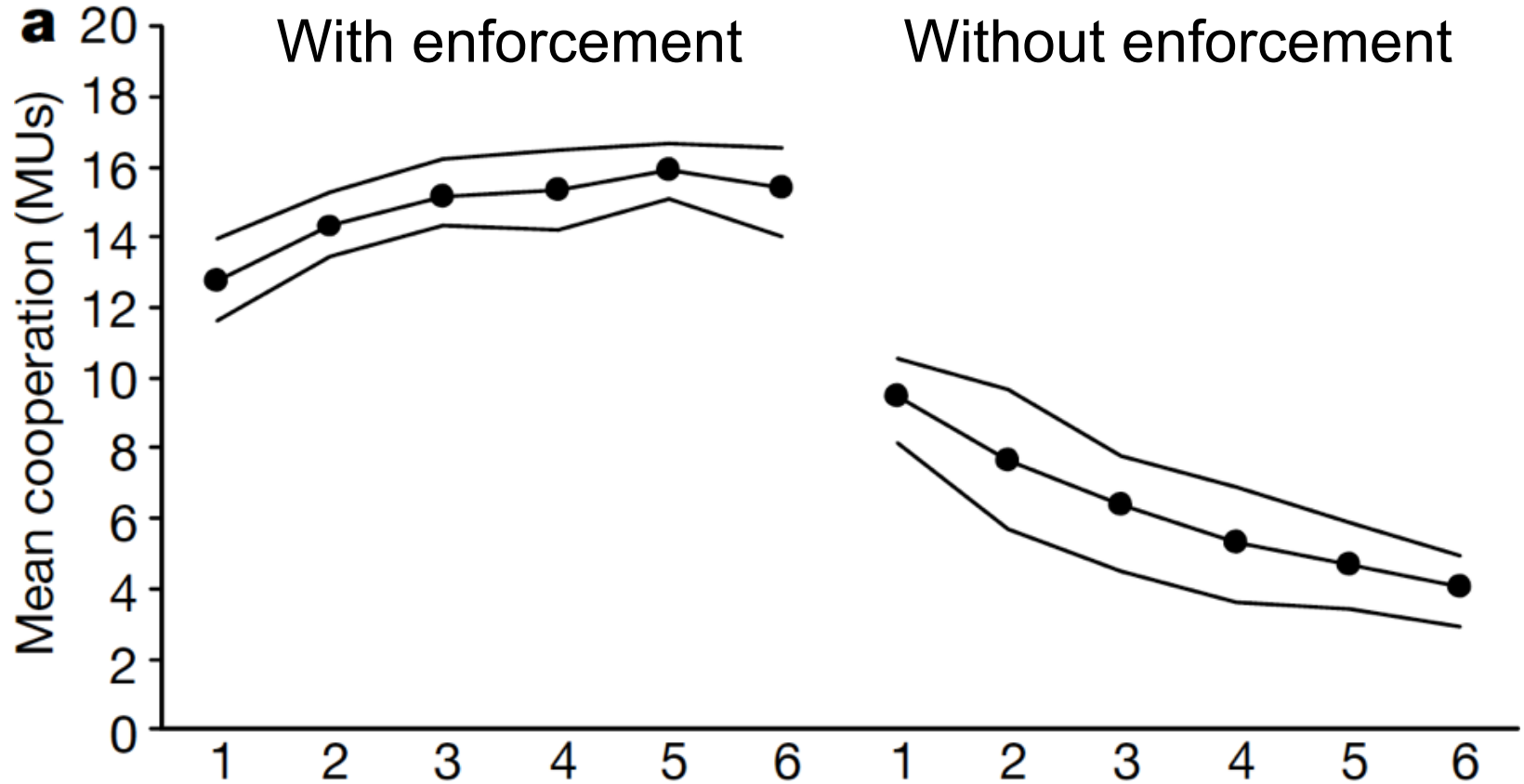
Altruistic cooperation and 2nd order enforcement



Population: Students in Zurich lab

Fehr & Gächter, 2002, Nature

Altruistic cooperation and 2nd order enforcement

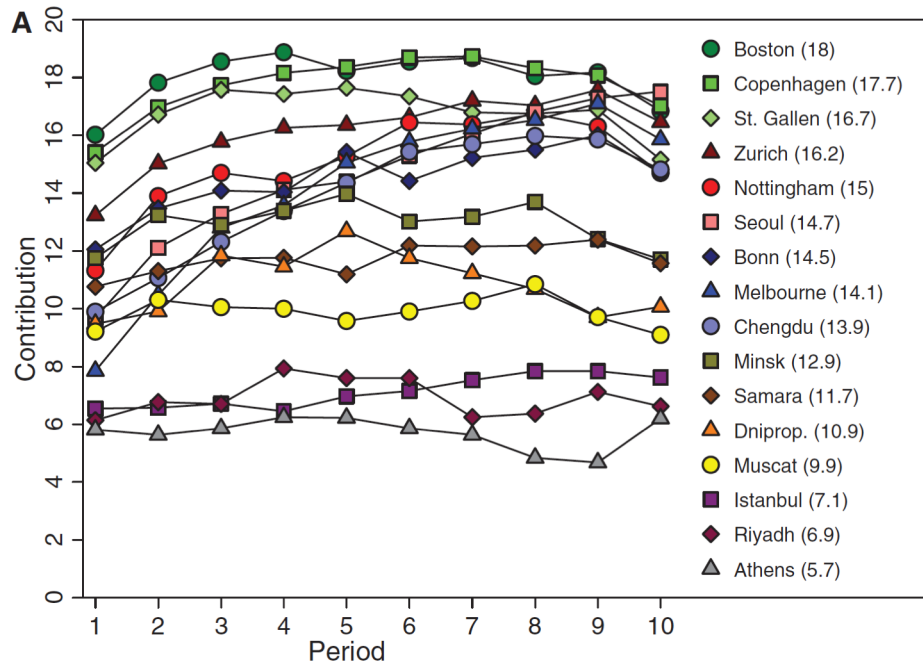


Population: Students in Zurich lab

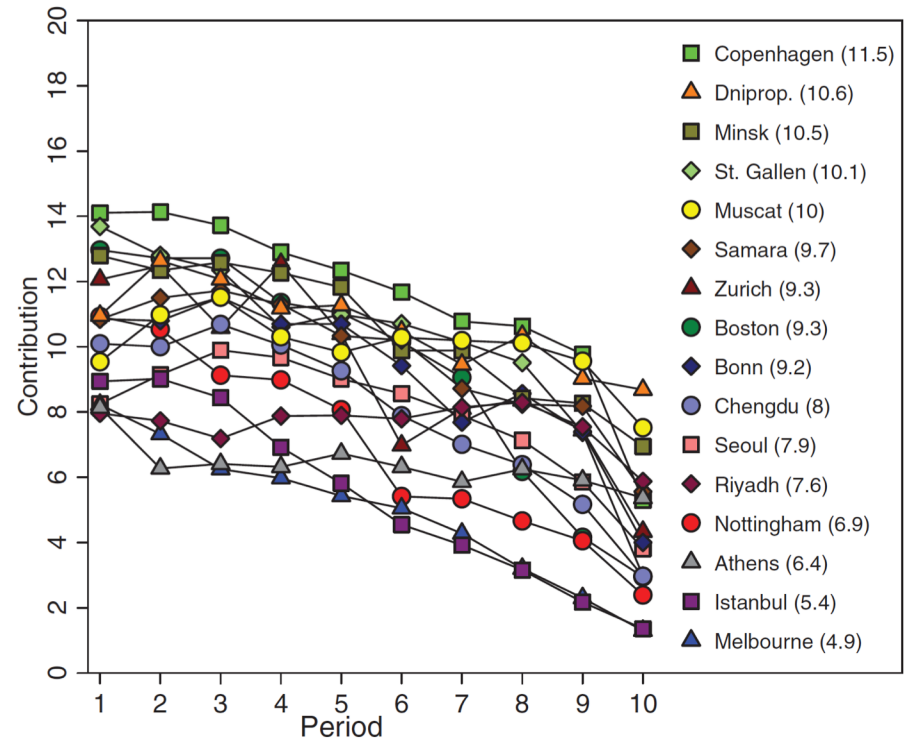
Fehr & Gächter, 2002, Nature

Altruistic cooperation and 2nd order enforcement

With enforcement



Without enforcement



Population: Students worldwide in labs

Herrmann et al. 2008, Science

However: who are those who contribute to 2nd order collective goods? Who establishes social order?

- Hard to investigate in lab studies
- Unique opportunity in z-proso

However: who are those who contribute to 2nd order collective goods? Who establishes social order?

- Hard to investigate in lab studies
- Unique opportunity in z-proso

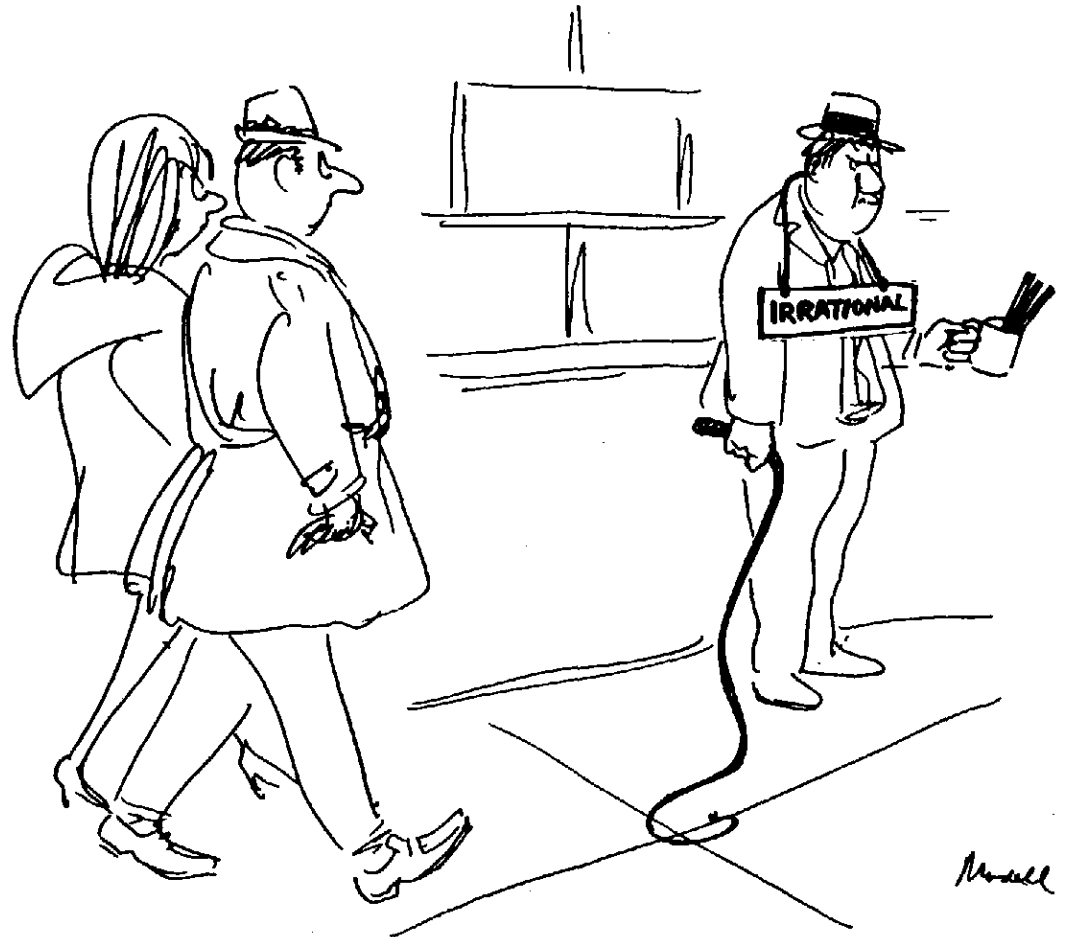
Are enforcers prosocial, cooperative and nice?



However: who are those who contribute to 2nd order collective goods? Who establishes social order?

- Hard to investigate in lab studies
- Unique opportunity in z-proso

Are enforcers prosocial, cooperative and nice?

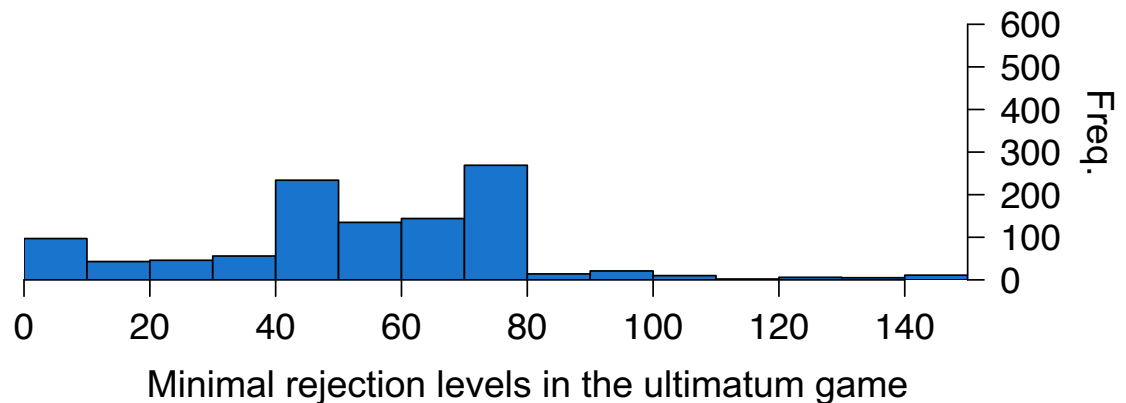
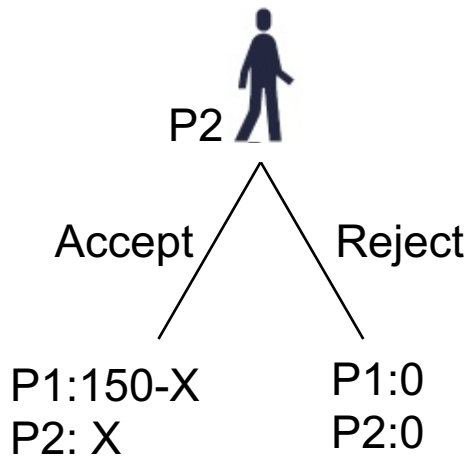
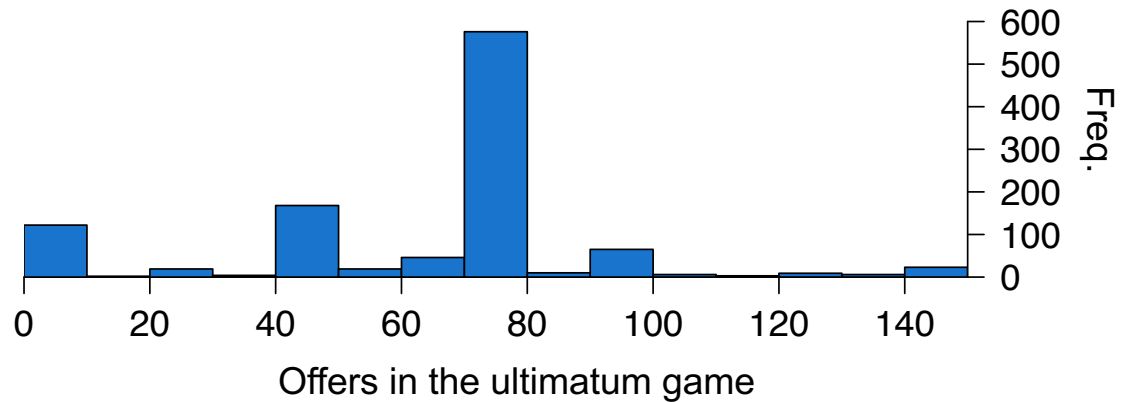
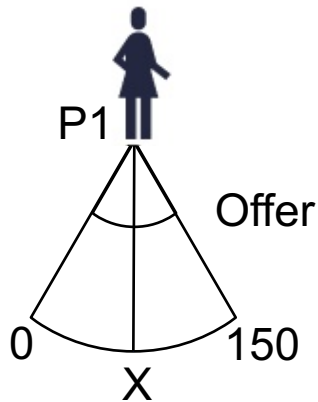


Or even violent?

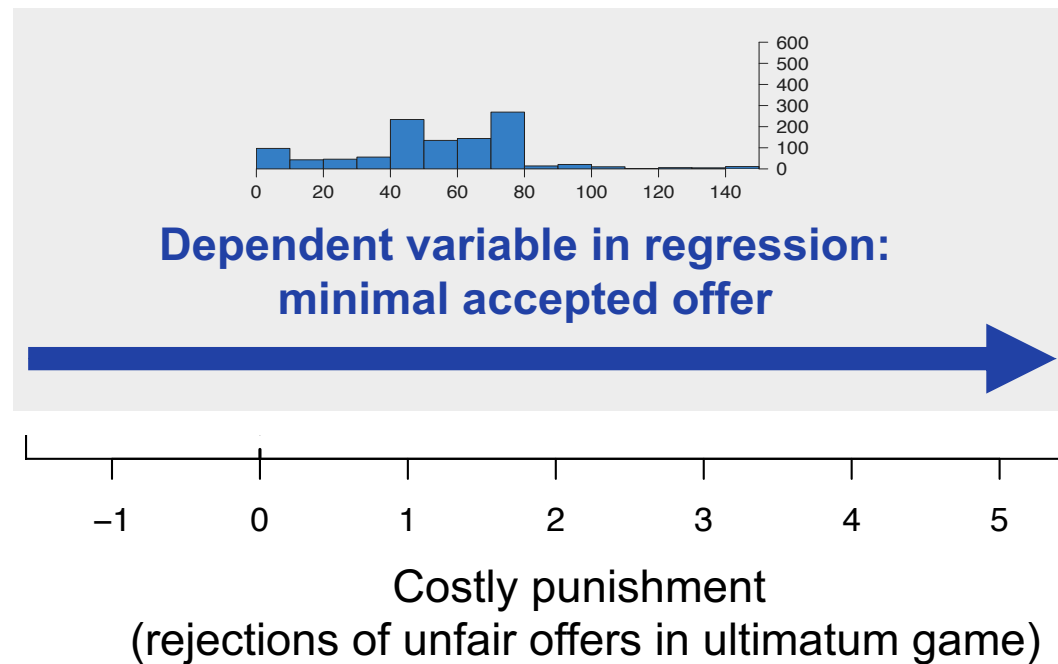
Frank 1988: *Passions within reason*

FIGURE 3.1 The Extortionist
Drawing by Modell: © 1971 The New Yorker Magazine, Inc.

Measurement of norm enforcement: Rejections of unfair offers in ultimatum game



Norm enforcers are violent

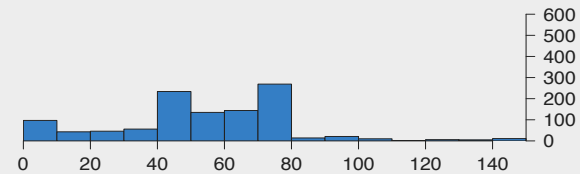


Norm enforcers are violent

Independent variables: Reciprocal violent beh.***
Unconditional violent beh.**

E.g. “If someone insulted you, you reacted aggressively”
E.g. “You attacked someone with violence”

(factor scores; 9 and 6 items)

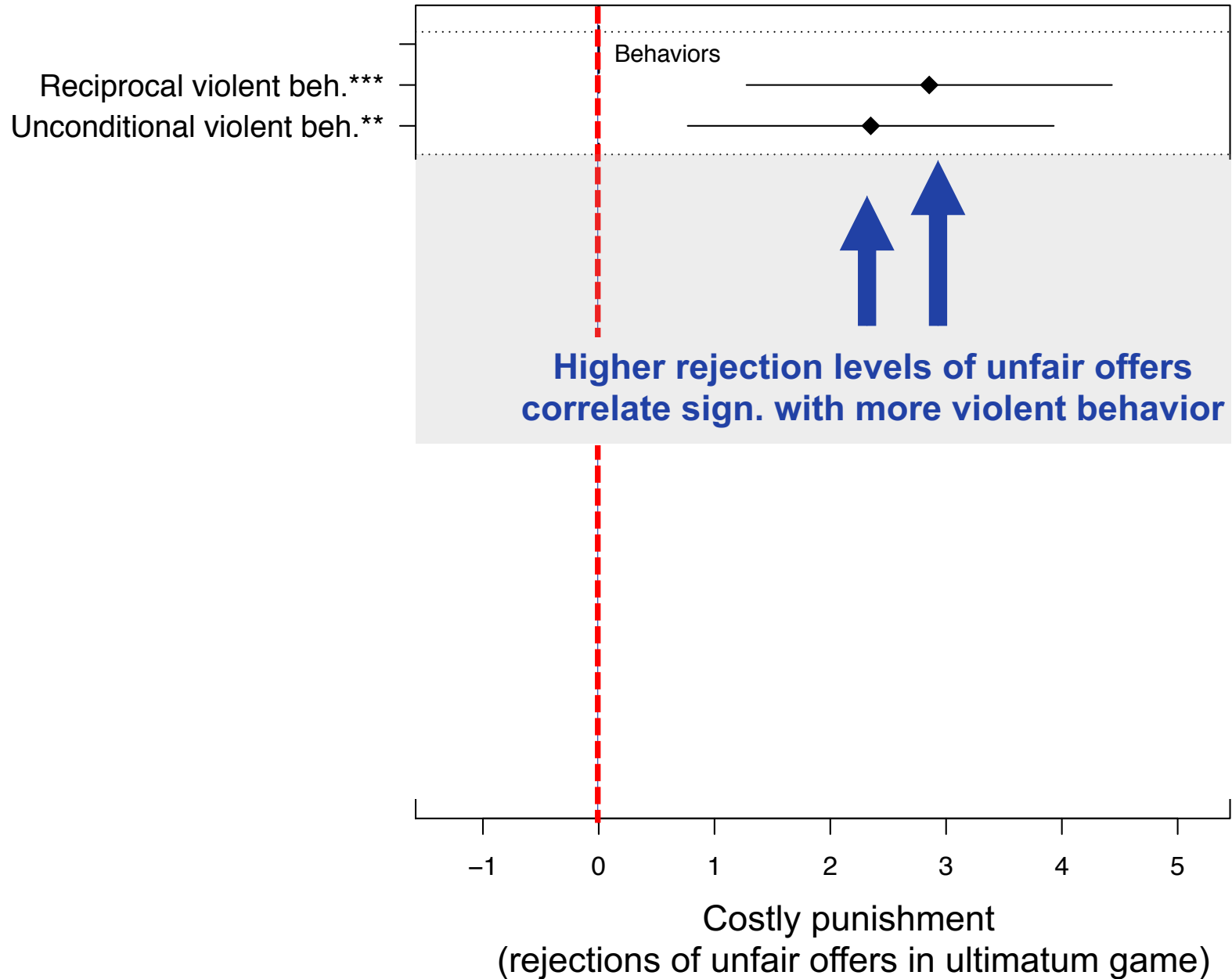


**Dependent variable in regression:
minimal accepted offer**

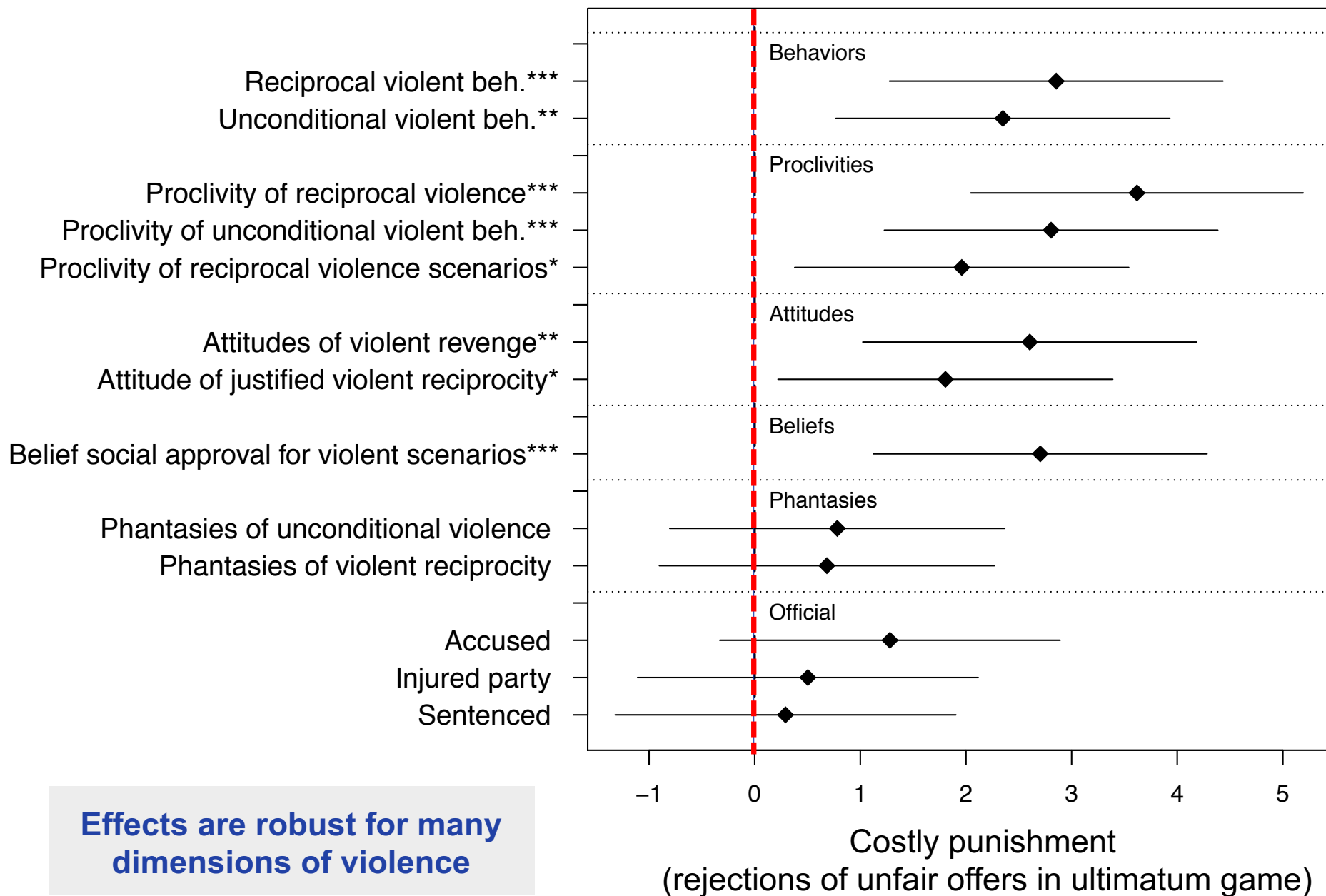


Costly punishment
(rejections of unfair offers in ultimatum game)

Norm enforcers are violent



Norm enforcers are violent



Additional Games in Z-Proso

Honesty Game (Dice)

Preliminary results

- Z-Proso participants more honest than most other subjects (meta-analysis)
- More lying behavior than what self-reports suggest
- Honest behavior as proxy for social desirability bias in crime surveys

Trust Game

Research questions

- Labeling & Signaling: Combination of honesty and trust game
- Are delinquents trusted less?
- Can these beliefs and behavioral responses trigger spiral of criminal careers?

Public Good Game

Preliminary results

- “Ecological” validation of games with “real-life crime data”
- Public good contributors more willing to call the police, be a witness, go to court
- Contributors do less fare-dodging in public transport

Discussion

Contribution to interdisciplinary cooperation and crime research

- Does violence have positive consequences for society?
- Altruistic enforcement of cooperation one of the most important mechanisms to establish cooperation and social order
- However: Altruistic enforcers are also those reporting more violence in their behaviors, proclivities, attitudes, beliefs, phantasies and criminal records

Contribution to labeling and signaling research

- Do signals of dishonesty cause decay of trust, triggering spirals of deviance?

Contribution to survey methodology in criminology

- Behavioral games more valid measures of norm violations than self-reports?

Decision-making games in z-proso

Alexander Ehlert & Heiko Rauhut

University of Zurich, Institute of Sociology

Z-proso Research Workshop
Zurich, Oct. 2018

Appendix

Dice Games

Methodological contribution

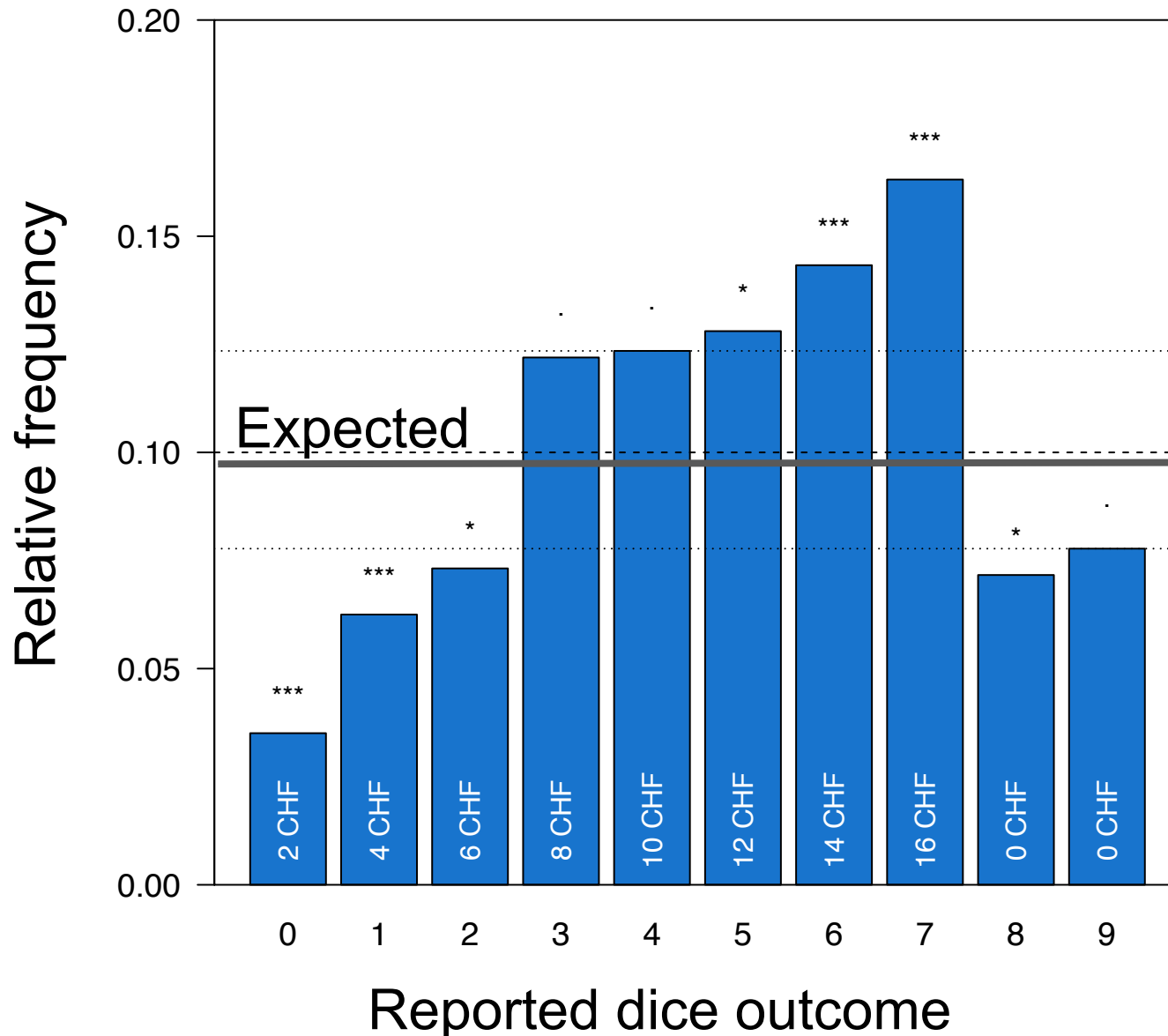
- How honest are survey respondents (in z-proso)?
- Behavioral honesty measure as estimate for social desirability bias?



Thrown number	0	1	2	3	4	5	6	7	8	9
Resulting payoff	20	40	60	80	100	120	140	160	0	0

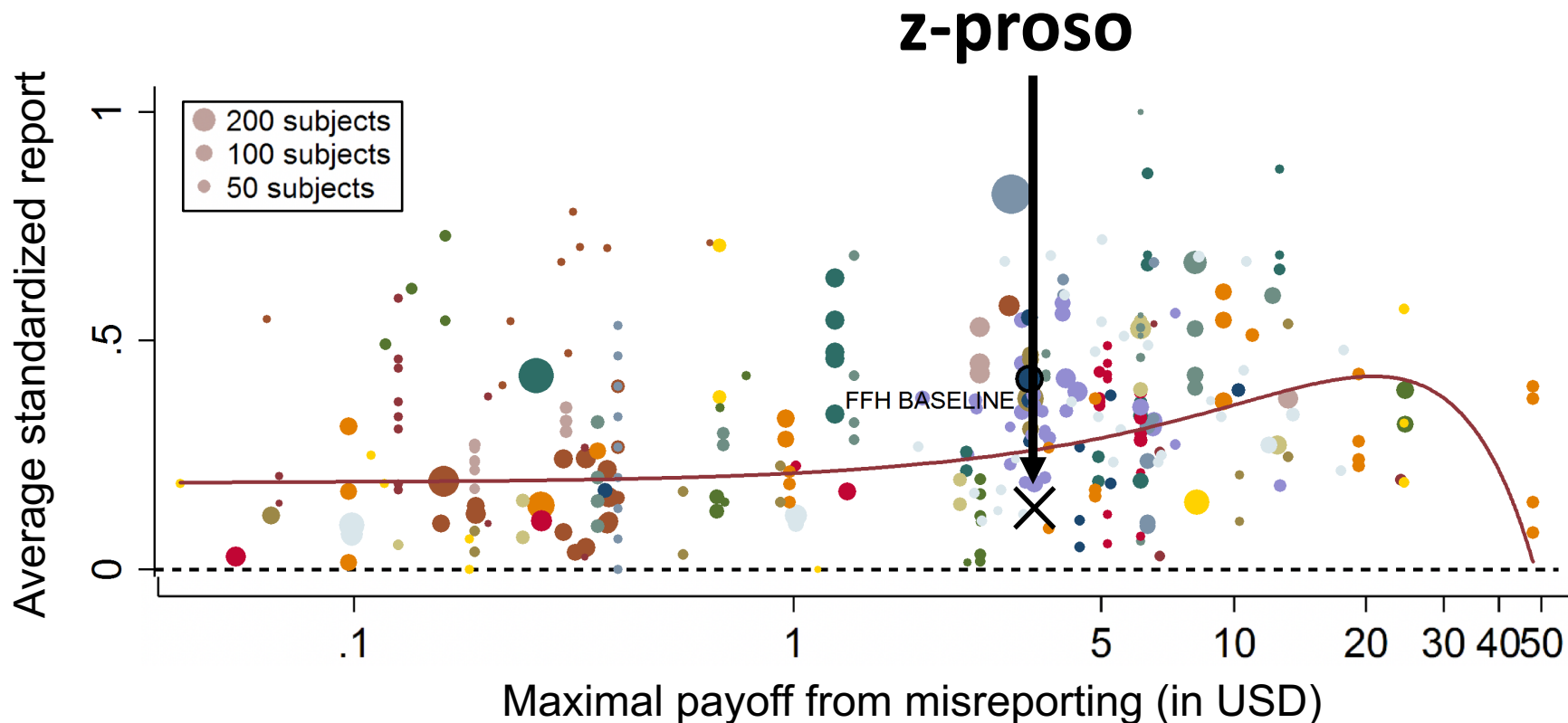
Measure of honesty with monetary incentives for lying in completely anonymous setting (similar to randomized response technique in surveys)

Z-proso respondents lie (p<0.001)



Honest ~35%
Partial liars ~58%
Cheaters (income max.) ~7%

Z-proso respondents lie less than subjects in most other studies



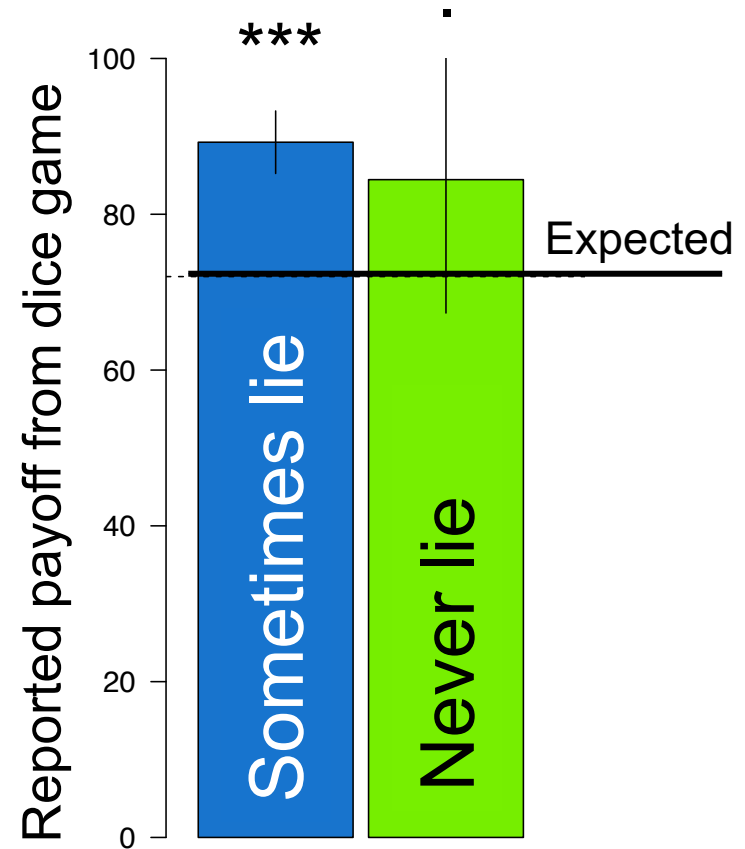
Abeler et al. (2016) and own complication

- Z-proso subjects claimed only 1/7 of what they could maximally achieve
- Panel design probably helped building trust and enhancing honest reporting

However: Even self-reported “never-liars” act as liars



However: Even self-reported “never-liars” act as liars



No difference in payoffs $P = 0.6$ (two-sample t-test)
Marginal significance difference $P = 0.06$ (Chi squared test for uniform distribution)

Suggestion: Honest behavior as measure of social desirability

- Respondents who are more honest in dice game are also more honest in admitting socially undesirable behaviors
- Honest respondents...
 - admit having thought about killing themselves more often
 - admit watching porn more often
 - admit consuming drugs and pornographic material more often
 - admit feeling less successful, happy and accepted by society

Dice: Add-on: social desirability / honest people

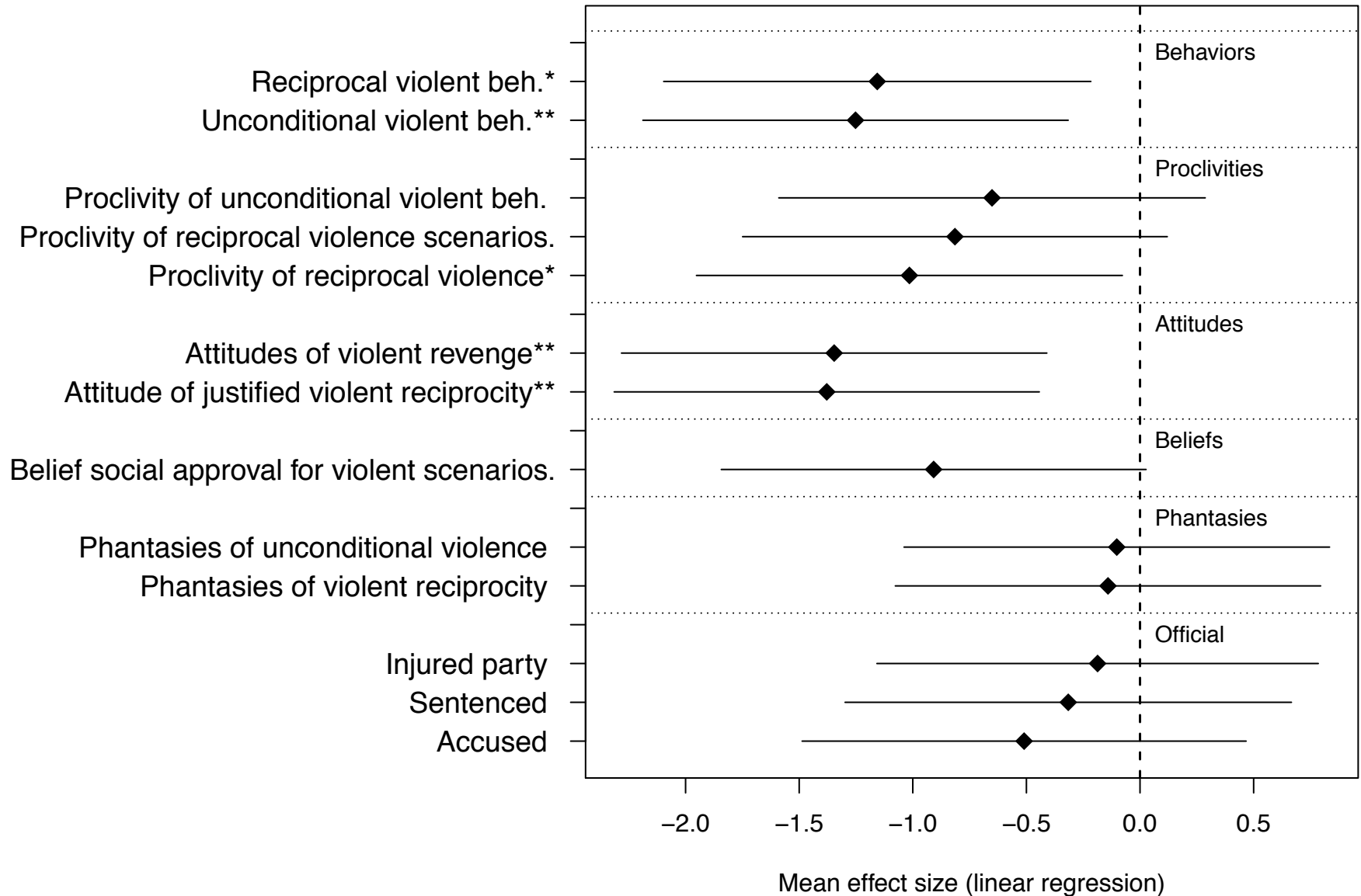
Characteristics of subjects that report payoffs below the expected value (i.e. are more honest, despite high false negative):

Question	Honest N=392	More dishonest N=715	SMD	P- value
If you were mad at someone, you told his / her secrets to others.	1.11	1.2	0.18	<0.001
Have you ever been to a psychologist, psychotherapist or psychiatrist	1.67	1.52	-0.18	<0.001
I have the feeling that I do not really belong to society.	1.87	1.74	-0.16	<0.01
Consumed alcohol and drugs with your group	2.84	2.66	-0.16	0.04
I thought of killing myself	1.36	1.25	-0.15	0.02
I achieve the goals that I set myself	2.89	2.98	0.14	0.03
Watched porn films above	3.07	2.75	-0.16	<0.01

1st order cooperation and violence

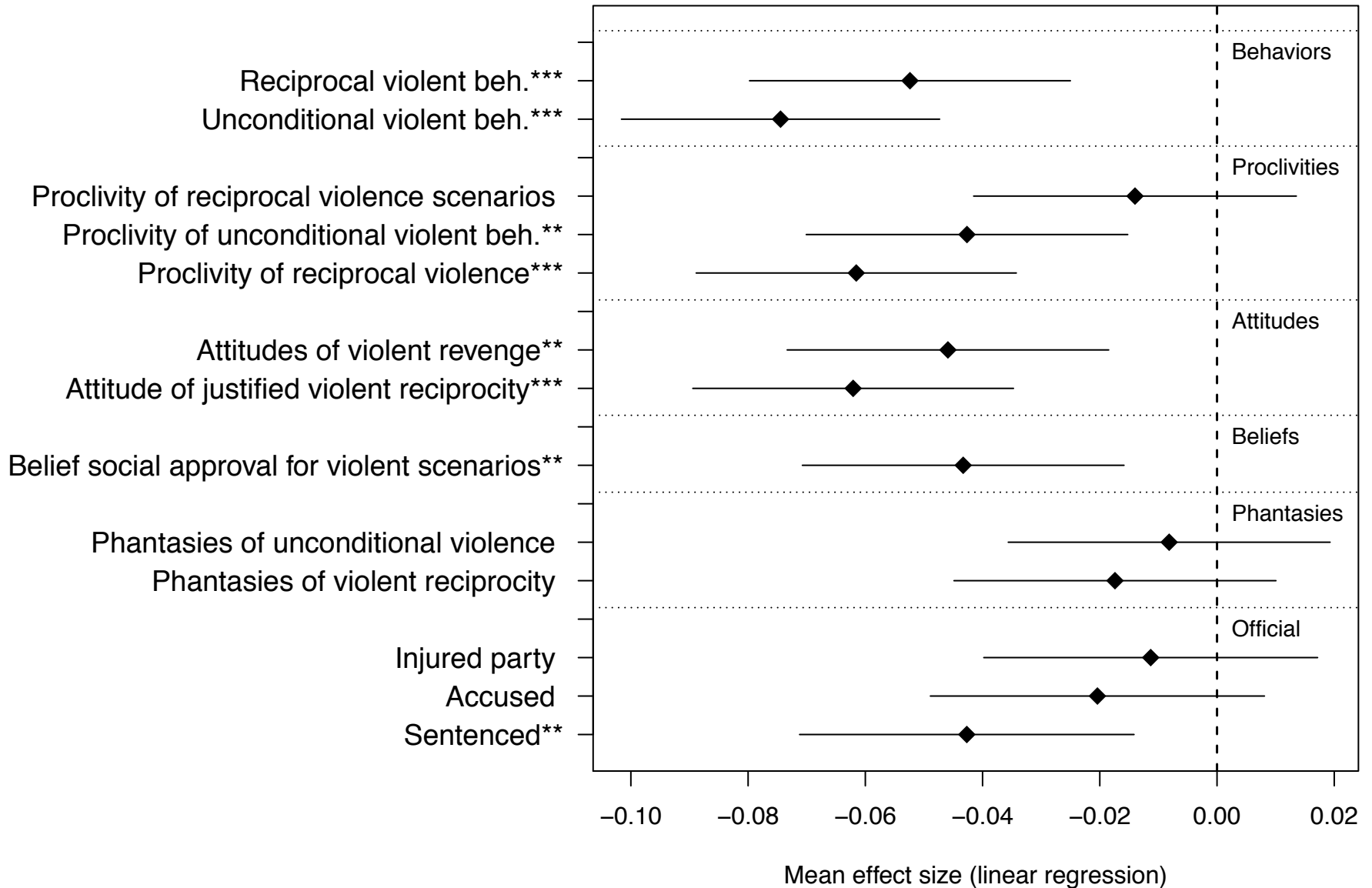
Appendix

pgg contribution



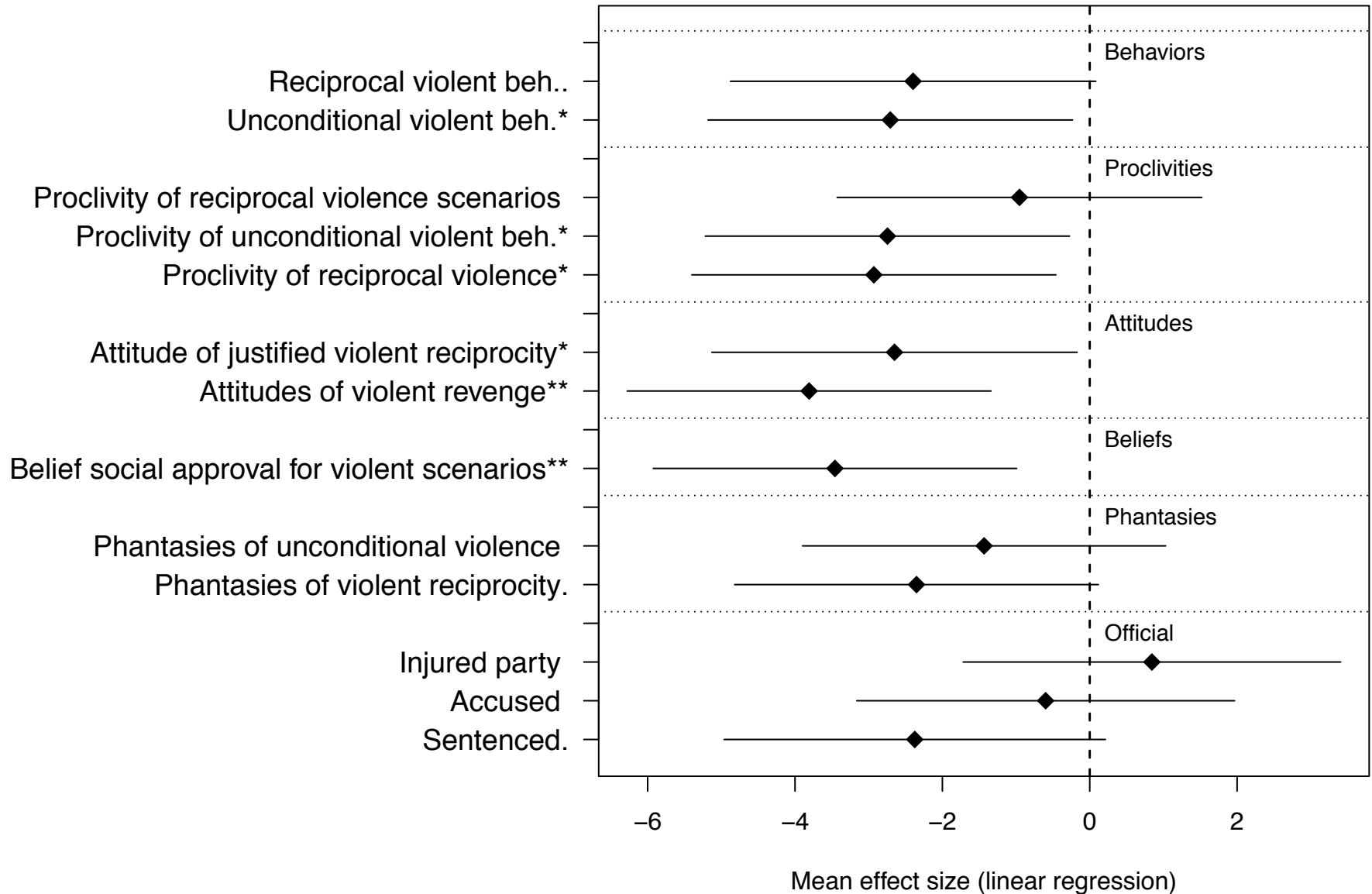
Appendix

trust game send



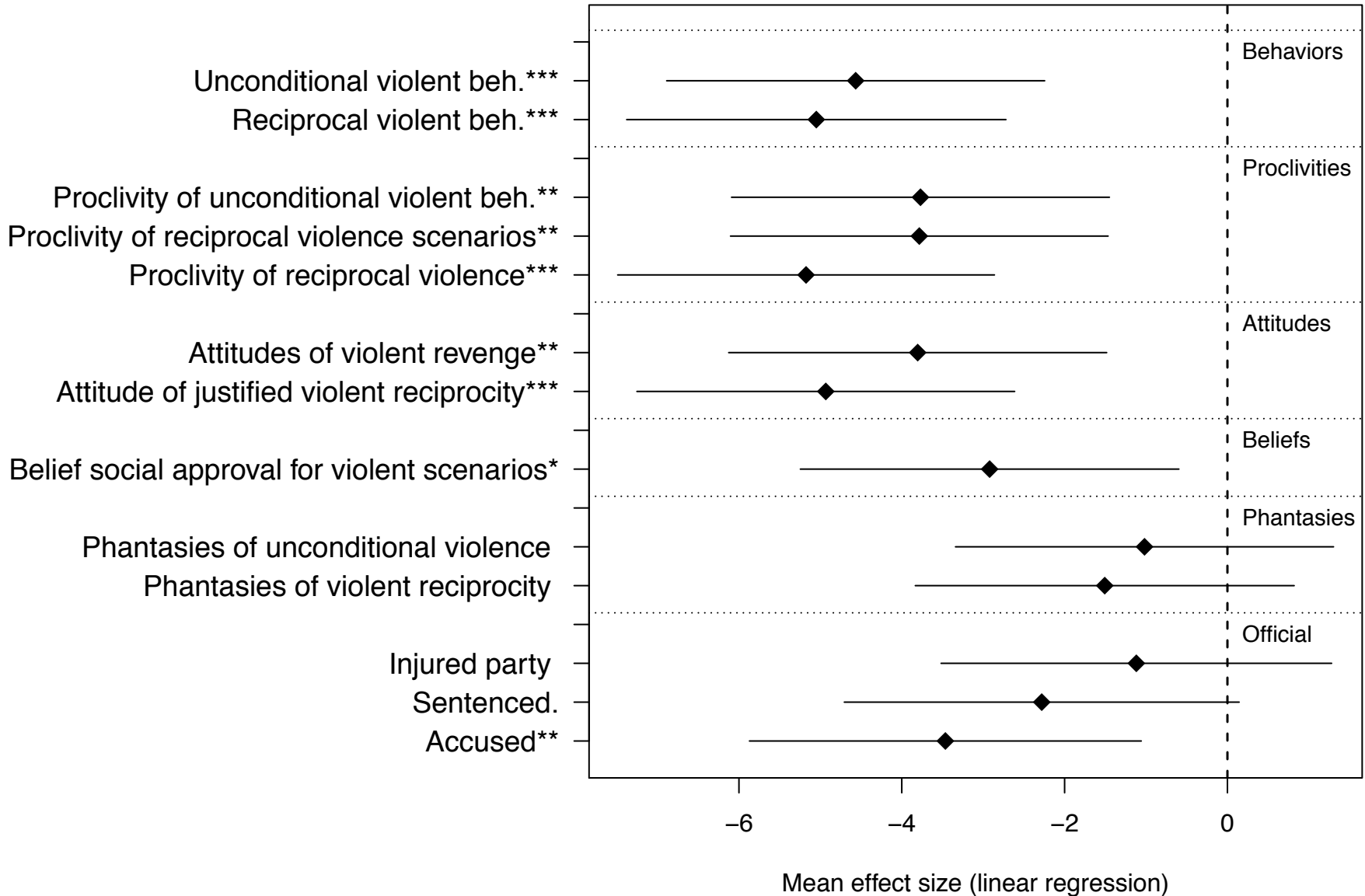
Appendix

trust belief



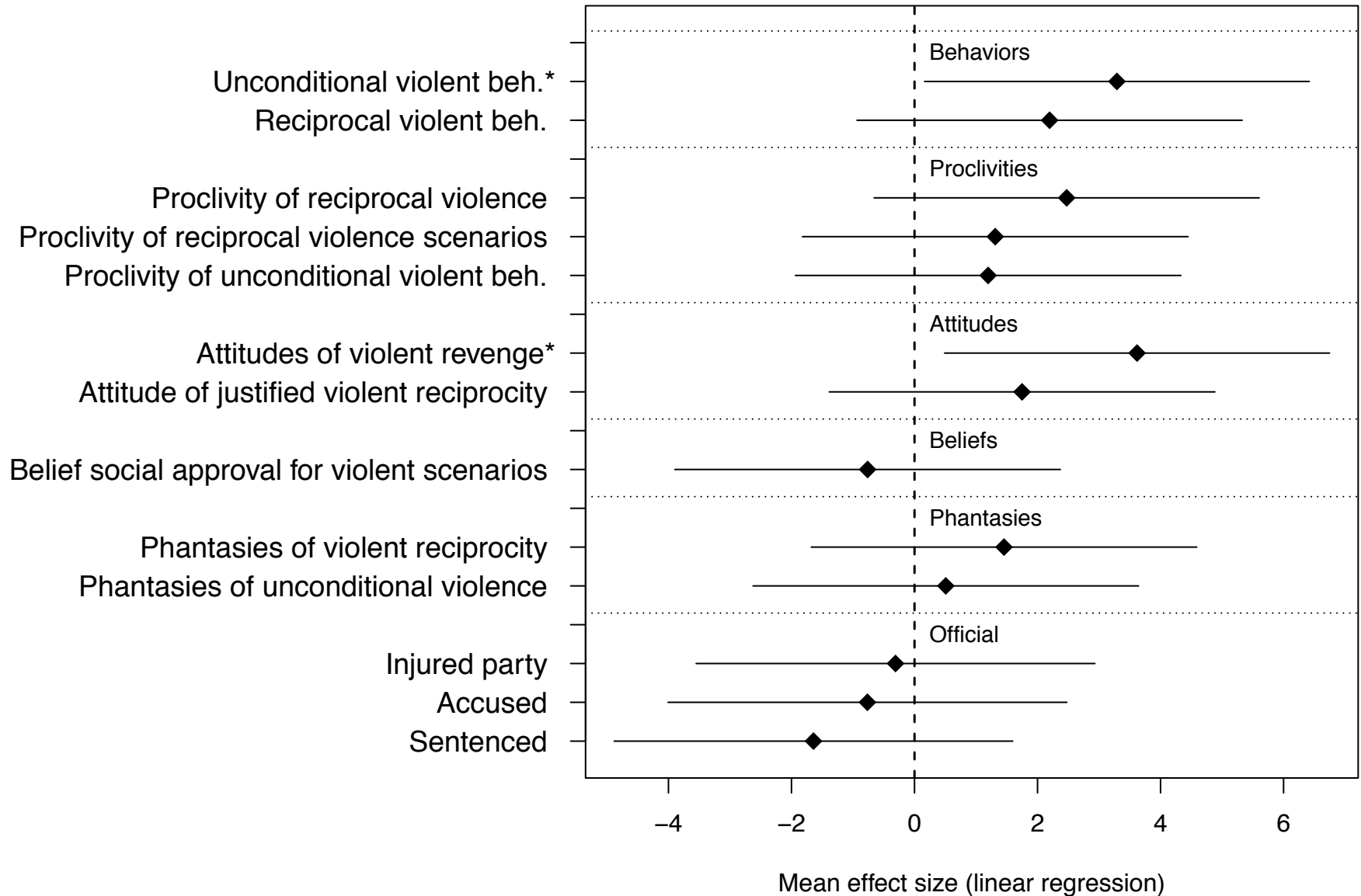
Appendix

trust game send back



Appendix

own dice payoff



Scales Violence

Scales: Violent behavior

Reciprocal violent behavior: Cronbach's alpha=0.74

- If someone insulted you, you reacted aggressively. (1)
- If someone annoyed or irritated you, you became very angry. (.79)
- If you were mad at someone, you told others unkind things about him / her. (.57)
- You yelled at your parents in anger. (.61)
- If you were mad at someone, you tried to exclude him / her from the group. (.55)
- If you have been angry at someone, you have told his / her secrets to others. (.4)
- If someone wanted to take something from you, you violated it by force. (.73)
- You threw an object on your parents out of anger. (.27)
- You beaten or kicked your parents out of anger. (.19)

Unconditional violent behavior: Cronbach's alpha=0.79

- You attacked someone with violence. (1)
- You have intimidated others to do what you wanted. (.73)
- You beat or kicked other people. (.98)
- You have humiliated and snub others. (.87)
- You participated in brawls. (.91)
- If you did not get what you wanted, you freaked out. (.8)

Scales: Proclivity of violence

Proclivity of reciprocal violence: Cronbach's $\alpha=0.87$

- A real man is ready to strike when someone talks badly about his family. (1)
- A man must be able to strike if offended. (.7)
- It's okay to beat someone who does not respect your group or friends. (.65)
- Some people have to be bothered to teach them a lesson. (.74)
- If somebody does something stupid, one may be mean to him / her. (.71)
- Some people are bothered because they deserve it. (.74)
- Sometimes you have to hurt someone, if you have problems with him / her. (.66)

Proclivity of unconditional violent behavior: Cronbach's $\alpha=0.79$

- People sometimes need to be beaten up. (1)
- By violence many problems can be solved. (.72)
- Sometimes it is okay to bother others. (.69)
- It's okay to physically fight with someone to protect one own rights. (.84)
- You have to hurt others before they hurt you. (.71)
- Only cowards run away from a fight. (.62)

Proclivity of reciprocal violence (scenario-based): Cronbach's $\alpha=0.66$

- Would you feel good about your revenge? (1)
- -Would you find it bad to do such things? (-1.15)

Scales: Beliefs and phantasies

Belief social approval for violent behavior (scenario-based): Cronbach's $\alpha=0.84$

- In cases of a revenge: Would your best friends admire you and think you are cool? (1)
- -Would your best friends think it's bad? (-1.34)
- -Would you feel ashamed in front of your best friends? (-1.7)
- -Would it be bad for you if your best friends would know? (-.99)

Phantasies of violent reciprocity: Cronbach's $\alpha=0.83$

Indicate how often you have thought of the following things (over the last month):

- To harm a person for what he/she did to me. (1)
- To kill someone who insulted my family or my friends. (.3)
- To kill a person close to me who has humiliated or offended me. (.26)
- To violently pay back someone for harming a person I feel close to. (.79)

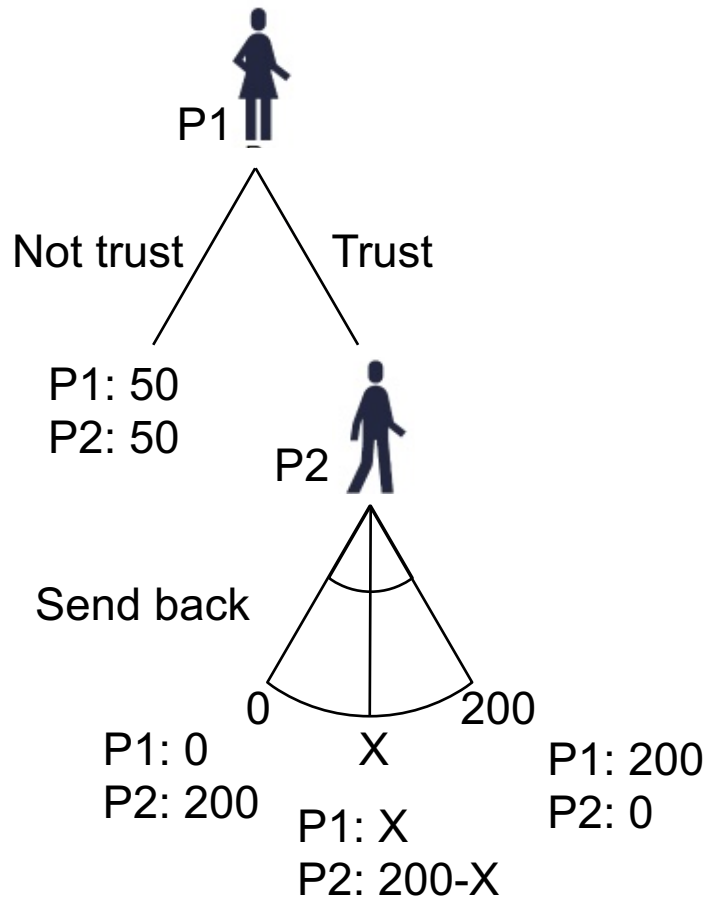
Phantasies of unconditional violence: Cronbach's $\alpha=0.84$

Indicate how often you have thought of the following things (over the last month):

- To seriously hurt a person I do not like. (1)
- To kill someone I know. (.55)
- To beat a stranger for no reason. (.33)
- To humiliate someone whom I despise. (.86)
- To beat a person who is weaker than me. (.33)
- To beat up a person I perceive as totally disgusting. (.8)
- To cause severe pain to a person. (.85)

Game Designs

Trust

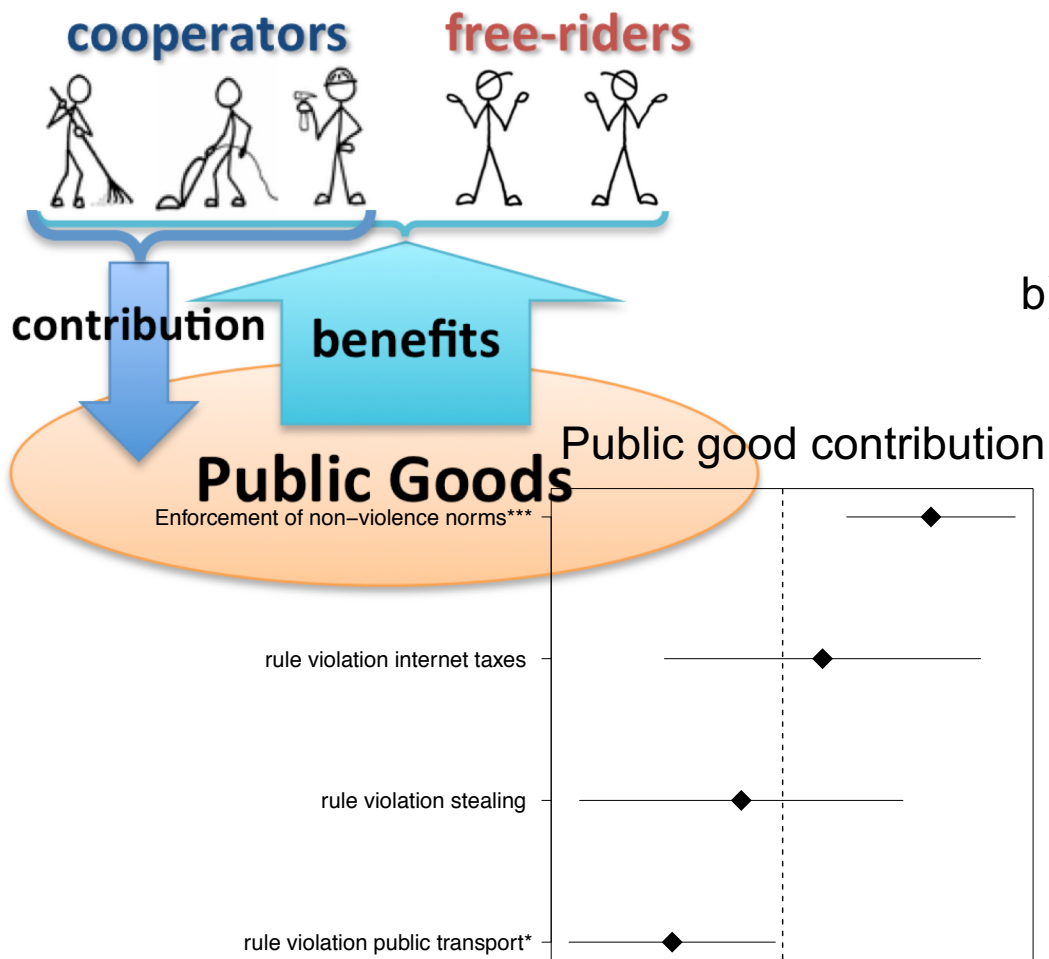


Main Questions:
“What are the determinates/roots of trust”
(longitudinal)
&
“Do delinquent individuals process suspicious
signals differently?”

Additional Games in Z-Proso

Public good game

Behavioral game perspective:



In deed, two examples:

- a) People that are willing to help identifying criminals, call the police etc. (PG 2nd order) contribute significantly more to the PGG
- b) People that are fare-dodging in the public transport contribute significantly less to the common good