

**At the Mercy of a Prisoner  
Three Dictator Experiments**

Abstract

We test male juvenile prisoners on a dictator game with another anonymous co-prisoner as recipient. Prisoners give more than students, but less than non-students of their age. They give more to a charity than to another prisoner. In one of two experiments, those convicted for violent crime give more than those convicted for property crime.

JEL: A12, C91, C93, D03, D63, K14

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## **At the Mercy of a Prisoner Three Dictator Experiments**

### **1. Research Question**

Individuals (do not) commit crime because they are more selfish than others (Birkeland, Cappelen et al. 2014). Those who have committed crime feel the urge to do good to others, to restore their self image (Gummerum and Hanoch 2012). To reject the first, and to support the second claim, the same experimental design has been used: a dictator game with prisoners. In the first study, prisoners do not give significantly less. In the second study, prisoners even give more.

Strictly speaking, neither claim follows from the data. Ideally for testing the first claim one would have to randomly induce selfishness in some but not in other, otherwise identical individuals. One would then observe whether they commit crime, e.g. by checking the crime register. Ideally for testing the second claim, one would randomly induce otherwise identical individuals to commit crime. One would deprive them of any other opportunity to restore the moral balance. One would then observe whether those who committed crime give more to an outsider.

Now both ideal designs are out of the question. If selfishness is a personality trait, it cannot be randomly assigned. And no ethics board would approve a design that turns innocent individuals into criminals. One must live with indirect and imperfect ways of substantiating the claims. If prisoners give less in the dictator game, this is consistent with the claim that more selfish individuals self-select into a criminal career. If prisoners give more in the dictator game, this is consistent with the self esteem explanation.

Now this indirect evidence consists of population comparisons. One cannot rule out that a difference has been caused by specific features of the sample. Gummerum and Hanoch (2012) test adult male UK prisoners from a low security prison with mean age 38.24 years, and a mean sentence of 261 months. Birkeland, Cappelen et al. (2014) test adult male Swedish prisoners from a medium security prison. 76.4% of them are above 25 years old.<sup>1</sup> We add robustness by going to a different country (Germany), and testing (male) juvenile offenders with a much shorter sentence length (27.83 months in the first experiment, 33.10 months in the second experiment). As controls we use data from a meta study one of us has written (Engel 2011). We have microdata about crimes. We exclude ingroup solidarity as a motive by also testing donations to a charity.

### **2. Design**

In 2009, 58 male inmates of the Adelsheim prison participated. Mean age was 19.64 years. Participants on average had already served 9.26 months. 34 were convicted for violent crime, 44 for property crime.<sup>2</sup> Prisoners on average dispose of 180 € per month.

Two participants are randomly and anonymously matched. Each participant decides in the active role. Afterwards, one player is randomly chosen as dictator (cf. Selten 1967). He decides which multiple of 50 Cents from an endowment of 5 € (7.34 \$) to send to the other player, who has no endowment. We use zTree (Fischbacher 2007) and a “double blind” (Hoffman, McCabe et al. 1994) protocol. We assign each participant an identification number. The prison administration matches

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<sup>1</sup> Sentence length is unreported.

<sup>2</sup> The two numbers do not add up to 58 since some inmates fall into both categories, mostly because they committed robbery.

identification numbers with demographic information, while we never learn names. Participants are aware of this safeguard.

In 2012, 62 male inmates of the same prison participated in the second experiment. Mean age was 19.81 years. Participants on average had already served 9.47 months. 37 were convicted for violent crime, 24 for property crime. No participant of the second experiment participated in the first experiment. Each prisoner participated in an exact replication of the first experiment, and in a second dictator game. In the latter game, all prisoners held the active role. They decided which fraction of 5 € to send to *Brot für die Welt*, a well-renowned charity.

On both occasions, the dictator game(s) were part of a battery of tests (with no relevance to the present paper), so that the prison administration could not infer choices in the dictator game from overall payoff.

**3. Results**

**a) Prisoner to Prisoner vs. Control to Control**

We twice replicate the surprising earlier finding. In 2009, 38 of 58 participants give a positive amount, 12 even more than half of the pie. In 2012, 38 of our 62 participants give a positive amount to the other, anonymous inmate of the same prison. 16 give half of the endowment or more. Descriptively, this is very similar to 18,229 students. 62.64% of them give a positive amount. 28.33% give 50% or more of their endowment. However, 1491 non-students of similar age behave differently. Only 8.52% keep the endowment. 54.46% give 50% or more (Figure 1).

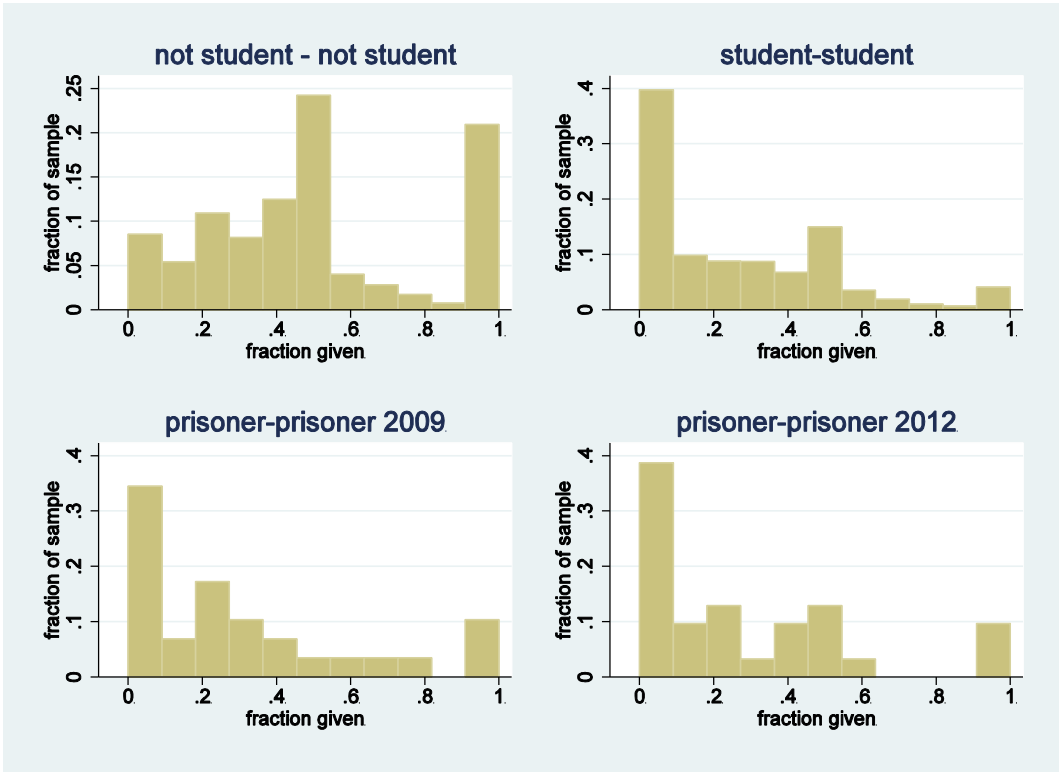


Figure 1  
Descriptives

The prisoner sample of 2009 gives significantly more than students. This supports Gummerum and Hanoch (2012). The effect is also present if we pool the data from both experiments. But in the

sample of 2012, the effect is only weakly significant. Yet the effect reverses if we compare prisoners with non-students (Table 1).

	comparison with students			comparison with non-students of comparable age		
	OLS	Tobit0	Logit0	OLS	Tobit0	Logit0
<b>controls vs prisoners 2009</b>						
prisoner	.048*** (.010)	.070*** (.015)	-.225** (.077)	-.203** (.068)	-.262** (.075)	1.732*** (.485)
cons	.245*** (.010)	.131*** (.016)	-.417*** (.077)	.496*** (.068)	.483*** (.071)	-2.374*** (.485)
N	18287	18287	18287	1549	1549	1549
<b>controls vs prisoners 2012</b>						
prisoner	.019+ (.010)	.025+ (.015)	-.042 (.077)	-.232** (.068)	-.304*** (.076)	1.914*** (.485)
cons	.245*** (.010)	.131*** (.016)	-.417*** (.077)	.497*** (.068)	.483*** (.071)	-2.374*** (.485)
N	18291	18291	18291	1553	1553	1553
<b>controls vs prisoners 2009 and 2012</b>						
prisoner	.033* (.015)	.047* (.021)	-.129 (.100)	-.218** (.069)	-.284*** (.077)	1.827*** (.489)
cons	.245*** (.010)	.131*** (.016)	-.417*** (.077)	.497*** (.068)	.483*** (.071)	-2.374*** (.485)
N	18349	18349	18349	1611	1611	1611

Table 1  
*Comparison with General Public: Statistical Tests*  
 all models cluster standard errors for studies  
 Logit0: dv is a dummy that is 1 if the participant has given nothing  
 OLS: dv is fraction of pie, normalized on the interval [0,1]  
 Tobit0: dv as in OLS, lower level 0  
 standard errors in parenthesis  
 \*\*\* p < .001, \* p < .1

We conclude

*Result 1: In the dictator game, prisoners give more than students, but less than members of the general public of comparable age.*

### **b) Prisoners Giving to Charity**

Birkeland, Cappelen et al. (2014) find that the amount prisoners give to a randomly assigned member of the general public is statistically not distinguishable from the amount they give to another anonymous prisoner from the same institution. Students do even give more if the recipient is a charity (Eckel and Grossman 1996, Small and Loewenstein 2003, Branas-Garza 2006, Fong 2007). Figure 2 and Table 2 show that we find the same for prisoners. This excludes that the first result is driven by in-group favoritism.

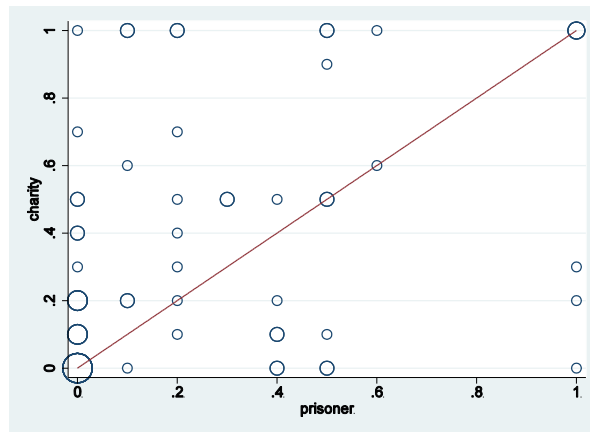


Figure 2  
*Giving to Another Prisoners vs. to a Charity*  
 bubble size stands for frequency  
 bubbles above the line: participant gives more to charity than to another prisoner

charity	.110*
cons	.265***
N	124
p model	.0308

Table 2  
*Giving to Another Prisoners vs. to a Charity: Statistical Test*  
 linear fixed effects regression

We conclude

*Result 2: In a dictator game, prisoners give more to charity than to an anonymous inmate of the same prison.*

### c) Property Crime vs. Violent Crime

Our project was approved by the ethics committee of Bonn University. Prisoners were free not to participate. They could give us permission to ask the prison administration for the crime for which they had been convicted. All participants did. The sample is too small to correlate dictator game giving with individual crimes. But we can separately code all crimes that impinge on foreign property, and all crimes that involve the exercise of physical violence.<sup>3</sup> If those convicted for violent crime give more, this is another hint at the self esteem explanation, and a hint that selfishness might at least matter for those crimes directly related to goods with monetary value.

The data from the 2009 sample seem to suggest that, indeed, those convicted for violent crime give more in the dictator game than those convicted for crimes that cannot be classified as either property or violent crime.<sup>4</sup> In the Tobit model we also find a weakly significant difference between those convicted for property crime and for violent crime (Wald test,  $p = .0893$ ), and in the Logit model a difference that is significant at conventional levels ( $p = .0042$ ). Those convicted for violent crime are much less likely to give nothing in the dictator game. Yet these results do not replicate in

<sup>3</sup> There is overlap between both categories for robbers.

<sup>4</sup> The residual category comprises drug crime, traffic violations, and the distribution of pornographic material.

the 2012 sample. Descriptively, we even find the opposite. Those convicted for violent crime give less, and are more likely to keep the entire endowment.

<b>2009</b>	OLS	Tobit0	Logit0
property	.102 (.088)	.131 (.128)	-.160 (.680)
violence	.118 <sup>+</sup> (.102)	.455* (.171)	-2.703** (.779)
cons	.099 (.111)	-.249 (.189)	1.426 <sup>+</sup> (.849)
N	58	58	58
<b>2012</b>			
property	-.034 (.090)	-.052 (.139)	.151 (.599)
violence	-.087 (.090)	-.144 (.138)	.546 (.601)
cons	.330*** (.085)	.248 <sup>+</sup> (.131)	-.851 (.581)
N	62	62	62

Table 3

*Dictator Giving by Crime Class*

Logit0: dv is a dummy that is 1 if the participant has given nothing

OLS: dv is fraction of pie, normalized on the interval [0,1]

Tobit0: dv as in OLS, lower level 0

standard errors in parenthesis

\*\*\* p < .001, \*\* p < .01, \* p < .05, + p < .1

We therefore can only state

*Result 3: There is no clear difference in dictator choices between prisoners convicted for violent crime and for property crime.*

#### 4. Conclusion

In the dictator game, prisoners give more than students, but less than other individuals of their age. Prisoners give more to charity than to another anonymous prisoner. It is not clear whether those convicted for violent crime give more than those convicted for property crime.

These findings are consistent with the wish to alleviate bad conscience. But one would need additional evidence, e.g. from self-reports of those who give substantially. Most students are never convicted. This does not suggest that selfishness causes crime. But one would again need additional evidence, e.g. from longitudinal data: are those scoring low in the dictator game less likely to be convicted over time, at least for property crime? Population comparisons are never more than one piece of the mosaic. But our data replicate that prisoners give substantially, and we show that they give even more if the recipient is a charity.

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