Title: Don't Take What Isn't Yours: Third-Party Punishment and Taking
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Abstract
This paper presents experimental evidence from a one-shot three-person game showing that individuals are willing to punish – and willing to spend more on punishment of – taking behavior more than they are willing to punish non-taking behavior. It also includes a replication of a dictator game with taking. Selfish behavior does not statistically significantly differ across treatments. We argue that the differences in punishment behavior are consistent with intention-based preferences and norms against taking.

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Highlights of ‘Don't’ Take What Isn’t Yours’

- We introduce a variation of the dictator game with third-party punishment in which dictators can take from receivers.
- Third parties punish taking more often than not taking (the proportion of third parties choosing to punish doubles).
- Third parties spend more approximately 50% more to punish taking than giving nothing.
- The results are consistent with social preferences based on intentions or norms, but inconsistent with only outcomes-based social preferences.

1. Introduction

We undertook a laboratory experiment using a three-person game in which participants could punish the behavior of other participants towards a passive subject. This three-person game is contrasted with a two-person game without punishment.[1] We thus examine how the existence of the opportunity to take affects the incidence of selfish behavior, the willingness to punish, and the degree of punishment.

Subjects in experiments are willing to incur costs to punish others and third-party punishment is most relevant to our experiment (Fehr and Fischbacher 2004; Bernhard et al 2006). Most evidence covers contexts in which the self-interested behavior is non-generosity, though fewer experiments examine third-party punishment of taking (Nikiforakis and Mitchell 2014). In dictator games, the opportunity for dictators to give and to take was introduced in Bardsley (2008) and List (2007), with more recent research by Korenok et al (2014), Cappelen et al (2013, Jakiela (2012) and Pecenka and Hardhlunde (2013).

This paper makes three contributions to the literature on costly punishment. First, we show that third parties punish taking more than non-generosity. Second, we replicate an existing experiment as a control. Third, our results fit the literature suggesting intentions and social norms are important for decision-making, but contradict the literature on outcomes-based preferences.

2. Experimental Design

The experiment consists of three treatments. First, we replicate the Falk and Fischbacher (2004) dictator game with third-party punishment without taking (TP-DG). Second, we use a dictator game with taking (T20 DG). Third, we introduce a dictator game with taking and third-party punishment (T20 TP-DG). Players are given the following endowments in experimental currency units (ECUs): the dictator (Participant A) is given an initial endowment of ECU80, the receiver (Participant B) is given zero, and the third party (Participant C) is given ECU40. Each player received an ECU20 show-up fee. Subjects received show-up fees to ensure dictators could take from receivers without leaving receivers owing money.

Stage one works as follows. For TP-DG, Participant A decides whether to transfer any money to Participant B in increments of five ECUs up to a maximum of 40. For T20-DG and T20-TP-DG, Participant A could transfer to 40 ECUs or transfer ECUs from Participant B to themselves in increments of 5 to a maximum of 20. TP-DG and T20 TP-DG proceed to stage two.

In stage two, Participant C is asked, for each allocation by A, how many deduction points they would spend (the strategy method). For each deduction point, 3 of A's ECUs are destroyed. C can spend up to a maximum of 40 ECUs on deduction points.

Prior to receiving payments or payoff information, subjects completed a questionnaire. The experiments were run using pen and paper at the University of Cape Town, South Africa. The sample comprises 287 individuals in total: 34 dictators, 34 receivers and 35 third parties in the baseline dictator game with third-party punishment, 31 dictators, 31 receivers and 30 third parties in the Take 20 dictator game with third-party

[1] The game is one-shot to reduce strategic motives to punish.

punishment, and 46 dictators and 46 receivers in the dictator game with taking.[2] Subjects were paid ZAR54 on average, ranging from ZAR0 to ZAR120 (roughly one day's work at the then minimum wage). The experiments took approximately 45-50 minutes, including payments.

3. Results

Dictator behavior is consistent with international evidence (Engel, 2011). In T20-TP-DG, 32.25% of dictators chose an allocation of -20. In T20-DG, 36.95% of dictators chose an allocation of -20. In TP-DG, 35.29% of dictators chose an allocation of 0. These proportions do not statistically significantly differ.

Considering punishment, we show two main results. First, across treatments, the frequency of third-party punishment for non-taking allocations does not differ, but the frequency of punishment for taking is significantly higher. Second, the amounts spent on punishment are greater for taking than non-generosity.

Table 1 presents the proportions of third parties choosing to punish at each positive dictator allocation and bootstrap confidence intervals of the differences, suggesting the distributions are approximately the same over positive dictator allocations. In contrast, third parties punish taking more often: 80% of the third parties in T20-TP-DG punish a dictator allocation of -20 (taking 20) vs. 40% of third parties choosing to punish a dictator allocation of 0 in TP-DG (Mann-Whitney $z = -3.237$, $p < 0.01$).

Moreover, third parties spend statistically significantly more to punish taking, as shown in Figure 1. In T20-TP-DG, at an allocation of -20, third parties spend 8.73 points whereas in TP-DG at an allocation of 0, third parties spend 5.71 points (Mann-Whitney $z = -2.469$, $p = 0.013$). Deduction points spent differ across positive dictator allocations. Kolmogorov-Smirnov tests (K-S = 0.1370, $p < 0.01$) suggest the third parties spend more on deduction points when dictators may take.

We report regression results in Table 2. The number of deduction points spent by the third party at each dictator allocation is the dependent variable. In column 1, the explanatory variables include a dummy for the T20-TP-DG treatment and dummies for each dictator allocation. In column 2, we add interaction terms between each dictator allocation and the treatment dummy for each positive allocation. In all specifications, the constant suggests third parties spend a statistically significant amount to punish dictators regardless of allocations. But, the Take 20 and Take 15 allocations have positive, large and statistically significant coefficients, suggesting third parties pay more to punish these allocations. These results are consistent with an unreported Tobit model. Returning to subjects in the role of Participant A, Dictators fail to account for the higher incidence of punishment at the Take 20 allocation vs. the Give 0 allocation.

4. Conclusion

That the proportions of dictators adopting the most self-interested action do not differ across treatments suggests dictators do not accurately predict third-party behavior. Rather, dictators do not respond adequately to changes in third-party behavior. But, this could also reflect the one-shot nature of the game. The results are consistent with an experiment on counter-punishment where dictators failed to anticipate other subjects' behavior (Balafoutas et al, 2014).

[2] As it was a pen and paper experiment, subjects could mis-record their choices, this happened in one instance of a third party and one dictator; one receiver left the experiment for illness. They are not included in the sample.

The results also provide the paper's main contribution: third parties punish taking more often and more severely than ungenerous allocations despite the interaction being one-shot. The results are consistent with evidence on third-party institutions and social sanctions and align with theories of social preferences based on intentions, reciprocity and norms (Masclet 2003, Falk & Fischbacher, 2006; Nowak & Sigmund, 2005; Carpenter & Matthews, 2012; Tan & Xiao, 2012).

	TP-DG		T20-TP-DG		95% Bootstrap Confidence Interval	
Dictator Allocation	Proportion	Standard Deviation	Proportion	Standard Deviation	Lower Bound	Upper Bound
Overall	0.714	(0.458)	0.833	(0.379)	-0.085	0.319
Transfer=40	0.114	(0.323)	0.400	(0.498)	0.079	0.492
Transfer=35	0.371	(0.490)	0.533	(0.507)	-0.080	0.402
Transfer=30	0.400	(0.497)	0.567	(0.504)	-0.078	0.410
Transfer=25	0.486	(0.507)	0.500	(0.509)	-0.232	0.260
Transfer=20	0.571	(0.502)	0.500	(0.509)	-0.319	0.172
Transfer=15	0.571	(0.502)	0.467	(0.507)	-0.350	0.139
Transfer=10	0.543	(0.505)	0.533	(0.507)	-0.256	0.235
Transfer=5	0.543	0.505	0.533	0.507	-0.257	0.233
Transfer=0	0.400	0.497	0.500	0.509	-0.142	0.343

Table 1: Bootstrap Tests of Proportions of Participant C choosing to punish.10,000 repetitions.

VARIABLES	(1) RE 1	(2) RE 2
Take 20 TP-DG	0.114	-1.414
	(1.158)	(1.973)
Take 20 Allocation	3.611***	4.433***
	(1.305)	(1.378)
Take 15 Allocation	1.311	2.133**
	(1.049)	(0.980)
Take 10 Allocation	0.311	1.133
	(1.027)	(0.995)
Take 5 Allocation	-1.523	-0.700
	(1.048)	(0.948)
Give 5 Allocation	-0.969**	-1.343*
	(0.493)	(0.804)
Give 10 Allocation	-0.477	-0.800
	(0.717)	(1.197)
Give 15 Allocation	-1.015	-0.943
	(0.718)	(1.144)
Give 20 Allocation	-0.908	-1.143
	(0.949)	(1.521)
Give 25 Allocation	-1.569	-2.771*
	(0.998)	(1.441)
Give 30 Allocation	-1.662	-2.514
	(1.245)	(1.915)
Give 35 Allocation	-2.215*	-3.914**
	(1.202)	(1.620)
Give 40 Allocation	-2.323	-4.057*
	(1.476)	(2.125)
Treatment*Give 5 Allocation	-	0.810
		(0.954)
Treatment*Give 10 Allocation	-	0.700
		(1.383)
Treatment*Give 15 Allocation	-	-0.157
		(1.405)
Treatment*Give 20 Allocation	-	0.510
		(1.854)
Treatment*Give 25 Allocation	-	2.605
		(1.962)
Treatment*Give 30 Allocation	-	1.848
		(2.443)
Treatment*Give 35 Allocation	-	3.681
		(2.380)
Treatment*Give 40 Allocation	-	3.757
		(2.907)
Constant	5.009***	5.714***
	(1.223)	(1.601)
Observations	705	705
Number of Third Parties	65	65
R-squared within	0.0751	0.0950
R-squared between	0.00738	0.00738
R-squared overall	0.0413	0.0513

Table 2: Punishment Regressions: Coefficient estimates are the number of deduction points Participant C spent at a particular Participant A transfer. Random effects are accounted for at the individual level. Robust standard errors in parentheses with *** p<0.01, ** p<0.05, * p<0.1.

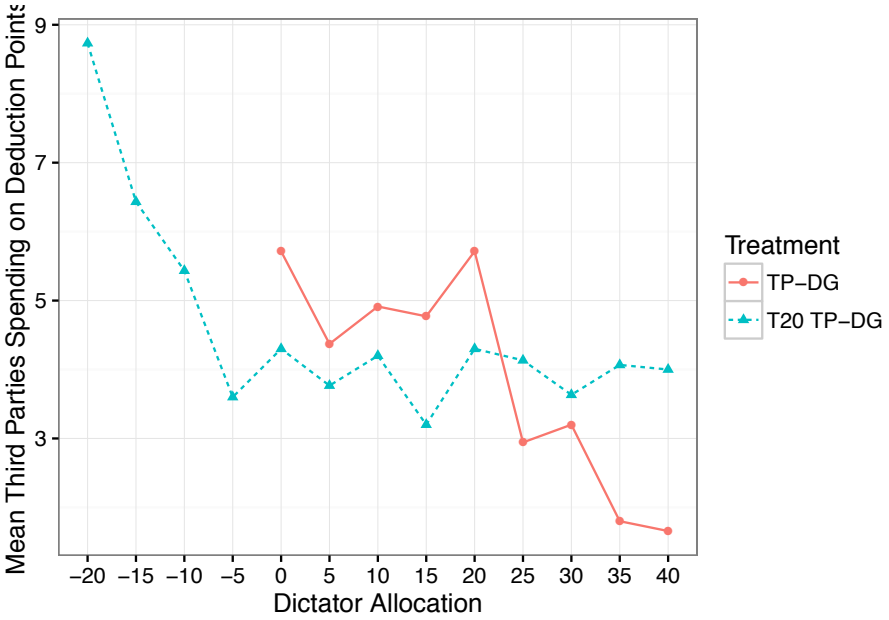

Fig 1: Participant C's deduction points spent at each Participant A allocation (n = 65)

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