Pro-selves purchase a positive identity when it’s cheap

The Effect of Stake Size in the Prisoner’s Dilemma Game and the Dictator Game

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Big Peanuts Effect (van den Assem, van Dolder, & Thaler, 2012)

<table>
<thead>
<tr>
<th>Split Steal</th>
<th>Split Jackpot/2</th>
<th>Jackpot/2</th>
<th>Jackpot</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

Contestant played a PD-like game.
We also found the “big peanuts effect” in two studies of sequential PDG.

Student sample (N=33), with fMRI

Non-student sample, age 20-59 (N=480)
What mattered was the relative size, not the absolute size!
We measured the participants’ SVO three times, twice with the triple-dominance measure and once with the ring-measure.

Consistent pro-selves: 38 of 329 (11.6%) participants who answered all three and were classified as pro-selves in all measures.

Consistent pro-socials: 69 (20.9%) who were consistently classified as pro-socials.
Surprisingly, the stake size had only a very weak effect in the dictator game.

What stands out is the high level of cooperation among pro-selves when the stake size is small in the PDG.

\[ F_{\text{StakeSize}}(9, 954) = 20.1, \ p < .0001 \]
Peanuts were not so big in the DG!

There must be something in the PDG that does not exist in the DG, and that something makes even consistent pro-selves cooperate.

What is it?
66 participants who gave zero yen to their recipients in all 7 DGs cooperated in the PDG when the stake was small, even as second players who faced a cooperative first player.

» Perception of the situation (Frames of the Games)?
18 participants who did not cooperate at all in all PDGs.

The high level of cooperation in the PDG was not a regression toward the mean.
Two puzzles
1. Why did some of the completely selfish players in the dictator game cooperate in the PDG, especially when the stake size was small?
2. Why was the effect of the stake size so prominent in the PDG but weak in the DG?

Two-stage Decision Model

First-stage Meta Decision: Whether to use the default cooperation strategy as a reputation-maintenance strategy or compare “utilities” or values of money versus morality (monetary value and moral value of cooperation versus non-cooperation).

Second-stage: Compare the values and make a decision.
Decision of cooperation in the PDG

- **Cooperation level**
- **Monetary value**
- **Moral value of coop**

Comparison of the two values

Threshold for default versus calculative decision making

Stake size

Cooperation by default

Comparison of the two values

Threshold for default versus calculative decision making

Stake size
Pro-selves

Decision of cooperation in the PDG

↑ Cooperation level

Cooperation by default

Comparison of the two values

Monetary value

Moral value of coop

Threshold for default versus calculative decision making

Stake size
Pro-selves

Decision of cooperation in the PDG

Cooperation level

Cooperation by default

Comparison of the two values

Monetary value

Moral value of coop

Threshold for default versus calculative decision making

Stake size
Decision of cooperation in the PDG

Comparison of the two values

Pro-socials

Cooperation level

Cooperation by default

Monetary value

Moral value of coop

Threshold for default versus calculative decision making

Stake size
Pro-socail

Decision of cooperation in the PDG

Cooperation level

Cooperation by default

Moral value of coop

Comparison of the two values

Monetary value

Threshold for default versus calculative decision making

Stake size

Stake size

Monetary value

0

0 0

JPY300 JPY800 JPY1500

JPY300 JPY800 JPY1500
Comparison of the two values

Decision of cooperation in the DG

No First Stage

Monetary value

Moral value of altruism

Cooperation level

Stake size

JPY300  JPY800  JPY1500
Pro-selves

Decision of cooperation in the DG

Comparison of the two values

Cooperation level

Monetary value

Moral value
of altruism

50%

Stake size

Pro-selves

Comparison of the two values

Monetary value

Moral value
of altruism

50%

Stake size

Comparison of the two values

Monetary value

Moral value
of altruism

50%

Stake size
Pro-selves

Decision of cooperation in the DG

Comparison of the two values

Monetary value

Moral value of altruism

Pro-selves

Stake size

Cooperation level

Comparison of the two values

Monetary value

Moral value of altruism

Pro-selves

Stake size

Cooperation level

Comparison of the two values

Monetary value

Moral value of altruism

Stake size

Cooperation level

Comparison of the two values

Monetary value

Moral value of altruism

Stake size
**Definition of the game situation:** How closely the situation you were in resembled each of the followings? (Post-experimental questions; response 1-7)

<table>
<thead>
<tr>
<th>Situation</th>
<th>PDG</th>
<th>DG</th>
<th>t, p</th>
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</thead>
<tbody>
<tr>
<td>Mutual help</td>
<td>4.46 (1.48)</td>
<td>3.70 (1.52)</td>
<td>9.69, .0001</td>
</tr>
<tr>
<td>Collaborative work</td>
<td>3.97 (1.58)</td>
<td>3.42 (1.47)</td>
<td>7.01, .0001</td>
</tr>
<tr>
<td>Exchanges of helps</td>
<td>4.51 (1.45)</td>
<td>4.01 (1.48)</td>
<td>7.06, .0001</td>
</tr>
<tr>
<td>Where morality is tested</td>
<td>4.45 (1.62)</td>
<td>4.12 (1.66)</td>
<td>4.50, .0001</td>
</tr>
<tr>
<td>To exploit the other</td>
<td>4.59 (1.43)</td>
<td>3.69 (1.54)</td>
<td>10.38, .0001</td>
</tr>
<tr>
<td>To win or Lose</td>
<td>4.01 (1.66)</td>
<td>3.42 (1.68)</td>
<td>6.29, .0001</td>
</tr>
<tr>
<td>Defeating each other</td>
<td>4.14 (1.67)</td>
<td>3.32 (1.55)</td>
<td>9.40, .0001</td>
</tr>
<tr>
<td>Competition of superiority</td>
<td>2.81 (1.47)</td>
<td>2.57 (1.35)</td>
<td>3.53, .0005</td>
</tr>
</tbody>
</table>

The PDG was more representative of real situations than the DG in both positive and negative ways!
The dictator game represents a unilateral situation in which the player’s choice is the choice of altruism versus egoism. “We-thinking” (Bacharach, 2003) is hard to achieve.

The prisoner’s dilemma game represents a mutual situation in which the player’s choice is the choice of joint versus unitary action. Investment in relation building, “We thinking”
Additional, related finding in the student sample for the fMRI study

Distribution of the reaction time (in sec.)
The median is 0.70
90 percentile = 1.95
95 percentile = 3.26
99 percentile = 11.48
Time>12.0 (0.81%) was deleted in the following analyses.
Cooperative choices took longer and defection choices become faster as the stake becomes larger.
The pro-selves take longer to make cooperation choices than pro-socials. It is especially fast for pro-socials to cooperate in small stake, and especially slow for pro-selves to cooperate in large stake.