



Contents lists available at ScienceDirect

Journal of Behavioral and Experimental Economics

journal homepage: www.elsevier.com/locate/jbeeCognitive foundations of cooperation revisited: Commentary on Rand et al. (2012, 2014)[☆]Kristian Ove R. Myrseth^a, Conny E. Wollbrant^{b,c,*}^a Trinity Business School, Trinity College Dublin, Dublin 2, Ireland^b Department of Economics, University of Gothenburg, 405 30 Göteborg (Gothenburg), Sweden^c NTNU Business School, Norway

ARTICLE INFO

Article history:

Received 13 March 2015

Revised 11 January 2017

Accepted 12 January 2017

Available online xxx

JEL classification:

D03

D64

H40

Keywords:

Cooperation

Intuition

Decision times

Pro-social behavior

ABSTRACT

We show that Rand et al. (2012, 2014)—who argue that cooperation is intuitive—provide an incorrect interpretation of their own data. They make the mistake of inferring intuition from relative decision times alone, without taking into account absolute decision times. We re-examine their data and find that the vast majority of their responses are slow, exceeding four seconds, even in time-pressure treatments intended to promote intuitive responses. Further, a plot of the average cooperation rates by decision time fails to yield a monotonically decreasing relationship. However, among the few decisions that were relatively fast, there appears to be a positive—not negative—association between decision time and cooperation. We conclude that the data presented by Rand et al. (2012, 2014) fail to provide evidence for the hypothesis that cooperation is intuitive. If anything, their data indicate the opposite.

© 2017 Elsevier Inc. All rights reserved.

1. Introduction

In their paper entitled “Spontaneous giving and calculated greed,” Rand et al. (2012) argue that cooperation is the product of ‘intuition’ and greed of ‘deliberation’. The premise for their analysis is that intuition is fast, but deliberation slow. Their conclusion—that “our first impulse is to cooperate” (p. 429)—is based on two empirical patterns from cooperation games: that (1) the degree of cooperation is negatively associated with decision times, and (2) inducing faster decision times causes more cooperation. A re-examination of their data, however, reveals that their conclusions about the relationship between intuition and cooperation are unwarranted. The authors infer intuition from relative decision times alone—most of which are *slow*—without documenting the presence

of *very fast* decision times, of which there are virtually none. Any inference about the role of intuition over deliberation in shaping cooperative behavior, however, would require that we establish the presence of very fast decisions—to rule out deliberation. Otherwise, differences in decision times may simply reflect differences in consciously controlled deliberation times; deliberation times can vary substantially—depending, for example, on depth and complexity of reasoning. To make matters more complicated, intuition—or impulse—may even arise as a delayed response, implying the possibility that intuition and deliberation coexist.

We organize our critique into three parts. First, we consider the data and the claims from Rand et al. (2012), who pioneered the study of decision times and cooperation. We show that the evidence presented by the authors does not allow the conclusions drawn. Second, we consider the additional data provided by Rand et al. (2014). They included all studies completed by the research group “in which subjects (i) were randomized into either time pressure or time delay [treatments] while (ii) deciding whether to pay a cost to give a greater benefit to one or more others” (p. 10). Here, too, we show that the evidence does not allow the conclusions drawn. Third, we consider alternative approaches to the data. These also fail to provide evidence for the hypothesis that cooperation is a spontaneous response. In fact, it would be more appropriate to claim some evidence for the opposite conclusion.

[☆] We are grateful for helpful suggestions and comments from Anja Achtziger, Carlos Alós-Ferrer, Timo Goeschl, Olof Johansson-Stenman, Johannes Lohse, Peter Martinsson, Marco Piovesan, David Rand, Gustav Tinghög, Anya Tonne, Daniel Västfjäll, Erik Wengström, participants at the workshop on “Time in Economic Decision Making” at the Center for Advanced Study, University of Munich, two anonymous referees, and Associate Editor, Ananish Chaudhuri. Financial support from the Swedish Research Council (*Vetenskapsrådet*) is gratefully acknowledged.

* Corresponding author.

E-mail addresses: myrsethk@tcd.ie (K.O.R. Myrseth), conny.wollbrant@economics.gu.se (C.E. Wollbrant).

<http://dx.doi.org/10.1016/j.socec.2017.01.005>

2214-8043/© 2017 Elsevier Inc. All rights reserved.

2. No evidence of spontaneous cooperation in Rand et al. (2012)

The crux of Rand et al. (2012) argument is that individuals, allegedly randomly assigned to experimental treatments that were intended to reduce decision times, contributed more than did those assigned to treatments intended to raise decision times.¹ The authors use two different manipulations to influence decision times: (a) 'time pressure' treatments, in Studies 6 and 7, and (b) 'conceptual priming' treatments, in Studies 8 and 9. However, median decision times in the time pressure treatments are 10 s in both studies, far exceeding any reasonable threshold for conscious processing, which would be in the hundreds of milliseconds (Posner and Rothbart, 1998; Schneider and Shiffrin, 1977). Neither of the time pressure treatments yield a sizeable portion of fast responses. In Study 6, a mere 2.9% of the responses in the time-pressure treatment were made in less than 4 s. In Study 7, none responded within 4 s in the time pressure treatment. Thus, although participants in the time pressure treatments did decide quicker than did participants in the time delay treatments (Study 6 median decision times = 10 vs. 22 s; Study 7 median decision times = 10 vs. 21 s), and although mean cooperation in the former was also arguably higher than cooperation in the latter (Study 6: means = \$0.23 vs. \$0.22, $t(678) = -1.62$, $p = 0.107$; Study 7: means = \$1.98 vs. \$1.63, $t(209) = -1.61$, $p = 0.108$), there is no direct evidence of spontaneous decisions in the time pressure treatments.² Because decisions in either treatment are sufficiently slow to allow deliberation, we may not infer—as Rand et al. (2012) do—that the intuitive response—in the meaning spontaneous or automatic behavior—is to cooperate. The observed differences in cooperation may result from differences in degree and type of consciously controlled deliberations, inasmuch as from differences in spontaneous versus deliberative choices. Moreover, intuition and deliberation might both be present in either condition, and the relative degree of each is unknown.

The same can be said for the treatment that attempted to prime intuitive processing in Study 9, with a median response time of 9 s, and a mere 1.6% of decisions reported in less than 4 s. However, it is important to note that there are no treatment differences in decision times; mean decision times for the intuitive and deliberative treatments (13.0 and 13.7 s, respectively) were statistically indistinguishable ($t(252) = 0.35$, $p = 0.730$). Rand et al. (2012) are only able to find an 'effect' among the 87 participants classified as 'naïve', when using an extensive array of controls in an OLS regression on log10 decision times (see table S13, model 2; Supplementary Information section). It is thus rather problematic to use the higher cooperation rate in the intuitive treatment (means = \$0.26 vs. \$0.23; $t(254) = -1.67$, $p = 0.096$) as evidence for the claim that cooperation is the intuitive response. Study 8 also reported a higher cooperation rate in the 'intuitive treatment' (means = \$0.26 vs. \$0.21, $t(341) = -2.44$, $p = 0.015$), but the decision time data for this study are not available.³

¹ Tinghög et al. (2013), however, point out that Rand et al. (2012) exclude subjects who failed to comply with the treatment instructions; doing so causes serious selection problems, as the exclusions amount to large shares of the raw samples, thereby precluding the assumption of random assignment. Further, there is no significant effect of time-pressure in studies 6 and 7, when the analysis also includes non-complying subjects. For the sake of the argument presented here—which concerns the inferences permissible with the time-pressure paradigm—we proceed on the assumption that the treatment differences in the target papers, which were reported as causal 'effects', can be treated as such.

² The mean differences in cooperation are statistically significant when the comparison is confined to participants who obeyed the time constraints (study 6: means = \$0.27 vs. \$0.22, $t(415) = -3.47$, $p < 0.001$; study 7: means = \$2.31 vs. \$1.69, $t(149) = -2.35$, $p = 0.020$).

³ According to the Supplemental Information for Rand et al. (2012), the decision time data were not recorded due to a technical problem (p. 19).

The second type of evidence presented as support for the proposition that cooperation is the intuitive response, is correlational—that decision times are negatively associated with cooperation. Rand et al. (2012) present negative correlations for studies 1–5.⁴ However, as with the experimental treatments intended to influence decision times, the correlational evidence is of little value to their proposition in the absence of very fast decisions. Among Rand et al.'s studies for which decision times are publicly available (all, except 8), there is not one that yields a substantial portion of decisions close to the consciousness threshold. In fact, the share of decisions recorded within 4 s ranges from 0% (Study 7) to 2.8% (Study 9). Most decisions are slow, allowing ample time to deliberate. Hence, without evidence of decisions so fast that deliberation would be implausible, we cannot rule out differences in consciously controlled deliberation as the source of the correlation.⁵

3. No evidence of spontaneous cooperation in Rand et al. (2014)

In response to Tinghög et al. (2013), who highlight a selection problem arising from Rand et al. (2012) exclusion of non-complying subjects, Rand et al. (2013) refer to new data, later published by Rand et al. (2014), to reinforce their conclusion that cooperation is spontaneous.⁶ Rand et al. (2014) pool data from all time pressure studies carried out by their research group, including Rand et al. (2012), yielding a total of 6913 decisions, across 15 studies. All studies, except F, feature one-shot games. However, this substantial data set tells the same story as that told by Rand et al. (2012). Median decision times in the time pressure treatments of one-shot games range from 6 s (Studies J, K, M, N, and O) to 13 (Study B), and none yield a large portion of decisions close the consciousness threshold. The share of decisions recorded within 4 s ranges from 0% (Study D) to 11.2% (Study M). With little evidence of fast decisions, we cannot rule out deliberation for the vast majority of decisions, and so we cannot attribute treatment differences in cooperation levels to intuition.

Pooling all of their data, we may examine the distribution of decisions across decision times, and plot the average contributions for each one-second interval (see Fig. 1, plot a and b, respectively). In their pooled sample across studies A to O, the vast majority (92.7%) used 4 s or more to make a decision. Moreover, a striking result appears in Fig. 1, plot b): there is no clear relationship between decision times and contributions. The absence of a clear relationship is preserved when we plot contributions against decision time differences from the study-level means (Fig. 2). Critically, the spontaneous cooperation hypothesis implies that the bars be above zero in the region near instantaneous decision times, as deliberation is hypothesized to reduce contributions; very quick decisions should yield above-average contributions. Moreover, with higher decision times, contributions should drop monotonically, yielding one cross-over point, beyond which contributions are below average. What we observe, however, is inconsistent

⁴ Study 1 is presented in the main body of Rand et al. (2012), Studies 2–5 in the Supplementary Information section.

⁵ A similar argument is lodged by Myrseth and Wollbrant (2016), who criticize Cappelen et al. (2016) for attributing 'fair' choices in a dictator game to intuition on the basis of such choices (mean = 38.4 s) occurring faster than 'selfish' choices (mean = 48.5 s). More generally, Krajbich et al. (2015) argue that it is problematic to draw inferences from decision times about the relative role of intuitive versus deliberative processes in choice; asymmetries in decision times can be accounted for by differences in strength of preference or discriminability of choice options.

⁶ Tinghög et al. (2013) attempted a series of replications, but include in their analyses subjects who disobeyed the time-constraints and exclude those who failed comprehension. In contrast, Rand et al. (2012) control for comprehension in their regressions and exclude subjects who disobeyed the time-constraints.

Download English Version:

<https://daneshyari.com/en/article/5034130>

Download Persian Version:

<https://daneshyari.com/article/5034130>

[Daneshyari.com](https://daneshyari.com)