Measuring fairness across cultural contexts

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Abstract: Future economic game research should include: (1) within-culture comparisons between individuals exposed and not exposed to market integration; (2) use of a game (such as the "Sharing Game") that enables subjects to maximize their earnings while also maximizing those of the other participant; and (3) assessment of performance in a repeated-trials format that might encourage sensitivity to the games' economic contingencies.

Researchers in decision making are naturally concerned about the extent to which findings based on the behavior of college students from industrialized countries can be generalized to people in diverse environments. Henrich and his colleagues report a series of fascinating cross-cultural comparisons using three classic economic games (Ultimatum, Dictator, and Public Goods). We agree that this is important research; we also agree that a more fine-grained analysis of the differences found should be profitably explored in future research. To that end, we offer some suggestions. In particular, we would be interested in learning the extent to which the major between-group findings may be supported by within-group comparisons. The authors have identified market integration as a major force in shaping cooperation in everyday life. It would be difficult to assess this in the United States, since the effects of market integration are pervasive here. Thus, studies in cultures with less ubiquitous market integration may offer a unique opportunity to conduct a within-groups study. Specifically, if there are cultures in which some members have relocated from villages to cities, how would these members behave when tested in the city environment as compared to their behavior in the village where they formerly lived? Perhaps they would react differently depending on the perceived expectations of the other player, which would vary across contexts.

A feature common to all three games studied in the target article is that there is no obvious way for the subject to maximize the earnings of the other participant without compromising his own earnings. In future research it would be interesting to include a game in which this possibility is clearly offered. For example, we have been studying a game (the "Sharing Game") in which (as one possibility) participants may choose to earn $7 for themselves and either $5 or $9 for another participant. Would participants in market-integrated cultures be more likely to choose the larger amount for the other participant in line with the idea that market integration promotes cooperation? Or would they instead show a competitive streak and select the smaller outcome for the other participant? In a related vein, the authors note: "It may be that different social, cultural, and physical environments foster the development of differing *generalized behavioral dispositions* (equity, altruism, etc.) that are applicable across many domains, as might be the case using the above reasoning concerning task performance or investment in reputation building" (sect. 9, para. 12, emphasis in original). These types of questions may also be asked at the level of the individual. Both between and within cultures, we may identify dispositional characteristics that affect decisions in games such as the Dictator Game (in which the decision-maker maximizes earnings by giving the other participant nothing) and the Sharing Game (in which a player's largesse towards the other participant need not reduce his own earnings). A useful tool may be the "Individualism-Collectivism Scale" survey developed by Triandis (1995). Would individualism be positively correlated with self-interest, and collectivism with generosity, in these two games? We have not found differences of this type in pilot data with the Sharing Game among students at UCSD. Instead, students were more generous when the other participant was a friend than when the other player was a stranger. However, as noted above, the homogeneity of college students in the U.S. with respect to market integration makes such comparisons relatively unpromising. A study across cultures and a within-group study in more (economically) heterogeneous cultures may prove enlightening in terms of pinning down the conditions wherein subjects make cooperative or competitive choices.

Henrich et al. also describe support for a context-specific approach to explaining variation in game performance across cultural groups. It is especially noteworthy that some groups saw similarities between one of the games and a specific, culturally important activity, and made offers accordingly. This highlights the question of how the activity is framed by the participants: What do participants think the game is about? A repeated-trials approach might shed light on this issue. Assuming that for most participants in the Henrich et al. study these economic games were more novel than they are for college students, their behavior may exhibit variability depending on how individuals interpret the task. Under repeated-trials conditions (which, admittedly, would have to involve lower stakes for each trial), participants' behavior might come under the control of the economic contingencies of the activity, minimizing cultural dispositions. Conversely, if players' partners were responding according to cultural dispositions, these might become more pronounced with repeated trials.

In any case, we look forward to seeing future results from this line of research.

Cross-cultural differences in norm enforcement

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Abstract: We argue that the lack of large cross-cultural differences in many games with student subjects from developed countries may be due to the nature of the games studied. These games tap primarily basic psychological reactions, like fairness and reciprocity. Once we look at norm-enforcement, in particular punishment, we find large differences even among culturally rather homogeneous student groups from developed countries.

The games that have been studied in cross-cultural research are "basic" games, in the sense that they tap one basic dimension of people's psychology: the Ultimatum Game taps the second mover's taste for fairness (to which the first mover best responds); and the Public Goods game (or the Prisoner's Dilemma game) elicits people's willingness to cooperate. One surprising finding of the intriguing study by Henrich et al. is that aggregate market integration (AMI) and the payoffs to cooperation (PC) explain a fair amount of the cross-societal variety in ultimatum game behaviour. To the extent that AMI and PC have indeed shaped people's basic psychology, behavioural differences in experiments between cultural groups that are similar with respect to AMI and PC are likely to be small.

We believe that such a conclusion would be premature, however. First, with the exception of the ultimatum game (Camerer 2003; Oosterbeek et al. 2004), the lack of strong behavioural variation across social groups in developed (western) economies is not yet a firmly established result. For instance, only a few studies (e.g., Buchan et al. 2002) have *systematically* investigated trust games in a cross-cultural context (i.e., holding all game parameters and procedures constant). This also holds for experiments on

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Table 1 (Gächter et al.). *Main results from cross-cultural experiments on cooperation and punishment*

	Mean contribution in treatment				
	No. subject	N	P	Mean punishment of free riders	Mean punishment of cooperators
Zurich	140	8.5	16.2	1.22	0.15
Strasbourg	96	8.0	11.3	0.86	0.34
Minsk	68	10.5	12.9	1.11	0.51
Samara	152	10.4	11.5	1.15	0.64
Kruskal-Wallis tests	—	0.10	0.00	0.37	0.00

voluntary contributions to public goods (e.g., Brandts et al. 2004; Kachelmeier & Shehata 1997;). Thus, many more systematic cross-cultural experiments would be needed before the lack of cross-cultural variation is an established fact in games other than the ultimatum game.

Second, and this is our main point, if we move beyond "basic" games, and look at norm enforcement, differences between social groups are likely to emerge even if AMI and PC are similar. The basis for this belief is experiments on public goods games with punishment, which we see as a model of norm enforcement. We (Gächter et al., in preparation) ran a standard linear public goods game, very similar to the one used by Fehr and Gächter (2000a). We conducted the experiments in Zürich (Switzerland), Strasbourg (France), Minsk (Belarus), and Samara (Russia). Participants (undergraduates from the respective universities at an average age of 20) were divided into groups of four members who played the game in the same group for ten periods. In the non-punishment condition (the "N-treatment"), subjects had to decide simultaneously on their contribution to a public good. In our terminology, this game may classify as a "basic game," because cooperation is the only issue. In the punishment condition (the "P-treatment"), a second stage was added where each subject could punish each group member at its own cost. One punishment unit cost the punishing subject one money unit and reduced the punished subject's payoff from the first stage by three money units. We applied standard methods to ensure cross-cultural comparability (e.g., instructions were translated into Russian or French, and translated back into German to control for language-induced differences in meaning, etc.).

Table 1 presents the key results. We report both mean contributions over all periods in the N and in the P treatments. In the N-treatment we find only minor differences in cooperation rates between our four subject pools. The differences are not statistically significant. This finding is consistent with (1) comparable public goods experiments (Brandts et al. 2004; Kachelmeier & Shehata 1997), and (2) with the hypothesis that cross-cultural differences are small in basic games.

Yet, with the introduction of the opportunity to punish each other, strong differences emerge: Compared to their average contribution in the N-treatment, the Swiss students increase their contributions by 90 percent, while the French subjects increase their contributions by 41 percent. Belarusian and Russian students increase their contribution only by 23 percent and 11 percent, respectively. The increase is significant at the 5 percent level only for the Swiss subjects.

The key to understanding this result is punishment behaviour. Table 1 shows that the four subject pools differ greatly with respect to how they punish "free riders" (defined as group members who contributed less than the punishing subject) and "cooperators" (group members who contributed at least as much as the punisher). For instance, the Zurich subjects punish a "free rider" on average by 1.22 points and a "cooperator" by 0.15 points. The Strasbourg subjects contribute very similar amounts as the subjects in Zurich in the N treatment but reach substantially lower contribution levels in the P treatment. At the same time, their punishment is much less clearly directed towards the free riders. The comparison with Zurich suggests that differences with respect to punishment behaviour may occur even in social groups of quite similar cultural proximity (Strasbourg and Zurich are less than 140 miles apart). The Minsk and Samara subjects punish free riders similarly as do the Zurich subjects, but punish cooperators roughly four times as harshly as the Zurich subjects. Further experiments and data analyses suggest that much of the punishment of cooperators is punishment by free riders in revenge of the punishment the free riders anticipated to receive from the cooperators.

A further data analysis reveals that punishment can successfully solve the free rider problem only when (1) people predominantly punish the free riders sufficiently strongly; (2) the free riders therefore increase their contributions to avoid punishment; and (3) cooperators do not get punished. The experiments show that there are strong differences between groups with respect to the validity of these conditions. This holds despite a very similar readiness to cooperate in the absence of punishment. Punishment is not only about inflicting material sanctions; it also expresses a normative view about unacceptable behaviour. Punishment is also emotion-laden and may trigger revengeful feelings and/or defiance in the punished subject. Both the normative and emotive perception may differ strongly even between sociologically rather uniform subject pools. Once we move away from "basic games," we might uncover surprising and substantial behavioural differences even between student subject pools.

Is the Ultimatum Game a three-body affair?

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Abstract: The Ultimatum Game is commonly interpreted as a two-person bargaining game. The third person who donates and may withdraw the money is not included in the theoretical equations, but treated like a neutral measurement instrument. Yet in a cross-cultural analysis it seems necessary to consider the possibility that the thoughts of a player – strategic, altruistic, selfish, or concerned about reputation – are influenced by both an anonymous second player *and* the non-anonymous experimenter.

The behavior of people in the Ultimatum Game (UG) has been analyzed in terms of a two-person interaction between a proposer

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