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A cooperative instinct

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Acting on a gut feeling may sometimes lead to poor decisions, but it will usually support the common good, according to a study showing that human intuition favours cooperative, rather than selfish, behaviour. See Letter p. XXX

Simon Gächter

In a recent bestselling book, psychologist and Nobel laureate Daniel Kahneman presents a wealth of evidence that much of human decision-making is governed by fast and automatic intuitions, rather than by slow, effortful thinking[1]. Intuitions can sometimes lead us astray, such as when it comes to processing statistical information, but our 'gut feelings' also serve us well in many common situations. One interesting question is to ask how intuition influences social decisions that pit self-interest against collective benefit. Does intuition support cooperation, or do people need time to reflect before deciding to pull their weight? On page XXX of this issue, Rand *et al*.[2] present evidence that the intuitive human reaction is to cooperate, whereas reasoning makes people somewhat more selfish.

If evolution favours self-interest, then people should be equipped with intuitions that help them figure out how to maximise their individual gain[3]. However, recent research in the

behavioural sciences challenges the idea that people are mostly selfish[4]. Some theories to explain variations in individuals' behaviour, based on social preferences[5], assume that people differ in their motivation to act in a cooperative manner, but not in their reasoning style[6]. Furthermore, psychological studies have suggested that moral judgements are often made intuitively[7], and because many people view 'freeloading' on other people's contributions as being morally blameworthy[8], it is plausible that moral intuitions support cooperation.

To directly investigate the role of intuitions in cooperation, Rand and colleagues used a series of ten public-goods game experiments. In these games, people can choose to either keep an allocation of resources for themselves, or contribute all or a portion of their allocation to a collective good, which is then distributed evenly among all players. The authors conducted some of the games using an international pool of subjects sourced from an online labour market (Amazon Mechanical Turk), and some in-person in the laboratory.

Because intuitions are quickly available, whereas deliberation takes time, Rand *et al*. started by investigating the link between response time and contributions. Previous research on response time across a variety of decisions shows that people choose intuitive options more quickly than those requiring cognitive effort[9], and results from a simple sharing experiment suggest that faster choices are more selfish[10]. However, this is not what Rand and colleagues found in their online experiments. Instead, their results indicate that contributions and decision time are negatively correlated — the faster half of

decision makers contributed, on average, about 67% of their allocated resources, while the slower half contributed about 53%. The authors also detected a similar relationship between response time and cooperation in experiments conducted in person, so the observed correlation seems to be robust.

But correlations are of course no proof of causation. To try to plausibly demonstrate a causal link, Rand and colleagues put the game players under time pressure and observed how this affected their decisions. Previous results of bargaining game experiments suggests that time pressure leads to fairer outcomes[11] and also increases the likelihood that a person will impulsively reject an unfair offer[12,13]. Furthermore, having to decide under time pressure is stressful and stress also increases pro-social behaviour[14]. So it is clear that time pressure, which favours intuitions over reflection, influences social considerations. Rand *et al*. show that this extends to cooperation: in their experiments, people under time pressure contributed significantly more than those who made their decisions with no time limit or with a forced delay. Thus, it seems that forcing a person to decide more rapidly — by intuition — increases their cooperative tendency.

In a final set of experiments, the authors used a writing task to prime participants to think intuitively or reflectively before performing the public-goods game. They found that those primed to use intuition contributed more than those put in reflective mode. Rand and colleagues also found that people who experience their interaction partners in daily life as being cooperative cooperate more when primed to use intuition than when primed to use reflection. This result is consistent with a point made by economist Herbert Simon,

who said that "intuition is nothing more and nothing less than recognition"[15]. Thus, it seems that when people are used to cooperative partners they develop cooperative intuitions.

Rand and colleagues' study raises interesting concepts for experiments in the social sciences, both in terms of questions that would be worthy of further investigation, and how to conduct such experiments. For example, their findings suggest that the common practice of researchers asking participants comprehension questions before an experiment will provide conservative estimates of people's cooperativeness, because the questioning will put people into reflective mode, which Rand and colleagues have shown is likely to result in them behaving less cooperatively. So is this questioning practice justified? It may be in many cases, such as in studies of people's economic decisions, as economists are typically interested in reflected behaviour.

The study also indicates that intuitions may be particularly important in novel situations, and experience might trigger reflection that either supports or modifies the initial intuitions. Should (economic) theories based on social motivations[5] take intuitions into account even if the main importance of intuition is (only) in initiating cooperation? Future research should clarify. Furthermore, the authors observe — and economic and evolutionary theories should attempt to explain — that many (but not all) people are cooperative whether deciding fast or slow, or intuitively or reflectively, and time pressed or not. For example, even in the experiments in which Rand *et al.* recorded the biggest

difference between intuitive and reflective contributions, the amount of contributions made under reflective conditions exceeded the difference added by intuition.

Finally, existing research suggests that some people are selfish free-rider types, whereas others are conditional cooperators who are willing to contribute if others do so[6]. This observation needs to be squared with Rand and colleagues' results: might it be that conditional cooperators are intuitively cooperative and selfish people take a reflected free ride? The authors have demonstrated that, on average, our intuition is to cooperate, but further studies are needed to understand the variation of this behaviour between individuals.

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