Non-naïvety may reduce the effect of intuition manipulations

To the Editor — In an experiment run on Amazon Mechanical Turk (MTurk), Camerer et al.[1] failed to replicate the finding in study 8 of Rand et al.[2] that promoting intuition via a recall induction increased cooperation. Before Camerer et al.[1] began collecting data to replicate our study[2], I cited prior evidence[2,3] that experienced participants would not exhibit the original effect, and that many MTurkers are now experienced. At my request, Camerer et al.[1] collected data on prior experience. As described in more detail below, examining these data shows that a large majority of their participants were experienced — and that analysing only inexperienced participants yields an effect size comparable to the original effect.

MTurk participants have become much more experienced with economic games since 2010, when our study 8 was run (this was before MTurk became widely used by academics). My colleagues and I have argued that experienced participants are typically more aware of — and attentive to — the strategic details of the game they are playing[2,3]. This attentiveness may enhance treatment effects based on variation in experimental details (like some MTurk experiments[4,5] successfully replicated by Camerer et al.[1]) — but has been theorized to reduce the application of daily-life intuitions to atypical (one-shot anonymous) lab experiments[2,3].

Accordingly, we showed that such experience undermines the intuition–cooperation effect in study 9 of our original paper[2], which used a similar procedure to study 8 but was run nearly two years later. Study 9 found a non-significant overall effect of promoting intuition, but a significant interaction with experience: intuition increased cooperation only among participants who lacked prior experience with economic games. Subsequent work[3] provided further evidence, showing that the time-pressure effect on cooperation decreased over two years as MTurk participants became increasingly experienced. It is therefore not surprising — and actually consistent with past results — that Camerer et al.[1] failed to replicate study 8's results using the original methods.

Before their data collection, I informed Camerer et al.[1] that "[I]t's been well documented that MTurkers are now highly experienced with economic game paradigms", and "Study 9 of our paper shows that non-naïvety specifically undermines the treatment effect you are replicating." I therefore asked that they include our standard question assessing prior experience with economic games, enabling them to compare "people that answered 1 [naïve] to everyone else [non-naïve]". Camerer et al.[1] collected these data, but did not analyse them.

These data show that 82.8% of the participants in Camerer et al.[1] had prior experience with economic games. When analysing only the 367 naïve participants, the effect size was similar to our original study: Tobit regression coefficient on a 'promote intuition' dummy of $b = 9.37$, compared with $b = 10.95$ in the original study. (The naïve-only effect does not reach statistical significance, $z = 1.61$, $P = 0.054$ one-tailed given clear directional hypothesis; however, when including only naïve participants, the analysis is under-powered to detect an effect of the anticipated (and observed) size.)

Importantly, I am not arguing that it is now impossible to study intuition and cooperation on MTurk. It just requires more powerful manipulations. For example, Levine et al.[6] conceptually replicate the present results by directly instructing participants to decide using emotion versus reason (rather than our more indirect recall induction); and Everett et al.[7] and Isler et al.[8] reproduce our original time-constraint results using improved methods that avoid non-compliance. In sum, the weight of the evidence confirms our initial conclusion that intuition promotes cooperation in social dilemmas, but reliably reproducing these effects requires updated methods. ❐

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Competing interests

The author declares no competing interests.