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Cross-cultural experiments are more useful when explanans and explanandum are separated

The exchange between Henrich et al. (1) and Lamba and Mace (2) on the nature and determinants of societal differences in game behavior raised the question as to which scientific goals can be achieved within the current design of cross-cultural experiments. Researchers typically use cross-cultural experiments to uncover behavioral differences between societies, invoking culture (among others) in second instance to account for the observed differences. The design of the experiments does not involve random assignment of subjects to treatment, however, meaning that they are quasiexperiments; as such, they do not actually show culture's causal influence on behavior. Culture certainly has appealing plausibility in explaining the observed intersocietal variation in game behavior, but with causality left not shown, there are many other factors that could also account for these differences (3).

Overcoming this causality issue requires researchers to obtain measures of culture and then use statistical techniques to see how they relate to the observed behavioral differences. External quantitative data on the cultures of the societies in their sample are absent, and this method is unusual for studies using cross-cultural quasiexperiments. Rather, there is a tendency, unrealized, to revert to drawing on the already conducted behavioral quasiexperiments but this time, explicitly as measurement tools. With the benefit of control, cross-cultural quasiexperiments measure culture or social norms as societal differences in game behavior, providing researchers with empirical indicators of cultural differences that, in principle, have the potential to serve as an explanans for societal features (4).

The problem is that, within studies applying cross-cultural quasiexperiments, this solution amounts to circular reasoning. Societal differences in game behavior can be either the explanans or the explanandum, but letting them serve both purposes is

meaningless (although the cultural explanation for these differences continues to appeal to people).

Concerning the scientific goals that can be achieved within the current design of most cross-cultural experiments, it is fundamentally measurement and not explanation. Cross-cultural experiments provide researchers with evidence on interesting societal differences requiring an explanation or empirical means to explain other differences in societal features, but they cannot provide both simultaneously.

Fortunately, there are ways to separate the explanans and the explanandum in cross-cultural quasiexperiments. Most straightforwardly, many established empirical measures of cultural differences between societies exist from which researchers can draw. When such data are not available, for instance, because these readily available measures do not cover the societies of interest, researchers may adapt their experimental design to include treatment. We cannot randomly assign participants to cultures, but we can make particular features of subjects' societal culture more or less salient through priming to see how it causally affects their behavior. Some interesting applications of both these approaches already exist (ref. 3 and references therein and ref. 5). In applying much-needed separation of explanans and explanandum, such studies show the way forward in reaping the full benefits of what experimental techniques have to offer to cross-cultural research.

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