# Replicating Bruhin, Fehr, & Schunk (2019): A Proposal

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We are interested in submitting a paper to the Replication Call issued by the European Economic Review, being edited by Profs. Michalis Drouvelis and Stephanie Wang. We propose to replicate the paper *"The Many Faces of Human Sociality: Uncovering the Distribution and Stability of social Preferences"*, written by Adrian Bruhin, Ernst Fehr, and Daniel Schunk and published in the *Journal of European Economic Association*, Volume 17, issue 4 (2019), pp. 1025 – 1069.
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# I. Abstract

## A. *Brief Summary of the target Paper*

Arguably the workhorse of current microeconometric methods that aim to go beyond estimating partial effects, structural estimation has lately gained attention in the Behavioral Economics community (see DellaVigna [2018]). Papers that use structural methods have historically been published in top economics journals and cited widely, establishing along the way benchmark values of key parameters in Behavioral Economics such as the degree of inequity aversion, the intensity of reciprocity or the degree of morality (see, for instance, Andreoni and Miller [2002]; Fisman et al. [2007]; and Bruhin et al. [2010]; and Van Leeuwen and Alger [forthcoming] among others).

Bruhin et al. [2019]; (henceforth BFS) is one of the latest additions in the quest to bring structural estimation techniques to the analysis of social behavior. To do so, they build on McFadden's Random Utility Model to calibrate utility parameters from choices. Put shortly, they present each subject with several games, ask them to make their choices, impose a stochastic component in the utility function and assume that choices made are the ones that maximise a parameterised utility with a stochastic component and a structural component. As utility is not directly observable, maximum likelihood estimates are used to calibrate the parameters of the structural utility function that best fit the data.[1]

The authors use this main strategy to compute: (i) aggregate level; (ii) finite mixture; and (iii) individual level estimation of a stylised model of social preferences, based on Fehr and Schmidt [1999] and Charness and Rabin [2002]. They then proceed to see whether the parameters are time invariant, and whether they can extrapolate choices to other economic situations.

## B. *Aim of the Replication and Research Questions*

This paper will replicate BFS's experimental design in two non-WEIRD cultures. The research questions are:

- Are aggregate level estimates similar in WEIRD and non-WEIRD cultures?
- Are type classifications similar in WEIRD and non-WEIRD cultures?

[1] More specifically, the authors present two types of games to subjects.The first one kind are binary dictator games, where subjects have to choose between two distributions of income between themselves and another subject. The remaining games are reciprocity games, where there is a first mover with the ability to choose an outside option, better for the second mover than any of the other alternatives, and delegating the choice to a second mover, who then has to decide between two alternative distributions. Using the dictator games allows to capture distributional preferences, and using the reciprocity games allows the authors to see whether the second mover is willing to lose money to reciprocate an unkind action from the first mover.

- Is the out-of-sample hit rate similar in WEIRD and non-WEIRD cultures?

### *C. Experimental Design of the Replication Proposal*

We will keep the experimental design of BFS mainly unaltered, using the exact same dictator and reciprocity games. In addition, we will display the tasks within the experiment in the same manner as the original study.

However, we propose two changes in order to correctly adddress the research questions. **First**, unlike BFS we propose not to run a second round of the experiments on the same subjects. This decision is driven by the fact that we want to test the geographical stability of parameter estimates rather than their temporal stability. **Second**, we propose to run the experiment online rather than in a lab. This is driven by the fact that access to non-WEIRD communities is more difficult. There is a new platform created precisely for cross-cultural experiments (i.e., https://besample.app), which makes access to participants from non-WEIRD populations easier, and more affordable.

### *D. Importance of the Replication*

One of the biggest open challenges in moral and social psychology is to explain cross-cultural variation in pro- and anti-social behavior. Several theories (e.g., see Graham et al. [2011]) have been brought forward to explain why different behavior arises in different cultures. This cross-cultural variability of social behavior has also been documented in economic experiments, where altruistic behavior is highly dependent on the culture subjects are embedded in.[2]

In this paper, we aim to explore whether behavioral differences can be attributed to differences in the parameter distribution of social preferences. This has not been done to date, as the main cross-cultural experiments on economic games aim at documenting the cross-cultural variation in *behavior*. By measuring the parameters of social preferences at the individual level and making out-of-sample predictions for trust games, as BFS did, in two non-WEIRD cultures, we will be able to confirm whether there is a cross-cultural variation in trusting behavior; and to assess (i) whether there is a different parameter distribution of social preferences across cultures; and (ii) whether such parameter variation is a behavioral driver of the cross-cultural variability in behavior.

Performing the proposed analysis will open the door to new lines of research willing to explore whether differences in preferences and beliefs can explain cross-cultural differences in altruism; or whether we need to develop new models to account for the effect that culture has on altruism.

[2] See Engel [2011] for a meta-study on Dictator Games where he documents important differences in donation rates depending on whether the subjects' society of origin is a "Western" country, a "developing" one or an "indigenous" society.

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