Preference uncertainty explains choice variability in interpersonal decision-making

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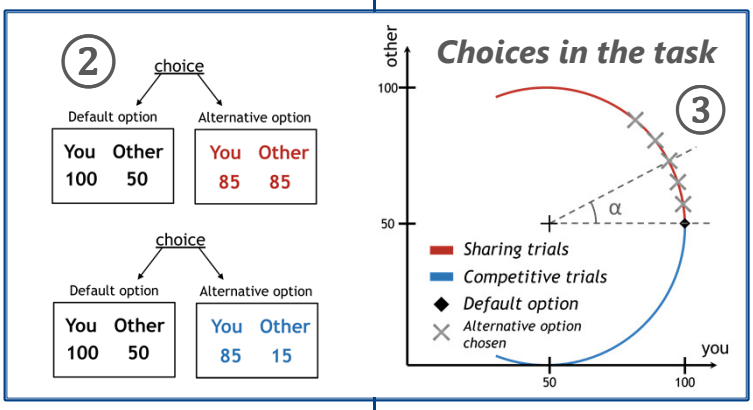
Background. When expressing their preferences, people sometimes make seemingly inconsistent choices. Recently, two models have been proposed to explain this choice variability ①:

the *Preference Uncertainty* model[1] assumes that preferences change continuously, gravitating towards a particular state.

the *Preference Temperature* model assumes that preferences are stable, but that decisions are implemented with noise.

We test these models in an interpersonal decision-making task where participants can reduce their own earnings in order to increase or decrease earnings of an unknown other. ②

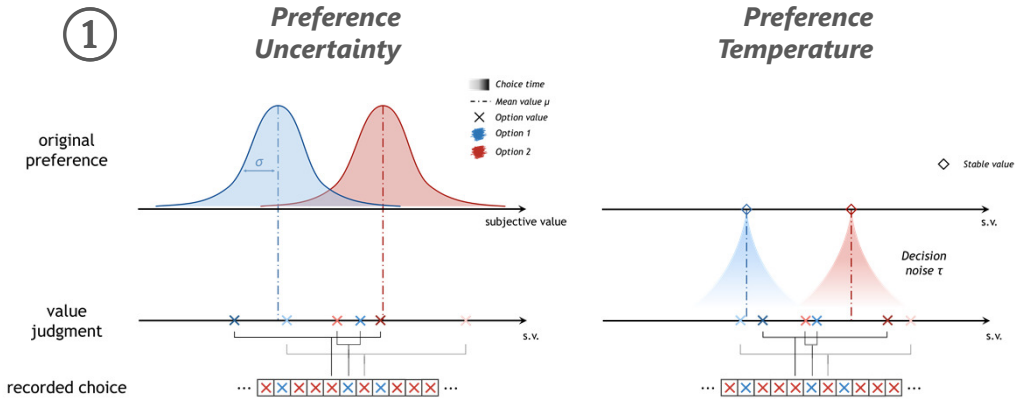


Methods. We use an angle α as a proxy of participant's interpersonal preferences[2] ③. We thus assume that each option can be valued as a function of α according to the utility:

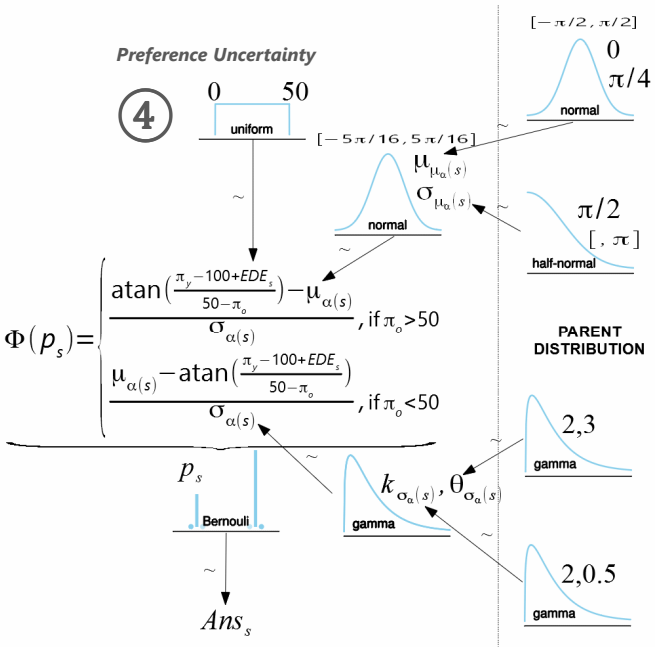
$$U(\pi_{you}, \pi_{other}) = \pi_{you} + \tan(\alpha) \cdot \pi_{other}$$

Participants with a positive α are categorised as 'sharing', whereas participants with a negative α are categorised as 'competitive'.

Models are fitted in JAGS using Hierarchical Bayesian estimation[3] via Markov Chain Monte Carlo estimations.



We estimated three parameters ④: interpersonal preference α, choice variability, and a parameter controlling for experimenter demand effects (EDE), an experimental artefact common in social experiments.



Results. We estimated the interpersonal preferences of 245 participants, 188 of which were categorized as sharing, and 57 as competitive. The Preference Uncertainty model accounts for participants' choices better than the Preference Temperature model (*ΔDIC* = -824.51).

Conclusions. Preference uncertainty, rather than noisy decisions, seem to better explain interpersonal choices. This is in line with findings on intertemporal decisions,[4] suggesting that the same mechanism is common to different types of preferences.

References.

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