

An Experimental Study on the Self-Serving Use of Uncertainty in Belief Formation

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Subjectivity in the decision environment allows for distorting beliefs to enable desired behaviors (e.g., Konow 2000; Haisley and Weber 2010; Shalvi et al. 2011; Exley 2015; Gneezy, Saccardo, and van Veldhuizen 2018; Gneezy et al. 2020; Falk, Neuber, and Szech 2020). In this vein, the strategic use of uncertainty to take more selfish choices has been shown experimentally both under risk (Exley, 2016) and ambiguity (Garcia et al., 2020): uncertainty is used as an excuse not to give. We aim to deepen the belief processes that lead to the use self-deception under uncertainty, enabling self-serving behavior.

We rely on the experimental setting of Exley (2016) and Garcia et al. (2020) to detect excuse-driven behavior under risk in order to explore belief updating and its possible excuse-driven distortion with more or less informative signals.

Four scenarios are implemented through the use of multiple choice lists where subjects choose between a safe option and a risky option, and these scenarios differ in whether the beneficiary of the safe option and of the risky option is the same subject who is choosing or a charity. A trade-off between individual and charity payoffs arises in scenarios where the beneficiary of the risky and safe option is not the same. We add to this setting a signal on the outcome of the lottery, which can be either positive or null. This signal can be more or less informative. Recent literature has shown overreaction to weakly informative signals (Augenblick, Lazarus, and Thaler, 2021) and that even non-informative signals are incorporated (Kieren and Martin Weber, 2022).

The signal follows a standard “balls-and-urns” paradigm. Participants face two equally likely urns: a Yellow urn containing only yellow balls and a Blue urn containing all yellow balls except for one blue ball. A signal is generated by randomly drawing one ball from the assigned urn: a blue draw fully resolves uncertainty (implying a zero payoff), while a yellow draw is consistent with both urns but favors the positive outcome. The analysis focuses on this latter case to study how subjects incorporate new information, potentially in a biased way. Signal strength is manipulated by varying the total number of balls ($N=2$ for highly informative signals, $N=20$ for weakly informative signals), while keeping a single blue ball in the Blue urn.

This design allows us to test whether, beyond imperfect Bayesian updating, individuals exhibit overreaction to weak signals driven by self-serving bias: we test whether both highly informative and weakly informative signals are incorporated and, when they are, whether they affect choices in a self serving manner.

Experimental data show that self-serving behaviour is present and increases with informative signals.