

Preference Reversals During Risk Elicitation

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- ▶ A common assumption of both normative and descriptive theories of decision-making is that our risk preferences are stable (they are not informed by changes in the decision-making context).
- ▶ We proposed and empirically established that people's risk preferences are 'constructed on the fly', and can be informed by features of the decision context and task.
- ▶ Our findings revealed that people reverse their preferences based on the employed preference elicitation method; in other words, our risk preferences are highly dependent on the decision-making context.
- ▶ Our findings highlight a need to investigate how the predictions of decision-making theories are shaped by their employed experimental methods.

EXTENDED SUMMARY

This research article is published in a world leading and interdisciplinary peer-reviewed journal (*Journal of Experimental Psychology: General*), and offers a new theoretical proposal regarding human decision-making, as well as a new experimental method for testing the predictions of the proposal.

Behavioural science theories and experimental methods for human decision-making are informed by interdisciplinary research contributions from scientific domains including cognitive, social, and experimental psychology (e.g., perception, learning, memory, attitudes, thinking and reasoning), comparative psychology, economics, philosophy, computational science, and neuropsychology. In all their variations and formulations, the leading behavioural science theories (Expected Utility Theory, Prospect Theory, and experience-based decision research) assume and predict stable behavioural patterns of risk preferences (rational or irrational). Accordingly, understanding human decision-making from the point of view of normative and descriptive theories depends on human agents having stable and coherent decision-making preferences. This theoretical proposal gained further recognition when Daniel Kahneman earned his Nobel Prize in Economics in 2002 for the creation and development of Prospect Theory.

In contrast, our research pursues the opposite proposal: rather than having fixed preferences for risk, human preferences (rational or irrational) are neither stable nor consistent; variations in the decision context determine people's preferences even when the utilities of choice options are available. We proposed and empirically established that people's risk preferences are 'constructed on the fly' and can be informed by features of the decision context and task. Accordingly, since people's preferences are constructed rather than revealed, they are unstable across different methods of elicitation.

Our results revealed that decision-makers reverse their risk preferences for binary-choice prospects with identical expected values, from a four-fold pattern (task with logarithmically spaced sure options) to a two-fold pattern of risk preferences (task with linearly spaced sure options). We found evidence that the behavioural four-fold pattern of risk preferences in Prospect Theory is caused by an artifact of logarithmically scaling the sure decision options. Moreover, the respondents were consistent in their preferences within the domains of loss and gain when linear distributions of the sure options were used. Our findings highlight a need to investigate how the predictions of decision-making theories are shaped by their employed experimental methods.



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