

UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title

What Do People Expect from Expected Value?

Permalink

<https://escholarship.org/uc/item/1fm8681c>

Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 47(0)

Authors

Smole_, Tomasz

Baso_, Pawe_

KroczeK, Bart_omiej

et al.

Publication Date

2025

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

Peer reviewed

What Do People Expect from Expected Value?

Tomasz Smoleń

Jagiellonian University, Kraków, Poland

Paweł Basoń

Jagiellonian University, Krakow, Poland

Bartłomiej KroczeK

Centre for Cognitive Science, Jagiellonian University, Krakow, Poland

Hanna Kucwaj

Faculty of Psychology in Krakow, SWPS University, Krakow, Poland

Konrad Sak

Centre for Cognitive Science, Jagiellonian University, Krakow, Poland

Abstract

This study examines how instructional framing influences probability distortions in decision-making scenarios. With 136 participants, we explored four instruction conditions: direct calculation guidance, estimative averaging, and narrative framing from first- and third-person perspectives. Our findings indicate that skewness, rather than variance, significantly impacts estimation errors in expected value tasks. The estimative instruction condition notably reduced probability neglect, whereas direct calculation instructions unexpectedly introduced bias. Both narrative conditions amplified probability neglect, with no significant difference between perspectives. These outcomes challenge traditional assumptions in decision-making models, emphasizing the central role of skewness and the substantial effect of instructional framing on probability distortions. The results suggest that employing estimative instructions could effectively minimize biases in contexts where accurate evaluation of expected value is crucial. This research underscores the importance of instructional design in decision-making tasks and provides insights into minimizing probability neglect.