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Authors

Suganuma, Hidezo

Kameda, Tatsuya

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How Social Information Modulates Information-Sharing Strategies under Uncertainty

Hidezo Suganuma (suganuma.hiz@gmail.com)^{1,2} & Tatsuya Kameda³

¹Department of Social Psychology, The University of Tokyo

²Japan Society for the Promotion of Science

³Faculty of Mathematical Informatics, Meiji Gakuin University

Abstract

Understanding what drives human information sharing is crucial for predicting the outcomes of collective decision-making, alongside social learning. Although individuals act as both recipients and transmitters in social interactions, existing research has largely examined these dual cognitive processes in isolation. This study proposes a computational model integrating social learning with information sharing, describing the decision-making process of agents who both learn from others' choices and decide whether to disclose their own in a social foraging situation. Agent-based simulations predict that specific information-sharing parameters could theoretically improve collective outcomes. Applied to behavioral data, our model analysis indicated that individuals exhibit positive selectivity by sharing rewarding choices, while demonstrating susceptibility to conformist influence, disclosing their actions more frequently when aligned with those of others. These findings provide a unified account that mechanistically links social learning and strategic disclosure, with implications for understanding collective dynamics such as the spread of misinformation.