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Social learning functions as an exploration tool in correlated environments

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Abstract

Humans can learn from observing diverse others, even when they know little about their exact preferences, skills, or goals. Yet, while our remarkable social learning abilities have been a popular research topic, prior work has generally been limited to tasks in which observer and demonstrator share the same value function. To address this discrepancy, we use the socially correlated bandit task, where participants explore positively correlated, rather than identical, environments in groups. We extend existing work using this paradigm by comparing behaviour across individual and social rounds within participants. We replicate findings that humans are able to use correlated social information effectively, with behaviour being best described by a model noisily integrates social information. In comparing individual and social search behaviour, we find that social learning partially replaces directed exploration. In conclusion, we find that humans use social information flexibly, employing it as an exploration tool, despite our differences.