

# Pavlovian-Instrumental Interactions during Social Reinforcement Learning

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**Submitter** James Thompson  
**Affiliation** George Mason University

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**Presentation Abstract Summary** Socially appropriate behavior involves learning which actions are valued by others and which have a social cost. Social signals such as facial expressions are one way that value is conveyed from others. The rewarding or aversive nature of social signals such as smiles or frowns can also evoke automatic approach or avoidance behaviors in the receiver. Here, we found that Pavlovian biases to approach cues predicting social reward and avoid cues predicting social punishment interfered with Instrumental learning from social feedback. While the computational process underlying interactions between Pavlovian and Instrumental learning remained the same as when learning from monetary feedback, Pavlovian bias for social outcomes was unrelated to bias for monetary outcomes across participants. Increased frontal alpha EEG power was associated with suppression of Pavlovian bias to social outcomes on a trial-by-trial basis; while suppression of bias from monetary outcomes was associated with frontal theta EEG power. Our results demonstrate how emotional reactions to feedback from others are balanced with the instrumental value of that feedback to guide social behavior.

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## Co-author Information

\* Presenting Author

First Name	Last Name	Affiliation	E-mail
James *	Thompson *	George Mason University	jthompsz@gmu.edu
Margaret	Westwater	University of Cambridge	mw658@cam.ac.uk

## Keywords

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