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Motion to Blame: Different Causal and Moral Attributions Evoked by Perceived Chasing and Following

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Abstract

Humans perceive rich social interactions from motion. We investigated whether humans can perceive subtle intention differences in motion displays even when kinematics are highly similar, and whether the recovered intention shapes downstream causal and moral judgments. By grounding different intentions in a planning algorithm with distinct reward functions, we generated “chasing” and “following” trajectories, each ending with the front agent falling into an accident. In an online responsibility task, participants perceived different intentions and assigned blame accordingly: in following, responsibility concentrated on the leading front agent, whereas in chasing, responsibility shifted toward the rear chaser. In a matched causal-attribution task, the front agent was judged to be the primary cause of the motion in both displays. These findings suggest that humans can perceive subtle differences in intention from motion, which scaffolds moral evaluation, but that this influence cannot be simply reduced to generic causal attribution.