Folk-Psychological Interpretation of Human vs. Humanoid Robot Behavior: Exploring the Intentional Stance toward Robots

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Abstract

People rely on shared folk-psychological theories when judging behavior. These theories guide people's social interactions and therefore need to be taken into consideration in the design of robots and other autonomous systems expected to interact socially with people. It is, however, not yet clear to what degree the mechanisms that underlie people's judgments of robot behavior overlap or differ from the case of human or animal behavior. To explore this issue, participants (N = 90) were exposed to images and verbal descriptions of eight different behaviors exhibited either by a person or a humanoid robot. Participants were asked to rate the intentionality, controllability and desirability of the behaviors, and to judge the plausibility of seven different types of explanations derived from a recently proposed psychological model of lay causal explanation of human behavior. Results indicate: substantially similar judgements of human and robot behavior, both in terms of (1a) ascriptions of intentionality/controllability/desirability and in terms of (1b) plausibility judgements of behavior explanations; (2a) high level of agreement in judgments of robot behavior – (2b) slightly lower but still largely similar to agreement over human behaviors; (3) systematic differences in judgments concerning the plausibility of goals and dispositions as explanations of human vs humanoid behavior. Taken together, these results suggest that people's intentional stance toward the robot was in this case very similar to their stance toward the human.

Keywords

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