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Modeling Trust and Reliance with Wait Time in a Human-Robot Interaction

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Abstract

This study investigated how wait time influences trust in and reliance on a robot. Experiment 1 was conducted as an online experiment manipulating the wait time for the task partner's action from 1 to 20 seconds and the anthropomorphism of the partner. As a result, the anthropomorphism influenced trust in the partner and did not influence reliance on the partner. However, the wait time negatively influenced trust in and reliance on the partner. Moreover, a mediation effect of trust from the wait time on reliance on the partner was confirmed. Experiment 2 was conducted to confirm the effects of wait time on trust and reliance in a human-robot face-to-face situation. As a result, the same effects of wait time found in Experiment 1 were confirmed. This study revealed that wait time is a strong and controllable factor that influences trust in and reliance on a robot.

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