

EFFECTS OF VOICE GENDER AND EMBODIMENT OF INTELLIGENT AGENTS IN AUTOMATED VEHICLES ON DRIVER SUBJECTIVE PERCEPTION AND VISUAL DISTRACTION

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ABSTRACT

Driving agents can provide an effective solution to improve drivers' trust in and to manage interactions with autonomous vehicles. Research has focused on voice-agents, while few have explored robot-agents or the comparison between the two. The present study tested two variables – agent embodiment and voice gender, using conversational scripts. Twenty participants experienced autonomous driving using the simulator for four agent conditions and filled out subjective questionnaires for their perception of each agent. Results showed that the participants perceived the voice only female agent as more likeable, more comfortable, and more competent than other conditions. Their final preference ranking favored this agent over the others. The results are discussed with the traditional gender stereotype, uncanny valley, and participants' gender. This study can contribute to the design of in-vehicle agents in autonomous vehicles and future studies are planned to further identify the underlying mechanisms of user perception on different agents.

