

The Influence of Application Scenarios on the Perception of Robots

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In today's daily life, robots are used in more and more different application fields. Previous studies have shown that users suggested different contexts in which they could imagine the application of robots based on their appearances (Lohse et al., 2008). These contexts include domestic scenarios such as healthcare or personal assistance and public scenarios such as business or public assistance or even scenarios that include both domestic and public aspects such as security, research and education (Lohse et al., 2008). However, not only the robot and its appearance determine suitable application fields, but also the application field affects the acceptance of robots to execute the task (Savela et al., 2018). Moreover, different expectations about the personality and behaviour of humanoid robots arise depending on the role or task they are used in (Joosse et al., 2013). Comparing a cleaning robot with a tour guide robot, Joosse et al. (2013) found that the robot's task influenced the perception of the robot's personality and the user's compliance with the robot. These findings suggest that the associated stereotypes of the robot's application task might trigger the expectations and perception of the executing robot. Thus, the present study investigates the mere influence of the application scenario on the perception and evaluation of the robot.

In order to examine these effects, an online experiment with a within-subject design is used. Participants received eight different descriptions of a robot's application field and evaluated the robot in randomized order. The scenarios include a private home, supermarket, train station, court room, library, hospital, kindergarten and a workshop. The humanoid robot Pepper is present in all scenarios. A short description text and a supplementing scribbled picture present the different application fields. Using scribbles instead of real photographs, confounding factors such as different colouring, brightness, mood or perspectives can be excluded from the stimulus material. This is necessary to trigger the implicit expectations and stereotypes associated with the presented application scenario. Based on the stereotype content model (Eckes, 2002) participants rated the robot with regard to warmth, competence, status and competition. Additionally, the perception of the robot's

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anthropomorphism, perceived safety (Bartneck, Croft, & Kulic, 2008) and morality (Banks, 2019) got measured. Findings of the present study will be discussed and presented at the conference.

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