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Attitudes towards social robots: a protocol for a systematic review

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Abstract. People's attitudes likely play a significant role in the extent to which they are willing to accept and use new technologies, including social robots. Although a number of studies have sought to assess people's attitudes toward social robots, to date, there has been no attempt to integrate these insights. We therefore propose to conduct a systematic review to summarize existing evidence on people's attitudes toward social robots and understand the factors that influence these attitudes. Research measuring people's attitudes and anxiety toward, trust in, and acceptance of social robots will be identified via a systematic search of four electronic databases. The proposed review will consider attitudes toward social robots from different domains, and whether and how the nature of the sample, intended use of the robot and so on influence outcomes.

Keywords: Attitudes, Social Robots, Anxiety, Trust, Acceptance.

1 Introduction

Whilst the use of robotics in fields such manufacturing is well established, people's attitudes towards the application of robotics in typically human-dominated fields (e.g., healthcare) are somewhat negative [1]. It is necessary that we gain an understanding of the factors likely to influence the uptake of social robotics and their potential impact because attitudes towards new technologies, for example social robots, may affect people's acceptance and use of such. The insights from previous research analyzing attitudes towards robots have not been yet integrated. In addition, the reviews published up until now focused primarily on healthcare and education [2, 3]. Their aim was not to analyze systematically the factors that influence people's attitudes towards robots. Therefore, a systematic review on this topic would be relevant to synthesize all this knowledge and provide a clear and organized interpretation on people's attitudes towards robots.

1.1 The Proposed Review

The increasing application of social robotics means that it is crucial to identify the factors that influence people's attitudes toward and interactions with robots in a variety of settings and thus allow us to anticipate the impact of such technology. Therefore, this review has three primary objectives: To (1) synthesize existing research on

people's attitudes toward, trust in, acceptance of, and anxiety toward social robots and (2) identify factors (time, age, robot design, etc.) that influence people's attitudes toward social robots.

2 Method

Research that measures people's attitudes and anxiety toward, trust in, and acceptance of social robots will be identified via a systematic search of four electronic databases. The social robots' design characteristics, capabilities, and domain of application, along with the type of exposure to the robot (e.g., direct human-robot interaction) and the primary outcomes (e.g., affective attitudes) will be extracted and summarised. The full protocol of the proposed review has been registered and can be viewed on the PROSPERO database (CRD42017057331).

3 Discussion

The proposed systematic review will provide a foundation for research on the social, moral, and philosophical implications of rapid developments in new technology, as well as the basis for research that investigates ways to ensure that people's beliefs about such technology are grounded in reality, rather than representations from science fiction that likely shape many people's attitudes.

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