

Attitude and acceptance of robots

H. UMEMURO, H. GOTOU. **Robot attitude and acceptance by Japanese older adults.** *Gerontechnology* 2016;15(suppl):64s; doi:10.4017/gt.2016.15.s.597.00 **Purpose** In order to understand and promote acceptance of technologies such as robots, people’s attitudes towards the technology is essential. This study assessed experiences with and attitudes towards domestic robots as well as attitudes towards computers of Japanese older people, and investigated inter-relations among them. **Method** One hundred and sixty nine Japanese adults aged between 61 and 90 years old participated in a questionnaire-based investigation. Participants were asked for their experiences, daily usage, and possession of three categories of domestic robots: robots designed to do specific task(s) (e.g. cleaning), those whose major purpose is interaction and communication, and those designed for general / multiple purposes. Participants’ attitudes towards robots were assessed with the Multi-dimensional Robot Attitude Scale¹ that yields twelve sub-dimension scores: familiarity, interest, negative attitude, self-efficacy, appearance, utility, cost, variety, control, social support, operation, and environment fit. Attitudes towards computers were also assessed using the Attitude Towards Computers Questionnaire² that yields seven sub-dimension scores: comfort, efficacy, gender equality, control, dehumanization, interest, and utility. In addition, the ten question items constituting the anxiety subscale of the Computer Attitude Scale³ were used to assess participants’ attitude of anxiety. **Results & Discussion** Table 1 summarizes attitude sub-dimensions that showed significantly higher scores for participants who reported experience, daily usage, or possessions than their counterparts. The results showed that some sub-dimensions of robot attitudes are significantly different between experience / usage / possession groups, while only few computer attitude sub dimensions differed between groups. Results implies that it is essential to accurately assess older people’s attitudes towards robots, not attitudes towards other technologies, in order to estimate their acceptance of domestic robots.

References

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*Figure 1. Attitude sub-dimensions whose scores were significantly higher for participants who reported experience / usage / possession of any of the three categories of robots; (R)= variable reversed; **= $p < 0.01$. *= $p < 0.05$. += $p < 0.10$; n.s.=not significant*

Robot goal	Attitude towards:	Experience vs. no experience	Daily usage vs. no daily usage	Possession vs. no possession
Specific tasks	robots	Interest* Negative attitude+	Variety (R)*	Negative (R)+ Self-efficacy+ Utility+
	computers	n.s.	n.s.	Gender equality+ Dehumanization (R)+
Communication	robots	Familiarity** Interest+ Self-efficacy+ Appearance+ Utility+ Social support**	n.s.	n.s.
	computers	n.s.	n.s.	n.s.
General purpose	robots	Familiarity+ Appearance+ Cost (R)+ Operation+	No participant reported daily usage	No participant reported possession
	computers	Efficacy+		