

M. Heerink, B. Kröse, B. Wielinga, V. Evers. *The influence of perceived adaptiveness of a social agent on acceptance by elderly users. Gerontechnology 2008; 7(2):120.* When presenting a robot to elderly users, we often observed a certain disappointment when users realized a robot was offering a functionality that was not (yet) needed. When it was perceived to be adaptive we observed enthusiasm. In our project, in which we aim to develop a methodology for predicting and explaining acceptance of social robots and screen agents (companions) used in eldercare¹, we are currently experimenting with both robots and screen agents. Motivated by our observations, which are supported by related research that stresses the importance of adaptiveness in assistive technology^{2,3}, we measured the amount in which adaptiveness of a social agent was perceived within an acceptance study. We hypothesized that perceived adaptiveness could be related to perceived usefulness and to the intention to use the system. **Experiments** We carried out two experiments, both with 30 participants, to gather data on elderly users evaluating and using a conversational robot and a screen agent. The experiment with the robot was carried out in an eldercare institution and the experiment with the screen agent was carried out by implementing it on the PC of elderly users at home. After their first encounter with the system, participants were subjected to a questionnaire to which they could answer on a Likert scale. The questions represented constructs that are common in technology acceptance research (perceived usefulness, perceived ease of use) and the newly introduced construct of perceived adaptiveness. After this first test, users could use the system for a longer period (5 days for the robot, 10 days for the screen agent). **Results and discussion** Besides a strong correlation between intention to use and the actual usage measured in minutes for both agents, results show a strong correlation between the used constructs (Table 1). The strong correlation implies that Perceived Adaptiveness is a key concept when measuring technology acceptance for eldercare companions.

References

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Table 1. Correlation between perceived adaptiveness (PAD), perceived usefulness (PU), perceived ease of use (PEOU), intention to use (ITU) and usage measured in minutes (min) for the robot and the screen agent

Construct		Robotic agent				Screen agent			
		ITU	PAD	PU	PEOU	ITU	PAD	PU	PEOU
PAD	Pearson Corr.	,544**	1	,936**	,442*	,608**	1	,493**	,386*
	Sig. (2-tailed)	,002		,000	,015	,000		,006	,035
PU	Pearson Corr.	,504**	,936**	1	,468**	,861**	,493**	1	,697**
	Sig. (2-tailed)	,005	,000		,009	,000	,006		,000
PEOU	Pearson Corr.	,633**	,442*	,468**	1	,585**	,386*	,697**	1
	Sig. (2-tailed)	,000	,015	,009		,001	,035	,000	
Min	Pearson Corr.	,625**	,325	,657**	,625**	,623**	,344	,410*	,035
	Sig. (2-tailed)	,000	,079	,000	,051	,000	,063	,025	,856