Older people's acceptance of robot-assisted Activities of daily living

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Purpose As older people grow older, they are more willing to stay at home (Broekens et al., 2009) because living at home can give them a sense of security and comfort (Gillsjö & Schwartz-Barcott, 2011). At home, seniors need to do Activities of daily living (ADLs) (Mitzner et al., 2014) such as cooking and cleaning. As an emerging field, robots are potential solutions to the problems related to aging (Begum et al., 2015; Garcia-Soler et al., 2018; Lukasik et al., 2018). However, for senior citizens, which daily activities are willing to be assisted by robots, this is what robot designers need to understand. Therefore, the purpose of this study is to explore the degree of acceptance of robot assistance in ADLs by elders living in Taiwan. **Method** A questionnaire method was used in the study. First, the participants were asked to view the robot video and then fill out the ADLs acceptance questionnaire. The questionnaire was scored using the Likert five-point scale (1 = strongly disagree, 3 = uncertain, 5 = strongly agree). The data was subjected to descriptive statistics and one-sample Wilcoxon sign-rank tests. The questionnaire reliability score was 0.907, indicating a high reliability. **Result & Discussion** A total of 29 senior citizens were recruited from Yongjian Evergreen Promotion Association of Taipei (age range = 61-81, M = 71.1, SD = 5.115). In terms of robot experience, 21 of them said they had no experience with robots. Only two elderly people said they had operated a robot, while the other six expressed that they had seen robots on TV and in newspapers. The results show that the elderly are rather welcoming robot's assistance in activities such as "reminding to carry items" and "reminding to take medicine". For activities such as "friends get-together", "playing Mahjong" and "bathing" that are more group demanding or intimate, the use of robot assistance is less accepted. Studies have shown that the average scores of "reminding to carry items", "reminding to take medicine", "reminding where things are", "reminder of important things" and " looking for things" all exceeded 4, which may be contributed by the aging and gradual memory decline (Granata et al., 2013). Therefore, the elderly are more likely to accept the assistance in such activities. The results of the study can be used as a reference for robot design in order to develop robots that meet the functional requirements of the elderly.

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