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Research finds older adults would welcome help from in-home robots.

## HFES News

### Older Adults Want Robots That Do More Than Vacuum, Human Factors/Ergonomics Researchers Find

Thursday, October 15, 2009

SANTA MONICA, CALIFORNIA — Researchers at Georgia Tech have discovered that, contrary to previous assumptions, older adults are more amenable than younger ones to having a robot "perform critical monitoring tasks that would require little interaction between the robot and the human." The findings will be presented at the upcoming HFES 53rd Annual Meeting, Grand Hyatt, San Antonio, Texas, on Thursday, October 22, 2009.

Despite manufacturers' increased development of in-home robots, it's unclear how much interaction people would be willing to have with them. Robots can perform routine tasks such as cleaning — the Roomba vacuum cleaner being the best-known example. Studies have found that individuals think of robots as advanced appliances, but there is not much research on why this is so. Robots could perform more critical tasks, such as reminding a person to take medications, teaching a new skill, providing security, and reducing social isolation.

To gauge how willing people might be to have a robot perform these kinds of more interactive tasks, Drs. Neta Ezer (now at Futron Corporation), Arthur D. Fisk, and Wendy A. Rogers sent a questionnaire to 2,500 Atlanta-area adults ages 18 to 86 and received 177 responses. One of their questions addressed respondents' level of experience with technology and robots that do things like mow, clean, guard, and entertain. Older adults (ages 65 to 86) had significantly less experience with technology than younger ones (18-28), but younger adults had only slightly more experience with robots currently on the market.

When asked about their willingness to have robots perform 15 tasks in the home (categorized as entertainment, service, educational, and general health/self-care), respondents of all ages preferred that robots stick to noninteractive tasks (such as "Help me with housework" or "Bring me things I need from another room in my home") rather than interactive ones (for example, "Have a conversation with me" or "Help motivate me to exercise"). Infrequent critical tasks, such as "Warn me about a danger in my home" or "Inform my doctor if I have a medical emergency," were seen by more older adults than younger ones as important for robots to perform.

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Both younger and older respondents reported positive attitudes toward a robot in their homes. They thought a robot would be useful but were less confident that it would be easy to use. Given a choice between receiving care by a robot in their homes and moving to a care facility in the event of illness or injury, 67% of younger adults and 77% of older adults chose the former option. (This finding is not reported in the paper to be presented in October.)

The researchers say their results "suggest that both younger and older individuals are more interested in the benefits that a robot can provide than in their interactive abilities." Furthermore, the results discredit the stereotype that older adults would be less willing than younger ones to accept new technology such as a robot in their home. Manufacturers: Take note.

[Download a copy of the paper](#), "More Than a Servant: Self-Reported Willingness of Younger and Older Adults to Having a Robot Perform Interactive and Critical Tasks in the Home" published in the *Proceedings of the Human Factors and Ergonomics Society 53rd Annual Meeting* (pp. 136-140). Contact senior author [Dr. Neta Ezer](#) (281/483-2226) or HFES Communications Director [Lois Smith](#) (310/394-1811).

The Human Factors and Ergonomics Society is the world's largest nonprofit individual-member, multidisciplinary scientific association for human factors/ergonomics professionals, with more than 4,300 members globally. HFES members include psychologists and other scientists, designers, and engineers, all of whom have a common interest in designing systems and equipment to be safe and effective for the people who operate and maintain them. Watch [science news stories about other HF/E topics](#) at the HFES Web site. "Human Factors and Ergonomics: People-Friendly Design Through Science and Engineering"

*Photo credit:* REUTERS/Michael Corona. Twendy-One, designed at Waseda University in Tokyo to help elderly and disabled people around the house, serves food on a tray. Photographed on November 27, 2007. NOTE: The robot depicted in this image is not connected to the research reported in the article referred to above.

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