

PAPER

Social Robotics

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Purpose There has been extensive growth in the creation of social robots for eldercare. A majority of research investigations into this area has been dedicated toward technology development centered on the provision of care assistance in old age¹. Although older adults are generally open to using social robots, they maintain selective preferences relative to the types of functions they would or would not like the robot to perform². In fact, older adults are more inclined to use a social robot if such technology has a practical use that does not erode feelings of security or interfere with personal privacy³. However, there is still a question as to how older adults will respond to various robotic designs or social interactions^{1,3}. Therefore, the aim of this study was to qualitatively assess attributes that older adults favor as well as dislike in the aftermath of interaction with a social robot (Figure 1). **Method** A total of N = 21 older adults were examined (9 male, 12 female; Mean age: 74.67; SD = 5.80) and conveniently sampled to complete several open-ended survey questions after engaging in a 10-minute series of social interactions including basic conversation; time, weather, and news updates, playing a game of rock, paper and scissors, listening to jokes, inspirational quotes, and music. Participants were asked three open-ended questions after the interactive session. Questions concerned: (1) What the participant liked about the social robot interaction; (2) What they did not like about the social robot interaction; and (3) How they would improve interactive functioning of the social robot. Responses were qualitatively assessed relative to thematic content. **Results & Discussion** Key themes emerged across all three open-ended questions. Four themes emerged relative to what participants liked about their interaction with the robot. In particular, participant responses indicated accessibility to information, facilitation of assistance, design simplicity, emotional expression, and interactive quality as important qualities that facilitated a positive interactive experience. Meanwhile, thematic content indicative of a negative interaction with the social robot included verbal recognition, reaction delay, auditory clarity, aesthetic design, and perceptual ambiguity. Finally, three themes evolving themes entailing improvement for human and social robot interaction consisted of affectual design enhancement, programmatic variation, and improvement of physical aesthetics. Results have implications for robotic engineers, computer programmers, and geriatric clinicians who seek to understand what older adult prefer relative to interactive design qualities and capabilities of social robots.

References

1. Vandemeulebroucke T, Dierckx de Casterle B, Gastmans C. *Aging and Mental Health* 2018;22(2):149-167
2. Smarr CA, Prakash A, Beer JM, Mitzner TL, Kemp CC, Rogers WA. *Proceedings of the Human Factors and Ergonomics Society 56th Annual Meeting*. 2012;153-157
3. Young J, Hawkins R, Shalin E, Igarashi T. *International Journal of Social Robotics*. 2009;1(1):95-108
4. Heerink, Kroese, Evers V, Wielinga B. *Journal of Physical Agents* 2008;2(2):33-34

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Figure 1. Social prototype