

Dementia And Technology

User experience and acceptance of using social robots for dementia care D. Bai* & Y. L. Hsu.
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Purpose Dementia increasingly challenges both family and professional caregivers, who often face substantial emotional and practical burdens. As nonpharmacological approaches continue to expand, socially assistive robots have emerged as promising tools to support stimulation, interaction, and emotional well-being for people with dementia (Nam & Park, 2024; Yu et al., 2022). Caregiver perspectives are central to successful implementation because caregivers facilitate daily technology use and shape acceptance in real-world settings. This study compared user experience and technology acceptance of a social robot between formal and informal caregivers to illuminate role-dependent needs and expectations. **Method** Two caregiver groups interacted with the same commercially available social robot equipped with a touchscreen, expressive facial animations, multimedia communication capabilities, and interactive cognitive-game functions. The robot guided users through activities involving attention, language, memory, visuospatial practice, and simple problem-solving, and provided verbal feedback and gesture-based engagement. The first group consisted of 120 formal dementia caregivers, whose evaluations using the User Experience Questionnaire, System Usability Scale, and Technology Acceptance Model were previously reported (Bai et al., 2025). The second group comprised 30 family caregivers who completed parallel assessments using the above instruments after individual sessions with the robot. Independent samples t-tests were conducted to identify statistical differences in perceived usability, engagement, and acceptance scores across caregiver roles. **Results and Discussion** Both groups responded positively to the robot. However, statistical analysis revealed that formal caregivers reported higher ratings across several user experience domains, especially enjoyment, clarity, and novelty, and demonstrated stronger technology acceptance responses in perceived usefulness, ease of use, and intention to adopt the robot in care settings. Family caregivers similarly rated the robot as enjoyable, pleasing, dependable, and innovative, with overall usability comparable to tablet-based interaction. Their comments emphasized emotional engagement, supportive presence, and multisensory interaction rather than task efficiency. These patterns suggest that formal caregivers prioritize clarity, usefulness, and caregiving utility, while family caregivers value emotional connection and relational support. This divergence likely occurs because professional caregivers evaluate the robot as a tool for workflow efficiency and burden reduction, whereas family caregivers view the robot as a means to provide companionship and emotional respite. Understanding these differences may enhance the design, adaptation, and implementation of socially assistive robots across diverse dementia care environments.

References

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