

Can Social Robots Improve Mental Health for Older Adults Living Alone? Evidence from South Korea

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Abstract

As populations age globally, social isolation and poor mental health among older adults living alone are critical concerns. Social robots have been introduced as potential tools to support psychological well-being, yet empirical evidence remains limited. This study investigated differences in psychosocial outcomes between social robot users and non-users among older adults living alone in metropolitan South Korea, and examined predictors of robot use while controlling for demographic factors. A total of 225 older adults (129 users, 96 non-users) were recruited from six Senior Welfare Centers between October and November 2023. A quantitative survey design was used to assess depressive symptoms, loneliness, and subjective well-being. Group differences were analyzed using independent samples t-tests. Social robot users reported significantly lower depressive symptoms ($M = 14.85$, $SD = 5.38$) than non-users ($M = 16.61$, $SD = 6.84$; $p < .05$, Cohen's $d = -0.29$). They also reported significantly higher subjective well-being ($M = 10.08$, $SD = 2.80$ vs. 9.19 , $SD = 2.60$; $p < .05$, $d = 0.33$). No significant difference was found for loneliness ($p > .05$, $d = -0.14$). Findings indicate that social robots may reduce depressive symptoms and enhance subjective well-being by providing emotional support and consistent interaction. However, alleviating loneliness likely requires more complex social connections. This study provides essential evidence for developing human-centered care robot models to improve quality of life for older adults living alone.

Keywords

older adults, social robots, mental health, loneliness, depression, subjective well-being,

Biographies

Soondool Chung is a Professor of Dept. of Social Welfare at Ewha Womans University. She is also the Director of Ewha Institute for Age Integration Research (EIAIR). Her research works relate to psycho-social well-being of older adults, active and healthy aging, and intergenerational relationship. Dr. Soondool Chung received a bachelor's degree in Social Welfare from the Ewha Womans University, a master's degree in Social Welfare from the Ewha Womans University, Korea, and a PhD degree from University of Texas at Austin, US. Her research works are published in various peer-reviewed journals in her field and cited by a worldwide audience of researchers.

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