Sensor-based technologies are promising to support independent living for older women

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A study conducted by Assistant Professor Blaine Reeder, Ph.D., and co-authored by Catherine Jankowski, Ph.D., at the University of Colorado College of Nursing on older women's perception of technology found that more active older adult women prefer wearable sensors for themselves and smart home sensors for their older parents.

Published in *Informatics for Health and Social Care*, the study titled "Older Women's Perceptions of Wearable and Smart Home Activity Sensors" included ten women with an average age of 65 years. The study aimed to characterize perceptions of wearable and smart home technologies for older women. Consumer-grade wearable activity monitors include fitness trackers such as Fitbit and Yamax CW700 as well as smart watches with accelerator sensors; smart home technologies include sensors installed in the residential environment that allow for passive monitoring of health. Home sensors include bed and chair pressure sensors, activity sensors, video sensors, door and window sensors, and leak detection sensors.

"Our findings that younger, more active older adult women prefer wearable sensors for themselves and smart home sensors for their parents is important to tailoring technology research for independent aging," said Reeder. Dr. Reeder conducts informatics research to connect the contexts of personal health and public health with a focus on three areas: aging in place, organizational information systems, and research tools.

"Given the greater number of women who will live into old age and their specific age-related risks, such as high-risk for fracture due to low bone mass, there is a need to identify approaches that help women to age independently. Sensor-based technologies show promise, but their acceptability with older adult women must be understood to promote adoption into daily life," said Reeder.

This study showed that in general, wearable sensors were perceived as more useful than smart home sensors because most participants had high levels of activities outside their homes. In addition, both technologies were acceptable for personal activity data collection, and participants had few concerns about data sharing.

Technology perceptions were assessed during a larger pilot study led by Dr. Jankowski to evaluate technology measurements of jumping activity, which led to the funding of her current R01 on DHEA and Musculoskeletal Adaptations to Exercise in Older Women.

More information: Blaine Reeder et al, Older women's perceptions of wearable and smart home activity sensors, *Informatics for Health and Social Care* (2019). DOI: 10.1080/17538157.2019.1582054

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