

Ethics and DEI

Who Trades Privacy for Convenience? Age Effects in Smart Home Technology Use

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Purpose Smart home technologies (SHTs), such as sensors and speakers, enable automated control of the home environment and facilitate everyday tasks [1], [2]. The prevalence of homes with SHTs in Canada is expected to rise to nearly 60% by 2027 [3], and SHTs have been widely adopted by individuals across age groups [4]. Given that little is known about how SHT users of different ages perceive the privacy and safety implications of their devices, we conducted a national survey to examine whether age predicts Canadian SHT users' perceptions of privacy and safety and engagement with terms and conditions (T&Cs). **Method** This cross-sectional study represents the largest dataset of its kind examining age-related differences in SHT privacy, safety, and information engagement. Eligible participants had to be Canadian, be 18 years or older, live in the community, use at least one smart device, and be fluent in English. Demographic information was also collected. A total of 881 responses were included for analysis. Survey responses were cleaned, and age was recoded into the following categories: 18-20, 21-29, 30-39, 40-49, 50-59, 60+ (older adults). Three survey items were selected for three ordinal logistic regression models: (1) Home safety perceptions: "Does your SHT make you feel safer in your home?" (Yes/Sometimes/No/Not sure); (2) Willingness to compromise privacy: "Do you sacrifice your privacy for the convenience of your device?" (Yes/No/Not sure); and (3) Reading T&Cs: "Have you read your device's T&Cs in detail?" (Yes/No/Not sure). The 30-39 age group was used as the reference group, as most respondents were in this age group. Likelihood-ratio tests examined overall age effects, with a Holm correction for multiple comparisons. **Results** Age significantly improved the model fit for all three outcomes ($p < 0.001$). Compared to users aged 30-39, adults aged 18-20 were statistically more likely to compromise privacy for convenience ($b = 1.93$, $p < 0.001$). Older adults were less likely to do so, though this difference was not statistically significant ($p > 0.05$). Older adults were less likely to report increased perceived home safety, while users aged 18-20 were statistically more likely to report increased safety ($b = 1.13$, $p < 0.001$). Older adults were statistically less likely to read T&Cs than users aged 30-39 ($b = -4.22$, $p < 0.001$), whereas those aged 18-20 did not differ statistically from the reference group ($p > 0.05$). **Discussion** This study found that age significantly predicts Canadian SHT users' safety and privacy perceptions and engagement with T&Cs. Older adults were statistically less likely to read T&Cs than younger users and are thus less familiar with the technicalities that govern privacy and data use. This reflects the prevalence of older adults' privacy cynicism, which is characterized by a lack of engagement in protective behaviours due to the perceived inability to prevent privacy and safety risks [5]. Older adults did not differ significantly from users aged 30-39 in their safety perceptions and tendency to compromise privacy for convenience. These results highlight the importance of tailored and user-centred education and communication strategies for all SHT users, but especially older adults, to promote informed SHT use and support autonomy and independence.

References

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