

Predictors of Confidence in Digital Technology Use for Online Physical Activity in Rural Older Adults

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Purpose: West Virginia (WV) is a rural state of the United States with the third oldest and most inactive population, and the highest prevalence of chronic conditions/disability. Online interventions are needed to reach this population to promote physical activity (PA). The state, however, lags behind the United States in internet/digital device access. This study examined digital device use and the factors that predicted confidence in using technology for online PA.

Methods: An online survey was administered to older WV adults (aged 65+) who were recruited via social media. Data were collected on socio-demographics, chronic conditions, global health, disability, moderate and vigorous-intensity PA minutes, and digital device use. Confidence in using a device for an online PA class was measured from 0 (not confident) to 10 (very confident). Multiple linear regression identified predictors of confidence.

Results: Participants ($n = 198$) were 'younger' older adults (mean 68 years) and primarily married (62%) men (65%) with college degrees (59%) and income over \$50,000 USD (61%). Participants were more racially/ethnically diverse with lower arthritis (19%), hypertension (41%), obesity (19%), and disability (14%–27%) prevalence than the older WV population. Seventy percent owned and used a computer, tablet, or smartwatch and had previously taken an online PA class; all had internet access. Between 98%–100% used an application, sent a text/email, or joined a video call within the past month. Mean confidence was 7.4 ± 2.1 (range 0–10). Younger age (coefficient $\pm$ standard error) (-0.15 ± 0.04 , $p < 0.001$), no cognitive disability (0.59 ± 0.18 , $p < 0.001$), and greater global physical health (0.08 ± 0.03 , $p = 0.003$) significantly predicted higher confidence, adjusted for vigorous PA.

Conclusion: Internet access, device ownership/use, and confidence were higher than anticipated in rural WV. The predictors were consistent with predictors of internet use in older adults. This younger healthier sample, with modest socioeconomic status, was not representative of older WV adults, most likely due to recruitment via social media. Although the digital divide is narrowing, device ownership/use was not 100%. Online PA is important because it improves cognitive/physical health. Future research should focus on reaching rural 'older' older adults with the greatest need (e.g. lower income, worse health/disability) for online PA interventions.

