

Tablet Use is Associated with Physical Activity and Loneliness in Older Adults

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BACKGROUND

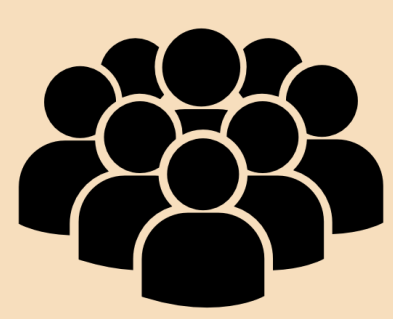
- About 67% of adults aged 65+ years are now using the internet, 32% own tablets, and 42% own smartphones¹
- New technology may have tremendous potential to contribute to successful aging²

RESEARCH AIM

Examine the use of different types of tablet functions (exercise, social) and their associations with changes in physical activity (PA), loneliness, and cognitive function



METHOD



$N = 83$ adults from Vancouver³, 63% female
 M age = 68 years ($SD = 8.9$), range: 51–85
 57% East Asian, 34% Caucasian

Pre-tracking sessions



6-month tracking period



Post-tracking session



Measures at pre- and post-tracking sessions:

- Socio-demographics
- *Physical activity*⁴ (vigorous: $M = 2.8$ hrs, $SD = 4.7$; moderate: $M = 4.7$ hrs, $SD = 6.6$; walking: $M = 8.6$ hrs, $SD = 9.3$; sitting: $M = 4.9$ hrs, $SD = 2.7$)^a
- *Loneliness*⁵ (social: $M = 2.1$, $SD = 0.9$; emotional: $M = 1.6$, $SD = 0.8$)^a
- *Executive functioning*^{6,7} (trail making B: $M = 113.4$ s, $SD = 56.4$; animal naming: $M = 12.1$, $SD = 3.8$)^a

Biweekly measures during 6-month tracking period:

- *Exercise function use* ($M = 25.1\%$, $SD = 33.4$)
- *Social function use* ($M = 81.8\%$, $SD = 27.7$)
- *Overall hours of tablet use* ($M = 22.3$ hrs, $SD = 18.6$)

^a Reported M and SD are for pre-tracking sessions 1/2; means did not significantly differ pre- to post-tracking except for walking, which decreased, and animal naming, which increased.

RESULTS

1. Use of exercise functions is associated with increases in moderate-intensity PA and sitting time

	Δ vigorous-intensity PA b (SE)	Δ moderate-intensity PA b (SE)	Δ walking b (SE)	Δ sitting b (SE)
Intercept	1.02 (0.98)	0.05 (1.00)	-1.43* (0.61)	-0.29 (0.38)
Exercise function use	0.00 (0.03)	0.09** (0.03)	0.03 (0.02)	0.03* (0.01)
Social function use	-0.04 (0.04)	-0.01 (0.04)	0.01 (0.02)	-0.02 (0.01)
Overall tablet use	-0.03 (0.05)	-0.06 (0.05)	0.00 (0.03)	-0.03 (0.02)
R^2	.31**	.37**	.78**	.29**

Note. Outcomes are change scores from Baseline to Exit. Regression models control for age, gender, relationship status, ethnicity, education, previous technology experience, and outcome at Baseline. * $p < .05$, ** $p < .01$.



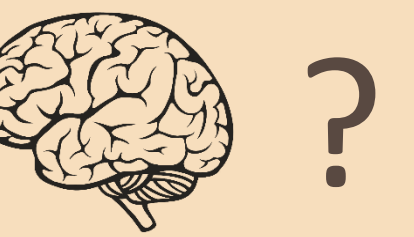
2. Use of social functions is associated with increases in social loneliness and decreases in emotional loneliness

	Δ social loneliness b (SE)	Δ emotional loneliness b (SE)
Intercept	-0.16 (0.09)	0.13 (0.11)
Exercise function use	0.00 (0.00)	0.00 (0.00)
Social function use	0.01* (0.00)	-0.01* (0.00)
Overall tablet use	0.00 (0.01)	0.00 (0.01)
R^2	.48**	.27*

Note. Outcomes are change scores from Baseline to Exit. Regression models control for age, gender, relationship status, ethnicity, education, previous technology experience, and outcome at Baseline. * $p < .05$, ** $p < .01$.



3. Use of exercise and social functions is not associated with changes in executive functioning



DISCUSSION

- Access to exercise apps or fitness-related information may help older adults to be more physically active⁸
- Tablet-based programs may also increase screen time and the need to rest, resulting in more sedentary time⁹
- Social technology use may mitigate emotional loneliness, but at the same time increase social loneliness by inducing upward social comparison^{10,11}
- More research is needed on whether tablet use may promote cognitive functioning¹²

CONCLUSION

New technology could carry tangible physical and social well-being benefits, but effects depend on type of use

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