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Predictors of Older Adults' Technology Use and Its Relationship to Depressive Symptoms and Well-being

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Method

Participants

We analyzed data from the first wave of the National Health and Aging Trends Study (NHATS), a longitudinal study in which a nationally representative sample of more than 8,000 Medicare beneficiaries aged 65 and older will be surveyed annually. Extensive face-to-face interviews, conducted in 2011, collected information pertaining to a broad array of topics, including home and facility environments; health conditions; physical, cognitive, and social functioning; and economic status. The study employed a stratified multistage sampling design, with selection probabilities designed to ensure sufficient sample sizes by age group and race/ethnicity (Montaquila, Freedman, Edwards, & Kasper, 2012). Non-Hispanic Blacks/African Americans and individuals in older age groups were oversampled. Consistent with previous studies, we selected a community sample and thus excluded participants who resided in nursing homes

Measures

ICT use.—From the set of technology-related survey items (Table 2), we derived two variables measuring different facets of ICT use.

A communications technology variable was measured on a four-point ordinal scale (0 = had not e-mailed or texted within the past month; 1 = e-mailed or texted rarely; 2 = e-mailed or texted some days; 3 = e-mailed or texted most days). An information technology variable was also measured on a four-point scale (0 = did not have or use a computer; 1 = had or used a computer but had not gone on the Internet; 2 = had used the Internet but not for both shopping/banking and health-related purposes; 3 = used the Internet for at least one activity in each category).

Depressive symptoms.—The Patient Health Questionnaire-2 (PHQ-2; Kroenke, Spitzer, & Williams, 2003), a truncated version of the PHQ-9, is a two-item measure designed to screen for depression. It asks about depressed mood and anhedonia, at least one of which is required for a diagnosis of major depression in the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5; American Psychiatric Association, 2013). In the NHATS survey, respondents were asked to rate how often, over the past month, they have "had little interest or pleasure in doing things" and "felt down, depressed, or hopeless."

Table 3. Intercorrelations

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Age	—										
2. Education	−.14*	—									
3. Income	−.19*	.49*	—								
4. Executive Function	−.21*	.25*	.20*	—							
5. Memory	−.35*	.33*	.25*	.31*	—						
6. Self-rated health	−.12*	.32*	.28*	.18*	.2						
7. Chronic disease	.10*	−.10*	−.13*	−.05*	−.07*	−.44*	—				
8. Activity of daily living limitations	.18*	−.17*	−.20*	−.17*	−.22*	−.45*	.31*	—			
9. Social integration	−.19*	.34*	.33*	.21*	.29*	.32*	−.11*	−.31*	—		
10. Information and communications technology use	−.33*	.52*	.43*	.28*	.39*	.31*	−.11*	−.23*	.37*	—	
11. PHQ-2	.02	−.20*	−.18*	−.09*	−.14*	−.38*	.23*	.40*	−.25*	−.18*	—
12. Well-being	−.12*	.22*	.19*	.15*	.20*	.35*	−.16*	−.34*	.29*	.25*	−.39*

Note. *$p < .01$.

the more frequently older adults used informational and communicational technologies, the better their executive function, the better their self-rated health, the lower their occurrence of chronic disease, the better their social integration, and the higher their well-being