Proficient use of mobile devices for communication among Northeastern Brazilian older adults and associated factors

V. Silva, A. Furtado, C. Lins, A. K. Borba, T. Nascimento, M. G. Coriolano

Purpose Using the Internet and social networks improves older people's quality of life, providing recreation, entertainment, acquisition of new skills and occupational activities, communication, and access to information (WHO, 2024). The digital inclusion of older people is a challenge within the global technological expansion. However, older people's access to digital technologies differs between regions of the world and socioeconomic profiles. Proficient technology use is an important indicator of digital inclusion, specifically concerning older adults. This study aimed to identify factors associated with proficiency in using mobile devices for communication among older people. **Method** This cross-sectional study included 311 older people participating in social groups in Recife's Health District IV, Pernambuco, Brazil. Data were collected through interviews and protocols. The study's dependent variable was the proficient use of mobile devices for communication, measured with the Mobile Device Proficiency Questionnaire (MDPQ) – Communication Domain (Roque, Boot, 2016). The MDPQ communication score ranges from 1 to 5. Demographic and socioeconomic variables were analyzed to identify associated factors. Simple and multiple Poisson Regression models were analyzed to identify the prevalence ratio between associated factors. The Poisson regression model is recommended for cross-sectional studies. Variables with a p-value < 0.25 in the simple analysis were chosen for the multiple analysis. Conclusions were reached with a significance level of 5%. **Results and Discussion** The mean score of older adults' proficient use of mobile devices for communication was 2.31 (SD: 1.03). The median of 2.11 was defined as the cutoff point, leaving 52.4% of the study population below the median, considered as low proficiency in mobile devices for communication. The World Health Organization considers the information and ability to use communication technologies as an important indicator for older people's visibility in sustainable development (WHO, 2024). The simple analysis of factors associated with the proficient use of mobile devices for communication identified literacy, education, occupation, and family income as factors associated with low proficiency. In the multiple analysis, education and marital status remained in the model. The prevalence of low proficiency with mobile devices for communication was 2.17 times higher in the group of older adults who studied 0 to 4 years than in those who studied 17 years or more. The prevalence among older widows was 50% higher than among older married people. The influence of education on older people's digital inclusion corroborates the literature (Soundararajan et al., 2023). The findings indicate the importance of investing in education as part of digital inclusion policies for older people, which removes barriers for them to access technologies.

References
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Table 1. Result of Poisson's regression to identify factors associated with older people's low proficiency with mobile devices for communication

| Variable | Proficiency with mobile devices for communication | | | | Association with low proficiency with mobile devices for communication | | | | | |
| | High 148 (47.6%) | | Low 163 (52.4%) | | Simple analysis | | | Multiple analysis | | |
	n	%	n	%	PR	CI	P-value	PR	CI	P-value
Marital status										
Married	49	45.8%	58	54.2%	1			1		
Divorced	25	56.8%	19	43.2%	0.80	0.54-1.17	0.242			
Single	42	56.8%	32	43.2%	0.80	0.58-1.09	0.158			
Widow(er)	32	37.2%	54	62.8%	1.16	0.91-1.47	0.227	1.5	1.08-2.08	**0.016**
Years of study										
Up to 17 years	74	68.5%	34	31.5%	1			1		
Up to 11 years	43	48.3%	46	51.7%	1.64	1.16-2.31	**0.005**			
Up to 8 years	18	32.1%	38	67.9%	2.16	1.55-3.00	**<0.001**			
0 to 4 years	13	22.4%	45	77.6%	2.46	1.81-3.36	**<0.001**	2.17	1.54-3.05	**<0.001**

*Minimum wage in Brazil in 2023: R$ 1,320.00.
**Controlled by demographic and socioeconomic factors.