The Effect of Digital Literacy on Older Adults' Intention to Use Digital Healthcare: The Moderating Role of Frailty D.H. Lee, H.J. Yoon, J.W. Lee, H.R. Shin, Y.S. Kim. *Gerontechnology* 25(s)

Purpose Population aging has increased interest in digital healthcare. however, adoption among older adults remains limited[1]. Digital literacy is an important determinant of engagement with digital health services, but its effects may vary by health status[2,3]. In particular, frailty may alter how digital literacy translates into healthcare use. Therefore, this study examines the moderating role of frailty in the relationship between digital literacy and intention to use digital healthcare. **Method** Data from the 2024 Korean Senior Technology Acceptance Panel Survey (N = 435, aged ≥65) were analyzed. Digital literacy was assessed using the Functional Assessment of Comfort Employing Technology Scale (FACETS)[4]. Frailty was assessed using the FRAIL scale[5], with scores of 3 or higher indicating frailty, scores of 1–2 indicating pre-frailty, and a score of 0 indicating no frailty. Intention to use digital healthcare was measured using two items adapted from a validated instrument[6], rated on a 5-point Likert scale, with higher scores indicating greater intention to use digital healthcare services. Moderation analysis was performed using PROCESS macro (Model 1) in SPSS, controlling for covariates ($p < .05$). **Results and Discussion** Digital literacy was positively associated with intention to use digital healthcare ($b = .029$, $p = .001$). Frailty level showed a significant negative association with intention to use digital healthcare (pre-frailty: $b = -.607$, $p = .017$; frailty: $b = -1.155$, $p = .001$). The interaction between digital literacy and frailty was statistically significant ($\Delta R^2 = .011$, $F = 3.17$, $p = .043$), indicating that frailty moderated the relationship between digital literacy and intention to use digital healthcare. Conditional effects analysis indicated that digital literacy was positively associated with intention to use digital healthcare across all frailty groups. The magnitude of this association increased progressively from healthy to pre-frail and frail older adults, indicating a stronger effect of digital literacy at higher levels of frailty. Overall, Digital literacy was positively associated with intention to use digital healthcare, with stronger effects observed at higher levels of frailty. This highlights the importance of frailty-specific digital literacy interventions for older adults.

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Table 1. The moderating effect of frailty on the relationship between digital literacy and intention to use digital healthcare

Variable	B	SE	t	p
Constant	5.331	0.820	6.501	.001***
Digital Literacy(DL)	0.029	0.009	3.222	.001***
Dummy 1 Pre-frailty	-0.607	0.254	-2.392	.017*
Dummy 2 frailty	-1.155	0.330	-3.504	.001***
Dummy 1 x DL	0.024	0.014	1.737	.083
Dummy 2 x DL	0.050	0.024	2.130	.034*
F(p)		16.712		
R^2		0.283		
ΔR^2		0.011(F = 3.171, p = .043*)		

Note. B = unstandardized coefficient; SE = standard error; *p < .05, ** p < .01, *** p < .001.