

Digital Engagement, Intergenerational Support, and Health Behaviours of Older Adults in Türkiye*

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I. Background

Access to health services and health-related information has become increasingly important through digital technologies (Edmeades et al., 2022). However, older adults remain among the groups at highest risk of digital exclusion due to low digital skills and socio-economic disadvantages (Van Dijk, 2020; Friemel, 2014). Healthcare services are becoming more digital in Türkiye. At the same time, the population is rapidly ageing (TurkStat, 2025), making digital inclusion among older adults an important issue. Previous studies suggest that older adults may be encouraged to engage in digital activities through intergenerational assistance from younger household members (Baran et al., 2017). However, there is limited research examining the relationship between digital skills, household support, and the self-perceived health of older people in Türkiye. Using microdata from the nationally representative ICT Usage Survey, this paper explores the relationship between digital engagement, intergenerational household arrangements and self-perceived health for the population aged 55-74 in Türkiye.

II. Data and Methodology

The study uses microdata from the 2024 TurkStat Survey on ICT Usage in Households and by Individuals, a nationally representative survey of individuals aged 16-74 in Türkiye. The survey gives information on access to Information and Communication Technology (ICT), digital activities, household characteristics and socio-economic conditions. The 2024 round also includes a health module that enables analysis of digital engagement and self-perceived health. The study focuses on individuals aged 55 to 74.

The dependent variable is a binary indicator of functional health from the Global Activity Limitation Indicator (GALI) that measures whether there are long-term activity limitations due to health problems. The primary explanatory variable is digital skills, which is measured as a binary indicator based on three digital competence domains: information and data literacy, communication and collaboration, and problem-solving. Individuals are classified as having digital skills if they possess at least one skill for each domain. The analysis also includes demographic and socio-economic controls, including age, gender, education, literacy, household income quintiles, and NUTS-1 regions. Intergenerational support is measured through household composition variables, particularly the presence of younger household members.

For the analysis, a recursive bivariate probit model was used to address the potential endogeneity between digital skills and self-perceived health. It was used instrumental variables related to technology access to account for potential reverse causality and unobserved heterogeneity. Furthermore, this study also conducted post-estimation decomposition and treatment-effect analysis to investigate the association between digital engagement and self-perceived health.

III. Key Findings

3.1 Background Characteristics of Individuals Aged 55–74 in Türkiye

In 2024, according to Table 1, the largest age group was 55-59 (32.6%), and 51.5% of individuals aged 55-74 in Türkiye were women. 87.4% were literate, 76.7% had low educational attainment, and 33.2% were in the lowest income quintile.

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Table 1. The Profile of Individuals Aged 55–74

	Freq.	Percent		Freq.	Percent
SEX			ISCED		
Male	3338	48.53	Low	5402	76.70
Female	3575	51.47	Medium	848	13.10
Total	6913	100.00	High	663	10.20
AGE_GROUP			Total	6913	100.00
55-59	2125	32.60	HH_INCOME		
60-64	1918	28.10	1 (Lowest)	2789	33.20
65-69	1649	22.91	2	1164	16.40
70-74	1221	16.39	3	1217	19.21
Total	6913	100.00	4	922	15.32
LITERACY			5 (Highest)	821	15.87
Illiterate	954	12.63	Total	6913	100.00
Literate	5959	87.37			
Total	6913	100.00			

Note: Percentages are weighted using individual sampling weights.

Table 2 reveals that only 12.1% of individuals aged 55–74 in Türkiye lived alone, while 48.5% lived with a household member at least 15 years younger. Conversely, only 12.8% lived in households with children under age 16, suggesting that intergenerational living arrangements mainly involved other adults.

Table 2. Household Structure of Individuals Aged 55–74

	Freq.	Percent
HH_SIZE		
Alone	849	12.11
Not alone	6064	87.89
Total	6913	100.00
YOUNG MEMBER in HH		
No	4288	51.5
Yes	2625	48.5
Total	6913	100.00
CHILD MEMBER in HH		
No	6206	87.2
Yes	707	12.8
Total	6913	100.00

Note: Percentages are weighted using individual sampling weights.

3.2 Self-perceived Health and Digital Skills by Gender

Between 2004 and 2024, internet use among older adults in Türkiye increased significantly, reaching 72.5% among individuals aged 55–64 and 46.9% among those aged 65–74. Despite this increase, digital participation remained lower among women and older age groups. In 2024, internet use was highest among men aged 55–64 (79.4%) and lowest among women aged 65–74 (39.3%) (TurkStat, 2024).

Table 3 shows that individuals with digital skills reported fewer activity limitations than those without digital skills. While 77.5% of individuals with digital skills reported no activity limitations, this proportion was 57.6% among those without digital skills. Conversely, activity limitations were more common among individuals without digital skills (42.4%).

Table 3. Activity Limitations and Digital Skills

	No digital skills		Has digital skills		Total	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
With activity limitations	2196	42.4	442	22.5	2638	36.4
Without activity limitations	2843	57.6	1432	77.5	4275	63.6
Total	4275	100.00	2638	100.00	6913	100.00

Note: Percentages are weighted using individual sampling weights.

According to Table 4, women made up 58.0% of individuals with activity limitations and 60.0% of those without digital skills. In contrast, men represented the majority of individuals with digital skills (68.3%).

Table 4. Gender Distribution by Self-perceived Health and Digital Skills

SEX	With activity limitations		Without activity limitations	
	Freq.	Percent	Freq.	Percent
Male	1101	41.97	2237	52.29
Female	1537	58.03	2038	47.71
Total	2638	100.00	4275	100.00

SEX	No digital skills		Has digital skills	
	Freq.	Percent	Freq.	Percent
Male	2044	40.05	1294	68.25
Female	2995	59.95	580	31.75
Total	5039	100.00	1874	100.00

Note: Percentages are weighted using individual sampling weights.

3.3 Digital Skills by Intergenerational Households

Among adults aged 55–74 with digital skills, 52% live with a household member who is at least 15 years younger than themselves, while 48% do not have a household member with a generational age gap. In contrast, among individuals without digital skills, 47% live with a household member who is at least 15 years younger than themselves, whereas 53% do not have a household member with a generational age gap.

Table 5. Digital Skills by Younger Household Member Presence

	No digital skills		Has digital skills		Total	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
No younger household member	3199	53.0	1089	48.03	4288	51.5
Has younger household member	1840	47.0	785	51.97	2625	48.5
Total	5039	100.00	1874	100.00	6913	100.00

Note: Percentages are weighted using individual sampling weights.

IV. Results

The Recursive Bivariate Probit results indicated statistically significant correlated error terms between the digital skills and health equations ($\rho = -0.225$; $p < 0.01$), supporting the use of an endogenous modelling approach. Digital skills were found to be positively correlated with self-perceived health (0.603; $p < 0.01$). Individuals aged 70–74 were less likely to report good health (-0.111 ; $p < 0.10$). The higher income groups were more likely to have better health outcomes. Digital skills were positively associated with mobile phone use (1.133; $p < 0.01$), household computer ownership (0.811; $p < 0.01$), literacy (1.630; $p < 0.01$), and higher income levels. On the other hand, digital abilities were less common among women (-0.702 ; $p < 0.01$) and people aged 70–74 (-0.488 ; $p < 0.01$). Additionally, autonomous digital skill acquisition was inversely correlated with living with younger household members (-0.462 ; $p < 0.01$).

To identify the direct and indirect relationships between digital skills and self-perceived health, post-estimation decomposition analyses were performed. The results showed that literacy had positive direct (1.8%), indirect (20.8%), and total effects (21.2%) on the joint probability of possessing digital skills and reporting good health. On the other hand, being female reduced the likelihood of this joint by 14.3%, primarily due to indirect effects associated with digital skills. Total effects increased from 8.7% in the second income quintile to 25.6% in the top quintile, indicating a strong positive gradient in income. In contrast, living with younger household members reduced the joint probability of digital skills and good health by 9.1%, while individuals aged 70–74 showed a negative total effect of -8.1% .

Additionally, treatment-effect estimates indicated that digital skills significantly improve health outcomes among older adults in Türkiye. Specifically, having digital skills increases the probability of reporting good health by 20.2% (ATE = 0.202) for the general population. For those who already possess these skills, the benefit is an 18.4% (ATET = 0.184) higher likelihood of positive health outcomes compared to a counterfactual scenario in which they lacked them. Furthermore, when accounting for unobserved factors, digital skills raise the conditional probability of good health by 4.9% (ATEC = 0.049).

V. Discussion

The results show that digital skills are positively correlated with older individuals' self-perceived health among other adults in Türkiye, corroborating prior research highlighting digital participation as a crucial aspect of healthy ageing. Significant socio-economic disparities were also noted, with higher income groups reporting better health outcomes and being more likely to have digital skills. These findings also show significant differences in age and gender. Digital skills and positive health outcomes were less common among older women and among those aged 70 to 74. Furthermore, independent digital skill acquisition was adversely correlated with living with younger household members, indicating that intergenerational support may coexist with reliance on younger household members for digital tasks. Regional differences among NUTS-1 regions also point to enduring disparities in health outcomes and digital participation throughout Türkiye.

VI. Conclusions

This study shows that among older persons in Türkiye, digital abilities are positively correlated with self-perceived health. The favourable impact of digital engagement on healthy ageing was further supported by treatment effect estimates, and older people with digital skills were more likely to report no health-related activity constraints. Significant geographical, age, gender, and socioeconomic disparities in digital inclusion and health outcomes were also found. While older women and those between the ages of 70 and 74 faced greater disadvantages, higher-income groups were more likely to have digital skills and report better health outcomes. Additionally, independent digital skill acquisition among older persons was adversely correlated with living with younger household members.

Overall, the results indicate that a key element of healthy ageing programs in Türkiye should be the reduction of digital inequalities. Digital inclusion and better health outcomes for older individuals may be facilitated by policies that support age-friendly digital services, affordable access to technology, and digital literacy.

Disclaimer: The views and interpretations expressed in this study are those of the author and do not necessarily reflect the official position of the Turkish Statistical Institute (TurkStat).

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