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Digital Competence, Online Engagement, and Social Well-Being Among Elderly People in Nepal

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ABSTRACT

Digital literacy has become a crucial concept for social engagement and well-being in a digital world; however, the relationship between digital literacy and well-being in low- and middle-income nations remains underexplored. A descriptive cross-sectional study was performed to assess digital literacy, access to digital devices, perceived obstacles, and social well-being among individuals aged 60 and above in Ward No. 4, Budhanilkantha Municipality, Kathmandu, Nepal. Respondents were selected using a simple random sampling approach, and data were collected using a structured questionnaire. The results indicated a modest average digital literacy score (M = 15.75 out of 25), with a pronounced focus on the communicative dimension of digital literacy, with notable disparities in information navigation and digital safety literacy. Access devices were predominantly family-mediated, and digital training was often not organized. The most significant factors in terms of impact on digital competence were education and income; income was a marginal factor. Overall social well-being scores were quite moderate to high (M = 21.95) and were reasonably consistent across age and place of residence, suggesting that social well-being exists beyond the digital world and is supported by traditional family and community structures. The results indicate the urgent need for interventions that promote digital literacy among community-based older adults, are linguistically accessible, and build confidence.

Keywords: Ageing, digital literacy, digital divide, digital inclusion, older adults, social well-being

INTRODUCTION

The swift advancement of digital technology over the past twenty years has transformed societies from those dependent on traditional word-of-mouth and print media to those overwhelmed by internet information, significantly altering communication methods, information-seeking behaviours, civic engagement, and self-expression. Presently, digital technology is embedded in everyday life through mobile social networking, telemedicine, and e-government, rendering digital efficiency essential in both personal and professional contexts (Sheng et al., 2022). Nevertheless, the reduction of the global demographic dividend, along with rising average life expectancy and a growing proportion of elderly individuals, presents significant social and economic issues for aging societies.

The world population is ageing at an accelerated rate. Recent projections suggest that the elderly population is anticipated to exceed two billion, rising from roughly one billion in 2020 to approximately 2.1 billion by 2050. This demographic transition underscores the need to understand the physical, cognitive, and psychosocial attributes of older adults to ensure that digital technologies are developed and implemented in ways that enhance accessibility, safety, and user comfort (United Nations Department of Economic and Social Affairs, Population Division [UN DESA], 2023). Customizable and flexible technology can greatly enhance access and engagement across all aspects of life (Ming et al., 2025). The digital industry will encounter significant obstacles in an aging society; it presents chances to enhance global health initiatives, improve social security systems, and promote human advancement,

especially through digital politics and civic involvement (Koc-Michalska & Lilleker, 2017). As digital technologies gradually enhance the health and social care of older persons (He et al., 2025), the provision of "humanized healthcare" to aging populations is anticipated to generate substantial economic prospects and considerable profit potential. With Gilster (1997) focusing on digital literacy as "the capability to acquire and utilize evidence in various formats, presented as seeds of numbers on a computer," the concept of digital literacy underwent a significant breakthrough in its development. It was not only extended to encompass a wide range of general abilities but also received a more in-depth analysis of its connotations. According to the latest research findings, such as the report by the European Commission (Vuorikari et al.), it is clear that, from an educational perspective, the initiative of digital technology should be fully utilized. Through personalized guidance, students should be encouraged to actively explore, discover, and create during the learning process, ultimately forming good learning habits and methods. Through in-depth exploration of the concept of "digital citizenship," especially the related proposals for 2025, we have begun to reveal the five core connotations of the "Compass Capability Framework" it embodies. This puts digital citizenship skills not only on the agenda of "digitalization", but also in the focus of "unity of opposites" among the five aspects included: "information and data literacy, communication and collaboration skills, digital information creation skills, security capabilities, and problem-solving skills. Digital services for the elderly have mainly been studied in relation to their access to information, for instance, accessing health information via the Internet and maintaining social networks (Czaja et al., 2019). However, the socio-economic benefits of such services have received less attention than the information access aspect. This group will, therefore, show differences in technological literacy and thus in quality of life.

Social wellness is an important but interrelated component of well-being and a major focus of gerontology research. The five themes of Integration, acceptance, contribution, actualization, and coherence have been used to measure social well-being as defined by Keyes in his fundamental work (1998). Social well-being contrasts with psychological well-being in that it relates to one's own personal life. In contrast, social well-being relates to the quality of one's relationship with one's wider social context. Positive social well-being is linked to reduced mortality, and among older adults, it is associated with reduced depression and anxiety, better cognitive functioning, and improved self-rated health (Proctor & Holt-Lunstad, 2025; Steptoe & Fancourt, 2019). Social isolation and loneliness are becoming acknowledged as significant public health issues among the elderly population. Research indicates that around 25% of adults aged 65 and older encounter social isolation, a situation that can negatively impact their physical and mental health (National Academies of Sciences, Engineering, and Medicine [NASEM], 2020). The imperative, both empirical and theoretical, is to comprehend how digital abilities enhance the social well-being of older persons, especially when digital tools increasingly facilitate social interactions.

Digital technology is becoming more visible and more important, and there are disparities in access and in competence, typically referred to as the digital divide. The digital divide used to be considered as a dichotomy between internet users and non-users, but has become a complex phenomenon with four dimensions: motivational, material, skills, and usage-based (Colom, 2020). Senior citizens are often portrayed as an extremely vulnerable group in relation to digital exclusion. Anderson and Perrin (2017) shared some Pew Research Center statistics about older people's use of cellphones, social media, and their confidence in their ability to use digital devices on their own. Various characteristics such as gender, socio-economic status, educational attainment, geographic location, and handicap status (Hunsaker & Hargittai, 2018) exacerbate these differences. Digital exclusion affects technology, health, social isolation, civic engagement, financial exploitation, and misinformation (Seifert et al., 2021). Thus, digital marginalization of older persons is a social justice, human rights and technical justice problem.

Although there has been growing research on the use of digital technology among older people, there is still a lack of theory and research in this area. Much research has examined the impact of the Internet on health outcomes on the one hand and the reasons why some people do not use the Internet on the other. However, only a few studies have investigated digital literacy as a multifaceted innovation aspect applicable to social wellbeing. One aspect of older people's digital competence that is overlooked in many studies

is its complexity and diversity, measured on a binary scale and/or by usage rate. In addition, research is mostly conducted in affluent Western countries while there are very few examples from lower-middle-income countries of different infrastructures, cultures, and political systems. There is little theoretical and empirical research on the potential of digital literacy to improve social well-being, including communication, access to community services, autonomy, and loneliness. These boundaries underscore the need to broaden the conception of digital literacy by adding a public health dimension and a more tangible, social understanding of digital well-being among the elderly.

This study aims to investigate the digital literacy and social well-being of older persons, as well as to identify the intervening and modifying variables. Evaluates the digital literacy and social welfare of the participants. This study examines the correlation between digital literacy and social well-being, grounded in Keyes' (1998) definition of digital literacy. This study aims to examine the relationship between digital literacy and social well-being, as well as the influence of demographic parameters including age, gender, educational attainment, and socio-economic status. This study seeks to fill these gaps and offer policy and practical insights concerning the importance of digital competence for future social outcomes.

MATERIALS AND METHODS

Study Area and Research Methods

To evaluate the digital literacy and social well-being of older individuals residing in the community, a descriptive cross-sectional design was implemented. The approach can assess the prevalence of a condition and analyze connections between variables at a single point in time when longitudinal follow-up is unfeasible (Kelsey et al., 1996; Levin, 2006). The aim was to generate foundational data on the digital inclusion of elderly individuals in Nepal, specifically targeting rapidly urbanizing areas that lack empirical research.

The study was conducted in Budhanilkantha Municipality, ward no. 4, Kathmandu District, Nepal. This ward was selected because of the mixed urban and pre-urban character of the area, which consists of high-density urban areas, commercial areas, and semi-rural areas. Mobile networks, internet services, etc., are available. The quality and level of accessibility are unequal between socio-economic groups. There is a good reason to understand inequality of digital engagement considering the socio-economic diversity of residents, immigrants and older adults with different levels of education and occupation.

Study Population and Sampling

The study population was older adults (aged 60 and over) (N = 926, from Census 2021). The inclusion criteria were: aged ≥ 60 years, consenting to participate and living in the ward for at least 6 months. The interviewer's judgment excluded some and, if necessary, consultation with the family due to moderate or severe cognitive impairment or acute illness that prevented participation. A simple random sampling technique was used. Eligible persons were assigned an individual identification number, and all respondents were randomly selected from the eligible persons using a random number table. If the person did not participate, an alternate was randomly chosen from the remaining sampling frame. This was repeated until the desired number of samples was obtained. A total of 279 elderly persons were successfully interviewed.

Determining the Sample Size

The sample size was determined using Yamane's (1967) technique for finite populations: $n = N / (1 + N(e^2))$, with N = 926 and e = 0.05, to get the sample size. A minimum sample size of 279 respondents is necessary, with a 5 percent margin of error and a 95 percent confidence level. The sample size was sufficient to evaluate statistically significant indicators and to compare the age, gender, education, and geographic location of the subgroups within the ward.

Data Collection Instrument

An instrument was developed based on literature on digital literacy frameworks and social well-being models, and used for data collection via a structured, interviewer-administered questionnaire. The decision to use an interviewer-administered approach was made to reduce non-response and comprehension bias among older adults with varying levels of literacy. The questionnaire has five modules: socio-demographic characteristics, digital access and use, digital literacy,

barriers and facilitators, and social well-being. The frequency, use, and ownership of mobile phones, smartphones, computers, and internet services determined digital access. The questionnaire was first written in English, then translated and back-translated into Nepali for semantic equivalence.

Measurement

Standardized item responses were aggregated to create a composite score for digital literacy across the five categories. A higher score indicates a higher skill level and greater participation. Analysis was done according to tertiles of score. The multidimensional framework of Keyes (1998) was used to evaluate social well-being. Responses were evaluated on a "Likert" scale, and a cumulative score was calculated; higher scores represent greater social well-being. The scale has good internal consistency and was pretested before analysis. Independent variables were age groups, gender, education, marital status, household income category, family structure and geographical type (urban or semi-rural).

Data Management and Analysis

Data quality verification was performed; analysis was conducted utilizing SPSS version 20. Listwise deletion was employed to address missing data, retaining only full cases. The analyses were primarily descriptive. Continuous variables were presented as means and standard deviations, whereas categorical data were presented as frequencies and percentages.

Ethical Considerations

Personally identifiable information was not documented. The data were anonymized, securely stored, and utilized solely by the research team.

RESULTS

Socio-Demographic Characteristics of Respondents

The socio-demographic profile is used to give a general idea of the background characteristics of the respondents that are pertinent to the study. The variables encompass age, gender, education, residential location, and socio-economic position. This data is employed to contextualize and elucidate the findings of this study. A total of 279 senior participants engaged in the study. 41.2 percent of respondents were aged 65 to 69, while 31.9 percent were aged 70 to 74. Females represented 51.3 percent of the sample, whereas males accounted for 48.7 percent.

Table 1.
Socio-demographic profile of Respondents

Category	n	%
Age groups		
60-64	35	12.5
65-69	115	41.2
70-74	89	31.9
75 and above	40	14.3
Sex		
Male	136	48.7
Female	143	51.3
Education level		
No formal education	28	10.0
Primary	65	23.3
Secondary	124	44.4
Higher secondary	50	17.9
Bachelor's degree or above	7	2.5
Literate non-formal	5	1.8
Income level (RS)		
Below 10,000	33	11.8
10,001-20,000	94	33.7
20,001-40,000	87	31.2
Above 40,000	65	23.3
Residence status		
Urban	182	65.2
Rural	97	34.8
Total	279	100.0

Table 1 shows moderate levels of education, with the highest percentage (44.4 percent) having secondary education and 10 percent indicating no formal education. Most of the income was in the 10,001-40,000 range (64.9%), but some individuals had low income. Most participants (65.2%) lived in urban areas, indicating an urban sample with a small proportion from rural areas. The sample was predominantly middle-aged, moderately educated, middle-income, with a slight urban bias. These characteristics suggest that the conditions for digital access are relatively good, though inequitable, for older adults.

Access and Connectivity in the Elderly

The table below shows trends in access, ownership, training and usage of digital skills by older adults. It measures the degree of basic connectivity and whether such connectivity translates into meaningful and independent digital engagement.

Table 2.
Access, support, and use of digital technology

Variable	Category	N	%
Device access	Owns a digital device	87	31.2
	Shared access with family/others	179	64.2
	No access at all	13	4.7
Training/support	Help from a family member	79	28.3
	Self-taught, no training	118	42.3
	No training of any kind	82	29.4
Use frequency	Every day	185	66.3
	Multiple times each week	86	30.8
	Infrequently, once a month or fewer	8	2.9

Table 2 shows that only 31.2% of respondents have digital devices. Most (64.2%) have shared access with family members and a small proportion (4.7%) have no access at all. This suggests that shared access is more likely to provide access to digital technology than private ownership for the sample. Most digital device support and training is informal. 42.3% of the respondents were self-taught, and 29.4% were untrained. In addition, 28.3% regarded family members as a source of support, highlighting unequal access to support to acquire digital skills. Digital device usage is relatively high despite low ownership and training. 66.3% of respondents use digital devices daily and 30.8% more than a few times a week. When available, a small minority (2.9%) reported rarely or minimally using devices.

The results show a big difference between having access to digital devices and being able to use them independently. Mobile and shared device usage is evident, but both device ownership and formal training are limited. Hence, digital engagement of older adults depends much on family-mediated access rather than on the development of digital skills per se.

The Digital Literacy levels

This section explores the level of digital literacy among older adults, both in specific skill areas and in overall digital literacy, discriminating between basic and advanced digital competencies.

Table 3
Digital literacy scores by item

Skill item	Mean	SD
Sending a message (WhatsApp/Viber/SMS)	3.61	0.91
Using government or health digital services	3.33	1.21
Making a phone or video call	3.24	1.33
Identifying online scams or fake information	3.04	1.30
Searching for information on the internet	2.53	1.31
Composite skill score (5–25)	15.75	2.97

Table 3 shows that the average level of digital literacy was modest, with a mean composite score of 15.75 (SD = 2.97). However, there is a lack of consistency in skills across the various domains. Comparatively higher levels were observed in basic operational and communication skills. The most-used apps were messages (3.61), government or health digital services (3.33) and making phone or video calls (3.24). The findings of this study indicate that older persons experience greater ease in engaging with familiar and routine digital activities. However, higher-order cognitive and technical skills are not fully developed. The skills of finding scams or fake information online (3.04) and searching for information online (2.53) were both lower than other areas of information literacy or digital critical thinking, but were still comparatively lower.

The results show that digital literacy is not widely developed among older people, although it is rated as "moderate. Older adult's competence in basic communication skills is good, while their competency in information navigation, critical evaluation and independent digital learning is low. This reflects that digital inclusion is mostly restricted to basic skills, and advanced digital skills are not.

Obstacles to Digital Literacy among Senior Citizens

This section explores older people's perceptions of barriers to digital literacy, including psychological, linguistic, economic, and physical barriers that can affect their engagement with digital technologies.

Table 4
Perceived barriers to digital literacy

Barrier	Mean	SD
Fear of making mistakes or losing personal data	3.27	1.17
Language barrier, content not in Nepali	3.24	1.02
High cost of devices or the internet	3.05	0.81
Lack of someone to teach or assist	2.93	0.68
Physical difficulty, vision, hand tremors, etc.	2.71	1.21
Difficulty understanding how to use digital devices	2.18	1.19
Overall barrier scale	2.93	0.51

The results in Table 4 show that barriers to digital literacy are mostly moderate in intensity, with an average of 2.93 (*SD* = 0.51) in the low to moderate range of perceived difficulty. Specific barriers are most notably fear of making mistakes or losing personal information (*M* = 3.27), closely followed by language challenges such as the over-dominance of English in digital content (*M* = 3.24). Financial constraints are also still important (*M* = 3.05), a factor of affordability regarding devices and/or internet connections.

Lack of assistance (*M* = 2.93), motor problems (poor vision, etc.) (*M* = 2.71), and general problems with operating devices (*M* = 2.18) are reported at relatively lower, but non-trivial levels, and apply to a subset of respondents.

Attitudinal and language barriers are as much psychological as technical. The main barriers are fear of making mistakes, language barriers, and cost and physical barriers. The pattern indicates that, in addition to access to infrastructure, confidence-building, localized content, and supportive learning environments are also needed to improve digital inclusion for older adults.

Digital Skill Score by Education

In this section, trends in digital literacy scores by educational attainment are presented for older adults. It emphasizes the importance of formal education in developing digital competence.

Table 5
Digital skill score by education

Education	Mean	SD
No formal education	13.96	2.35
Primary	15.12	3.08
Secondary	15.89	2.78
Higher secondary	16.74	2.96
Bachelor's degree or above	17.57	2.64
Literate non-formal	15.20	1.92

Table 5 shows a clear relationship between education and digital skills scores. The more education people have, the higher their digital skills scores are. The mean score was lowest for those who had no formal education (*M* = 13.96, *SD* = 2.35). The mean scores for secondary and higher secondary classes were slightly lower than those for primary school classes, with 15.89 (SD = 2.78) and 16.74 (SD = 2.96), respectively. The mean score was 17.57 (*SD* = 2.64) for persons with a bachelor's degree or higher. The average score was also moderate (15.20, *SD* = 1.92) among the literate non-formal respondents, akin to that of the primary education respondents.

The results suggest a strong relationship between "schooling" and "digital competency." Older people's digital skills are strongly associated with their educational levels: higher education is associated with greater digital skills regardless of the competencies measured.

Digital Skill Scores by Income

This section presents an analysis of digital literacy levels among older persons categorized by income group and examines the correlation between income and digital proficiency.

Table 6
Digital skill score by income

Income	Mean	SD
Below 10,000	15.39	2.91
10,001-20,000	15.68	3.26
20,001-40,000	15.83	2.77
Above 40,000	16.00	2.87

Table 6 shows very little difference in digital skills scores by income. Respondents earning below 10,000 reported a mean score of 15.39 (SD = 2.91), while those in the 10,001-20,000 range achieved a mean of 15.68 (*SD* = 3.26). The 20,001-40,000 group demonstrated a slight increase (mean = 15.83, SD = 2.77), and the highest-income group (above 40,000) attained the highest mean score of 16.00 (*SD* = 2.87). The differences between the income groups are small and do not clearly show an overall income gradient.
There is a low correlation between digital literacy and income. The differences between the scores of higher- and lower-income respondents are minor and do not indicate that income plays a major role in digital skills in this instance. The influence of income on digital competence appears to be lower than that of other factors, such as shared device use and low-cost mobile connectivity.

Digital Skill Level by Location

To investigate spatial disparities in digital competence, this section compares urban and rural areas, including semi-rural study areas, in terms of people's digital skills.

Table 7
Digital skill level by geographic location

Skill level	Urban n (%)	Rural n (%)	Total
Low	8 (32.0)	17 (68.0)	25
Moderate	142 (67.9)	67 (32.1)	209
High	32 (71.1)	13 (28.9)	45

Table 7 demonstrates a clear variance between perceptions of digital competence and social well-being. Older people, particularly those with poor technology skills and lower levels of education, can have strong family and community supports and lower levels of technology skills. The results suggest that social well-being can be maintained in part even in situations where digital inclusion is limited.

Each socio-demographic subgroup reports social well-being.

As seen in the table, there were differences in older adults' social well-being scores by age and place of residence.

Table 8
Social well-being by subgroup

Subgroup	Mean	SD
Overall social well-being	21.953	1.808
Urban	22.033	1.724
Rural	21.804	1.956
Age group		
60–64	21.771	1.832
65–69	21.704	1.665
70–74	22.202	1.961
75+	22.275	1.769

The average social well-being score for the entire sample (*M* = 21.953; *SD* = 1.808) suggests a fairly consistent level of social well-being across the sample. There is a small difference between the means in urban (22.033 ± 1.724) and rural (21.804 ± 1.956) regions. There are minor variations in social well-being by age group. The 65–69 age group has the lowest mean score (21.704, *SD* = 1.665), while the 75+ group reports the highest (22.275, *SD* = 1.769), closely followed by the 70–74 group (22.202, *SD* = 1.961). The 60–64 group records a mean of 21.771 (*SD* = 1.832). Generally, the difference between any two age groups is not very large.

Social well-being among older age groups and urban populations is fairly consistent, with slight gains only for these populations. Overall, these results indicate that there is little variation in social well-being in old age by the primary demographics of the sample.

DISCUSSION

The results show a moderately digitally engaged population, structurally reliant on family-mediated internet access, and competence focused mainly on communicative tasks, with a neglect of higher-order communicative skills. The social well-being of the various demographic groups is similar, indicating that the social safety nets that define growing up traditionally are still holding up against the impact of digital exclusion. This discussion focuses on how these findings are related to previous theoretical work and empirical evidence.

Digital Access: Connectivity Lacking Individual Autonomy

Even though 66.8% of people said they used digital devices every day, only 31.2% personally owned a device, most of whom said they shared it with family members. This mismatch between usage level and individual ownership is a symptom of what Colom (2020) termed "materially mediated access", which is a way of being connected that maintains engagement without providing the autonomy to develop competence for meaningful digital participation. In other countries with low to middle incomes, patterns of family-mediated digital inclusion have been documented, such that household-level inclusion serves as a cover for structural exclusion at the individual level (Seifert et al., 2021; Chen & Schulz, 2016). Worse, only 28.3% of respondents were taught anything by their family, 42.3% were self-taught, and 29.4% received no training whatsoever. LMIC evidence suggests that formal education programmes for adult digital skills are underfunded, with informal, often unsystematic self-instruction as the preferred approach for older learners, and this is the case here (Czaja et al., 2018). Together, these results highlight that access and engagement alone are inadequate prerequisites for a real sense of digital inclusion if they are not supported by a careful and organized approach to support.

Digital Literacy: Functional Competence with Significant Gaps

The mean composite digital literacy score (15.75 out of 25, *SD* = 2.97) reflects a moderate but uneven level of competence. Older adults demonstrated proficiency in routine communicative tasks, such as making health or government calls (*M* = 3.24), sending messages (*M* = 3.61), and accessing health or government information (*M* = 3.33), but performed significantly lower in information seeking (*M* = 2.53) and identifying misinformation online (*M* = 3.04). This dichotomy is similar to van Deursen and van Dijk's (2014) distinction between operational and strategic competence. It implies that using digital communication does not mean critical assessment or the ability to navigate information. Similarly, Xu (2025) found that older users engaged less in information literacy tasks than in using digital content, citing a lack of experience in systematically assessing digital content. This lack of digital safety literacy is particularly troubling in light of the growing exposure to digital fraud and misinformation online that puts older people in South and Southeast Asia at risk (Button et al., 2024).

This competence profile is usable in practice, but it also lacks evaluative skills, and this competence is difficult to change without deliberate educational efforts. However, digital engagement is not without its challenges. Digital engagement is not always possible. Moderate digital literacy barriers (*M* = 2.93, *SD* = 0.51) and their importance were identified in the theoretical model. The most important factors were fear of making mistakes or losing data (*M* = 3.27), the dominance of English language content (*M* = 3.24), and cost-related constraints (*M* = 3.05). The results indicating the dominance of psychological factors over technical factors align with the research of Czaja et al. (2006), which identified computer anxiety and error apprehension as the primary obstacles to technology use among the elderly, irrespective of their actual computer proficiency. Bandura's (1997) self-efficacy theory can be used to explain this: the low self-efficacy in the use of digital tools results in avoidance of use, which in turn results in a lack of experiential learning opportunities needed for the development of competence, and this vicious circle can be broken by providing structured and supportive learning environments for the use of digital tools.

Language barriers remain a crucial part of the digital divide in a multilingual society, with a clear emphasis on English, a very dominant language, for platforms and services (Warschauer, 2004). Data shows that digital inclusion efforts should not be limited to providing access to infrastructure, but should also improve psychological confidence and provide content at the local level.

Socio-demographic differences in digital literacy

The socio-demographic parameters most significantly associated with the digital competence score indicate that individuals with higher scores tend to have greater formal education, with a maximum score of 17.57 for those with a bachelor's level or higher and a minimum score of 13.96 for individuals lacking formal education. This is one of the most pronounced findings in the digital gerontology literature: formal educational attainment is, in aggregate, related to digital engagement throughout the life course, as well as to cognitive skills, self-efficacy, and social networks (van Deursen & van Dijk, 2014; Hunsaker &

Hargittai, 2018). Income, on the other hand, was only weakly related to digital literacy, and the mean scores across income levels differed by only 1 point or less. This low-level gradient is in line with the second Hargittai (2001) digital divide thesis, which says that after a certain low threshold of material access is achieved, usually through mobile and inexpensive technology, differences in skills are more heavily driven by educational and social capital than by economic resources. This means that the digital competence gap among older people in this context can hardly be addressed in the near future through targeted material interventions in income.

Social Well-Being: Stability Based on Traditional Structures

The overall social well-being score was 21.95 (*SD* = 1.81) and did not differ across age subgroups or residential settings. Of interest, the oldest age group (75+) had the highest mean score (22.28), as seen in Western gerontology (Steptoe et al., 2013). This stability, despite evidence of social exclusion in the digital realm, suggests that there is also social resilience in the analogue format, found in face-to-face, community-based, and familial interactions that do not involve digital technologies. This uniformity, even in the light of documented digital exclusion, is in keeping with Seifert et al., (2021) understanding of 'analogue social resilience' or social well-being that takes place outside the digital domain, including face-to-face, community-embedded, and familial interactions. Besides, culture-related protective factors such as filial piety, intergenerational co-residence, and community reciprocity are valid in Nepal and play a role in sustaining social health in adulthood (Sharma, 2024). These factors may explain the lack of correlation between limited digital inclusion and social non-integration or non-acceptance in this study, as outlined by Keyes's (1998) framework. The findings underscore the risk of applying Western assumptions about the relationship between social development and digital technology to regions where robust social structures persist independently of digital technology.

Limitations

Several constraints must be acknowledged while analyzing the results of this investigation. The cross-sectional methodology precludes causal inference; therefore, the directionality of the connection between digital literacy and social well-being cannot be deduced from these data. Despite the use of anonymous data collection, there is potential for social desirability bias in self-reported assessments of competence and well-being. A singular ward sampling frame diminishes the generalizability of the findings to rural districts or other provinces in Nepal. Finally, the modified social well-being scale had not undergone psychometric validation within the Nepali cultural setting before this investigation. Future research should include longitudinal designs, culturally adapted and validated tools, and comparative national samples to enhance and validate these findings.

CONCLUSION

Findings of this study showed various associations of digital literacy (DIGL) and social well-being (SW) in older adults. Digital technology was widely used but was largely instrumental and mediated through family members, not associated with ownership. Older adults scored higher on digital skills associated with communication but lower on information seeking, critical evaluation of online content and digital safety skills. The most important variable that was found to affect digital literacy was formal education. It stresses the importance of formal education in the development of digital competence. The relationship with income was only partial, and economic barriers to digital literacy may be reduced by access to mobile technology and shared family devices. Common concerns on digital platforms included making mistakes, low confidence, and problems with English. Some respondents were not digitally literate, but their levels of social well-being were not low. Family support systems have been a major part of the lives of older citizens of Nepal, as they provide a sense of belonging, social integration, and intergenerational relations. These social structures for digital participation can be cleverly designed so that their shortcomings are managed, and conditions are optimal for their development.

Digital inclusion courses are not just about promoting technology; they also need to develop an individual's self-confidence, improve their digital skills, and continually enhance their digital literacy in the context of Nepal. This disadvantage can be overcome one at a time through carefully crafted community training programs, specifically designed for older populations. Horizontal and vertical

experiences in future research and evaluation can deepen the relationship between digital literacy and social well-being in its more intrinsic, complex, and subtler aspects. As adults' knowledge and skills of digital technologies grow, their engagement with, inclusion and well-being in society become increasingly associated with these technologies.

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