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## Potential for digital gerontological social work with older persons in South African residential facilities

GEYER Stephan & CRAFFORD Gretel

### ABSTRACT

*African social workers have not yet explored the potential of using Information and Communication Technology (ICT) to render digital gerontological social work (DGSW) services. ICT holds potential for technology-assisted services when direct service delivery is impracticable. The study aimed to determine older persons' (60 years and older) access to, use and acceptance of ICT. A quantitative study, operationalised through a cross-sectional survey design involved 73 (N=73) older persons in residential facilities in the City of Tshwane, South Africa, through a two-phase indirect and non-probability sampling strategy. Face-to-face surveys explored the participants' sociodemographics, access to ICT, and platforms/applications used. With the Senior Technology Acceptance Model by Chen and Chan, the study determined older persons' health contexts and abilities, and acceptance of technology across ten constructs. Participants mostly connect with mobile data using a mobile phone. Messaging, reading news, and social media are among the platforms used independently. Participants rated their health and abilities high and showed high acceptance of technology. Considered from a developmental social work framework, DGSW services are recommended, while respecting potential service users' means of accessing the internet, their preferred platforms, acceptance and attitude towards technology.*

**KEY TERMS:** developmental social work, digital gerontological social work, information and communication technology, older persons, residential facility, South Africa

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## INTRODUCTION

Across Africa, the population of older persons 60 years and older are increasing, especially in sub-Saharan Africa. Alongside climate change and associated disasters, public health crises preventing direct contact, increased migration of younger generations to urban areas, and the ramifications of the fourth industrial revolution, older persons are often obliged to access and use Information and Communication Technology (ICT; i.e., internet connections via mobile phone, computer/laptop, and tablet/iPad to use software, internet platforms, and applications) to maintain or improve their social well-being, promote effective and meaningful contact with peers, significant others and service providers, and to maintain independence. Ageing societies require that social workers become innovative in using technology to ensure gerontological service delivery continues to promote social justice and advocate for their human rights. The paper reports on the results of a quantitative cross-sectional survey which focused on South African older persons in residential facilities' access to, use and acceptance of ICT. It offers a background with a literature overview and theoretical framework, followed by the methodology, results and discussion. Lastly, recommendations and conclusions are offered.

## BACKGROUND

### Biopsychosocial profile of older persons

South Africa's population is over 63 million, with approximately 6.1 million older persons (9.7%) (Statistics South Africa [StatsSA], 2024). Sixty per cent are female, and 80 per cent identify as Black African. Life expectancy is 60 years for males, and 65.6 for females (StatsSA, 2023). Infectious diseases such as TB and HIV are common. Non-communicable diseases among older persons include asthma, hypertension, and Type 2 diabetes (StatsSA, 2023). Older persons are prone to anxiety, mood and psychiatric disorders, and substance use disorders, although the exact prevalence is unknown (Aartsma, Groenewald, Koen, Potocnik, & Niehaus, 2019). The legacy of Apartheid left many older persons in poverty, with 73 per cent relying on the Older Persons Grant (60-75 years, ± US\$120.57 per month; 75+ years ± US\$121.68 per month) (StatsSA, 2023). Poor access to education resulted in many older persons not being functionally literate which impacts negatively on their ability to use ICT. The majority of older persons age in place, while in rural areas and townships, the family house often accommodates the extended family (StatsSA, 2023). Only 18,011 older persons live in 394 subsidised residential facilities. A residential facility “means a building or structure used primarily for the purpose of providing accommodation and of providing 24-hour services to older persons” and is regulated through the Older Persons Act 13 of 2006 (Republic of South Africa, 2006).

### Older persons' access to and use of technology

Racial differences are noticed pertaining to South African older persons' access to the internet (44.8 per cent of White vs 1.5 per cent Black African people). Close to 80 per cent of older persons have access to a mobile phone, with lower percentages for computers (StatsSA, 2023). Vision, hearing and dexterity problems prevent older persons from using technologies (Chen & Chan, 2014), while the reality of unaffordability of data and devices prevents older persons from accessing ICT (Phokeer, Densmore, Johnson, & Feamster, 2016) – the latter signalling a digital divide. Rural areas are characterised by poor mobile networks, coupled with loadshedding (scheduled electricity interruptions to maintain the national grid) which impede the optimal use of technology. Nonetheless, access to news, aid in daily routine, connection with family and friends, fear for safety, and games prompt older persons to use technology (Lamont, De Klerk, & Malan, 2017).

### Digital gerontological social work (DGSW)

“[DGSW] encompasses the development and uptake of technologies in the form of electronic tools (i.e., eHealth and remote technologies) that are used to enhance research, policy, and practice by meeting the biopsychosocial needs of older adults” (Mois & Fortuna, 2020, p. 413). DGSW services offer the advantage of maintaining professional relationships with older service users when direct services are prohibited. Digital therapeutical work entails the use of smartphone applications, videoconferencing and monitoring technologies to render services to older persons (Mois & Fortuna, 2020). DGSW services must be underscored by e-professionalism, which includes tailoring services according to the needs, access and preferred platforms of service users, a human rights-based approach, ensuring the privacy and confidentiality of service users, maintaining professional communication, and keeping a professional online presence with clear professional boundaries (McAuliffe & Nipperess, 2017).

## THEORITICAL FRAMEWORK

South Africa adopted social development as a welfare model – a model which originated from the African continent. In this paper, it is argued that social workers who work from a developmental social work (DSW) framework promote the achievement of social development goals. DSW could be defined as "... people centred, participatory, transformative and rights-based; it focuses on prevention and awareness through education and favours populist forms of intervention" (Gray, Agllias, Mupedziswa, & Mugumbate, 2018, p. 2). DSW is informed by principles of accountability, human rights, improved quality of life, investment in human capital, non-discrimination, people-centredness, the promotion of human dignity, transparency, and building authentic partnerships (Patel, 2015). Furthermore, DSW is informed by five key features: the promotion of human rights and human development, the integration of social and economic development, the integration of micro and macro practice, the promotion of peoples' participation, and partnerships (Lombard, 2019). These principles and key features articulate with the second-generation rights of people. That is the right to education, work, social security, and an adequate standard of living (Androff, 2016). DSW enables social workers to collaborate with older persons and render DGSW services which could improve their social well-being, advocate for human rights, and promote social justice. Within the context of DGSW services, DSW would require social workers to bridge the micro-macro divide (that is, to prioritise community work services, before resorting to case and group work).

### Contextual gap

From the databases/platforms consulted (i.e., EBSCOHost, Google Scholar, and Sabinet African Journals) it was identified that in contrast to the developed world, the social work profession in South Africa has not yet fully explored the possibilities of using ICT in rendering DGSW services. In neighbouring disciplines, there are examples of using technology in service delivery targeted at older persons. For example, in nursing Jarvis, Chippis and Padmanabhanunni (2019) developed an mHealth intervention to address loneliness among older persons in the KwaZulu-Natal Province. In Psychology, Roos and Van Greunen (2022) report on the development of the *Yabelana* application which offers context-specific information about health care and social service providers for older persons in the North West Province.

### Research questions and aim

This study endeavoured to answer two research questions: "How do older persons in residential facilities access, use and accept technology?" and "What should DGSW services entail to maintain or promote the social well-being of older persons in residential facilities via ICT?" The study aimed to determine South African older persons in residential facilities' access to, use and acceptance of ICT and delineate the implications thereof for DGSW in residential facilities.

## METHODOLOGY

Quantitative methodology was adopted and operationalised through a cross-sectional survey design. Through a two-phase indirect and non-probability sampling strategy, the first author purposively selected and obtained permission from two welfare organisations in the City of Tshwane, Gauteng to collect data from five private subsidised residential facilities. The study was introduced and the inclusion criteria were communicated via e-mail to one gatekeeper per facility. The inclusion criteria were as follows: (1) Older persons 60 years and older, had to speak English; (2) they must have had the cognitive ability to participate in a face-to-face survey; and, (3) they had to possess and use at least one device independently or with some assistance. Nursing or social work staff marketed the study and older persons could volunteer their participation. Ultimately, 73 ( $N=73$ ) older persons participated in the study.

Face-to-face surveys were conducted by trained field workers who captured responses in Qualtrics<sup>XM</sup> – a web-based survey platform. The *independent variables* included the sociodemographic details of the participants, e.g., age, employment status, and highest qualification. Furthermore, items from a survey conducted by Geyer et al. (2019) were adopted to explore how participants access the internet, which devices they use, and which internet platforms/applications they use. The *dependent variables* comprised the Senior Technology Acceptance Model (STAM) (Chen & Chan, 2014). The standardised instrument explored the health contexts and abilities of older persons with a 10-point Likert scale (1 = 'very poor' up to 10 = 'excellent') as follows: (a) self-reported physical health (5 items), (b) cognitive ability (4 items), (c) social relationships (3 items), and (d) self-rated quality of life (2 items). Older persons' acceptance of technology was explored with five constructs, namely (a) attitude towards using technology (2 items); (b) perceived usefulness of technology (3 items); (c) perceived ease of using technology (2 items); (d) gerontechnology anxiety (2 items, reversed scored); (e) gerontechnology self-efficacy (2 items); and, (f) facilitating conditions for the use of technology (5 items). A 10-point Likert scale was used for

the latter (1 = 'Strongly disagree' up to 10 = 'Strongly agree'). Chen and Chan (2014) confirmed the validity and reliability of STAM. In the present study, most of the constructs of STAM were found to have acceptable internal reliability with Cronbach alpha coefficient values above 0.6 (Pietersen & Maree, 2020).

The first author downloaded the dataset to MS Excel for data cleaning, before the second author performed statistical tests using Statistical Analysis System (SAS) Version 9.4. Data analysis focused mostly on descriptive statistics. Results are considered statistically significant at the 5 per cent level.

The welfare organisations provided written permission to conduct the study at their affiliated residential facilities. Ethical considerations such as avoidance of harm, written informed consent, voluntary participation, no deception of participants, and no compensation of participants informed the study. A counsellor was available for free counselling; however, no participant required it (Mogorosi, 2018). Field workers signed a confidentiality agreement before data collection. Ethical clearance was obtained from the Research Ethics Committee, Faculty of Humanities, University of Pretoria (HUM011/1222) on 26 February 2023.

## RESULTS

The results focus on the sociodemographic details of the participants, followed by their access to the internet and devices, and use of internet platforms/applications. Lastly, the results of STAM are outlined.

### Sociodemographics details

Table 1 offers a brief overview of the sociodemographic details of the sample to contextualise the profile of the participants.

Table 1: Sample Sociodemographics (N=73)

| Variable  | M (SD)       | n (%)       |
|---|--------------|-------------|
| Age   | 73.95 (7.37) |             |
| Gender  |              |             |
| Female  |              | 59 (80.82%) |
| Male  |              | 14 (19.18%) |
| Home Language   |              |             |
| Afrikaans   |              | 61 (83.56%) |
| English   |              | 8 (10.96%)  |
| Sepedi  |              | 1 (1.37%)   |
| Sesotho   |              | 1 (1.37%)   |
| Setswana  |              | 2 (2.74%)   |
| Highest Qualification   |              |             |
| B degree/Hons. degree/Professional degree                       |              | 7 (9.59%)   |
| Completed Some Primary School                                   |              | 3 (4.11%)   |
| Grade 12/Matric   |              | 21 (28.77%) |
| National Certificate  |              | 4 (5.48%)   |
| National Diploma  |              | 8 (10.96%)  |
| Postgraduate Qualification                                      |              | 2 (2.74%)   |
| Some High School Training                                       |              | 28 (38.36%) |
| Employment Status   |              |             |
| Not Working/Living with Disability                              |              | 1 (1.37%)   |
| Retired/Pensioner/Receive Social Grant                          |              | 70 (95.89%) |
| Unemployed  |              | 2 (2.74%)   |
| Relationship Status   |              |             |
| Divorced  |              | 31 (42.47%) |
| Married/Partnered   |              | 6 (8.22%)   |
| Single  |              | 8 (10.96%)  |
| Widowed   |              | 25 (34.25%) |
| Residential Facility  |              |             |
| Assisted Living in Residential Facility                         |              | 9 (12.33%)  |
| Subsidised Housing at Residential Facility                      |              | 22 (30.14%) |
| Living Independently in a Room/Unit within Residential Facility |              | 42 (57.53%) |

The majority of participants (80.82%) identified as female. Afrikaans (83.56%) and English (10.96%) featured as the most prominent home languages among the residents of Tshwane-based residential facilities. Most of the participants resided independently in their room within a residential facility (57.53%). The results reveal that 42.47 per cent of participants were divorced, or widowed (34.25%) at the time of data collection. In terms of highest qualification obtained, 38.36 per cent completed some high school, followed by 28.77 per cent who obtained Grade 12/Matric. The majority of participants were retired and received a private pension, or state old age grant (95.89%).

### Access to the internet and devices

The majority of participants indicated that they connect to the internet with mobile data or a mobile router ( $n = 55$ ; 75.34%); eleven (15.07%) reported that they do not connect to the internet, while four (5.48%) used a fibre connection (uncapped Wi-fi).

In terms of the devices used, the majority used a mobile phone ( $n = 63$ ; 86.30%), followed by 16 (22.22%) participants who used either a desktop or laptop computer. Only six participants (8.57%) used a tablet/iPad.

### Use of internet platforms/applications

Participants were asked to indicate which internet platforms/applications they use either independently, with some assistance, or they do not use.

Table 2: Internet Platforms/Applications

| Variable                                       | Independently<br>n (%) | With Some<br>Assistance<br>n (%) | Do Not Use<br>n (%) |
|--|------------------------|----------------------------------|---------------------|
| Downloading Software                           | 17 (23.29%)            | 6 (8.22%)                        | 50 (68.49%)         |
| Downloading/Streaming movies and TV series     | 26 (35.62%)            | 7 (9.59%)                        | 40 (54.79%)         |
| Downloading/Streaming Music                    | 35 (47.95%)            | 8 (10.96%)                       | 30 (41.10%)         |
| E-mail   | 31 (42.47%)            | 6 (8.22%)                        | 36 (49.32%)         |
| File Transferring                              | 21 (28.77%)            | 6 (8.22%)                        | 46 (63.01%)         |
| General Searching                              | 36 (49.32%)            | 7 (9.59%)                        | 30 (41.10%)         |
| Newsgroups/Reading News                        | 45 (61.64%)            | 4 (32.88%)                       | 24 (32.88%)         |
| Online Banking                                 | 27 (36.99%)            | 13 (17.81%)                      | 33 (45.21%)         |
| Online Chat/Messaging                          | 54 (73.97%)            | 5 (6.85%)                        | 14 (19.18%)         |
| Online Consultation with a Professional Person | 11 (15.07%)            | 10 (13.70%)                      | 52 (71.23%)         |
| Online Gambling                                | 4 (5.48%)              | 7 (9.59%)                        | 62 (84.93)          |
| Online Interactive Games                       | 19 (26.03%)            | 10 (13.70%)                      | 44 (60.27%)         |
| Online Learning Platforms                      | 13 (17.81%)            | 8 (10.96%)                       | 52 (71.23%)         |
| Online Shopping                                | 10 (13.70%)            | 8 (10.96%)                       | 55 (75.34%)         |
| Social media                                   | 38 (52.05%)            | 2 (2.74%)                        | 33 (45.21%)         |
| Virtual calls/Conferencing                     | 18 (24.66%)            | 8 (10.96%)                       | 47 (64.38%)         |

With the knowledge of which platforms older persons use independently or not at all, social workers may determine which form DGSW services should take to be aligned with the familiarity of the service users. As depicted in Table 2, online chat/messaging (73.97%), newsgroups/reading news (61.64%), social media (52.05%), and general searching (49.32%) were among the platforms/applications that participants used independently. Conversely, online gambling (84.93%), online shopping (75.34%), online consultation with a professional (71.23%), and virtual calls (64.38%) were found not to be used by the participants.

### Senior Technology Acceptance Model (STAM)

The results from STAM offer gerontological social workers important information to plan gerontological social work services. For example, older persons' physical abilities to use a device, their acceptance to use technology, or barriers that should be addressed.

Table 3: STAM

| Construct  | M (SD)      |
|--|-------------|
| Health Contexts and Abilities                          |             |
| Cognitive Ability (C)                                  | 7.80 (1.49) |
| Self-rated Quality of Life (QoL)                       | 8.16 (1.66) |
| Self-reported Physical Health (PH)                     | 7.75 (1.25) |
| Social Relationships (SR)                              | 7.99 (1.41) |
| Acceptance of Technology                               |             |
| Attitude Towards Using Technology (ATT)                | 7.96 (2.62) |
| Facilitating Conditions for the Use of Technology (FC) | 6.50 (1.67) |
| Gerontechnology Anxiety (ANX)                          | 6.23 (2.88) |
| Gerontechnology Self-efficacy (SE)                     | 6.80 (2.60) |
| Perceived Ease of Using Technology (PEOU)              | 5.48 (2.90) |
| Perceived Usefulness of Technology (PU)                | 7.64 (2.66) |

With STAM a higher mean signals better health, abilities, and acceptance of technology. The means for constructs associated with health contexts and abilities were all rated far beyond the midpoint indicating the participants perceived their health and abilities as good to very good. QoL ( $M = 8.16$ ) and SR ( $M = 7.99$ ) were rated the highest. In terms of the constructs measuring older persons' acceptance of technology, it would appear that PEOU ( $M = 5.48$ ) and ANX ( $M = 6.23$ ) had the lowest means. This could mean that older persons perceived using technology as 'difficult', although it is not necessarily co-occurring with anxiety about ICT. Participants scored high on ATT ( $M = 7.96$ ) and PU ( $M = 7.64$ ), signalling they do have a positive attitude towards technology and comprehend its usefulness.

#### Influence of the categorical sociodemographic variables on the 10 STAM constructs

One-way Analyses of Variance (ANOVAs) were performed to assess the impact of age (three groups: 60-69, 70-79, and 80-91 years), gender (two groups: male and female), relationship status (three groups: single, in relationship, and widowed) and residential facility (three groups: assisted living, living in subsidised housing, and living independently in room), respectively, on the 10 STAM constructs. It was found that QoL differed statistically significantly between males and females ( $F(1,71) = 6.48, p < 0.001$ ), with the average QoL for females ( $M = 8.39$ ) higher than their male counterparts ( $M = 7.18$ ). QoL also proved to differ significantly over the categories of residential facilities ( $F(2,70) = 3.39, p = 0.04$ ). With pairwise  $t$ -tests, it was identified that participants living in subsidised housing ( $M = 8.86$ ) differ significantly from participants living independently in a room ( $M = 7.94$ ), and also those in assisted living ( $M = 7.44$ ). Thus, participants living in subsidised housing rated their QoL the highest.

#### Influence of age on the 10 STAM constructs

An evaluation of the correlation between age and the 10 STAM constructs revealed a significant negative linear relationship between age and PEOU, with a Pearson correlation coefficient of  $r = -0.32, p = 0.0064$ . Additionally, PH ( $r = -0.24, p < 0.04$ ) and C ( $r = -0.28, p < 0.02$ ) were also found to negatively correlate with age. Thus, as age increases, PEOU, PH and C decline.

## DISCUSSION

Old age is feminised in South Africa (StatsSA, 2023). Similarly, most participants identified as female. South Africa has 11 official languages and five of them featured as home languages among the participants, although not representative of the language distribution in the Gauteng Province (StatsSA, 2023). It should be noted that older persons mostly read and write in their mother tongue (with isiZulu the biggest language), while ICT is mostly English. Language barriers could make technology inaccessible to older persons. The highest qualifications of the participants, i.e., some high school and Grade 12, are aligned with the trend among older persons in Gauteng (StatsSA, 2023). The majority of older persons rely on a social grant, and in the present study, the same finding was observed (StatsSA, 2023). Aligned with national data, the majority of participants were widowed (StatsSA, 2023).

Resembling national data, most of the participants indicated they use a mobile phone and access the internet via mobile data/mobile router (StatsSA, 2023). Mobile data is, in comparison to the rest of Africa, expensive and often unaffordable for older persons who receive a social grant (Phokeer et al., 2016). It may be that older persons possess a 'basic' mobile phone, as smartphones are expensive. The findings correspond with the study of Jarvis, Sartorius and Chipps (2020) among 277 older persons in residential facilities in Durban, Kwa-Zulu Natal, who also found that the majority of older persons (87.6%) use 'basic' (pushbutton) mobile phones with limited smartphone usage. The present study was conducted in an urban province which eases access to the internet and devices. In rural areas, older persons' access to the internet and devices is often limited due to financial and infrastructural barriers (StatsSA, 2023).

In their study among community-dwelling older persons in the Gauteng and North West provinces, Roos, Hoffman, Erasmus, Bothma and Van der Vaart (2022) found that older persons mostly use basic features on pushbutton mobile phones (e.g., SMS messages and calendar), with few who use internet-dependent applications, such as e-mail, games, Google, messaging (e.g., WhatsApp), social media (e.g., Facebook), and online banking and news. The results of the present study are different. Older persons in Tshwane-based residential facilities often used messaging, news, social media, general searching, music streaming, and e-mail independently. Nonetheless, this study also mirrors the results of Roos et al. (2002), namely that data-intensive applications (e.g., online learning, videoconferencing), are less seldom used as older persons either cannot afford data, or the devices required.

Jarvis et al. (2020) administrated STAM among older persons in residential care in Durban. In the present study, older persons in Tshwane-based residential facilities rated their health contexts and abilities marginally higher. Furthermore, when the acceptance constructs of STAM are considered, the results tend to differ between the two studies. Noteworthy is that Tshwane-based participants rated SE ( $M = 6.8$ ) marginally higher than their Durban counterparts ( $M = 4.0$ ). Durban-based participants showed lower levels of ANX (reversed scored construct) ( $M = 7.0$ ) than their counterparts in Tshwane ( $M = 6.23$ ). In addition, older persons in Durban scored PEOU ( $M = 6.90$ ) higher than their counterparts in Tshwane ( $M = 5.84$ ). It may be that older persons in Tshwane showed higher acceptance of technology than their counterparts in Durban due to the impact of COVID-19 which necessitated the increased use of ICT during lockdown. This may be an unintended positive consequence of the pandemic on older persons' technology acceptance. Broadly considered, the two studies offer gerontological social workers some preliminary data to inform the planning and design of DGSW services at residential facilities. Social workers should, however, be aware that a positive attitude towards technology does not necessarily translate into the use of technology in general, or the acceptance of DGSW services (Chen & Chan, 2014). Considered from a DSW framework, social workers should form partnerships with older persons and develop and introduce DGSW aligned with service users' digital literacy, needs, preferences, and socio-economic realities.

Limitations include that the results are context-specific to older persons in residential facilities in one, rural province of South Africa. Therefore, the results are not representative of the entire older South African population.

## **RECOMMENDATIONS: IMPLICATIONS FOR DIGITAL GERONTOLOGICAL SOCIAL WORK SERVICES AT RESIDENTIAL FACILITIES**

Although the recommendations offered may be context-specific to South Africa, it is trusted that some recommendations may be transferrable to social work practice across member states of the African Union.

### **Recommendations for services concerning older persons' access to technology**

- Mobile data/routers are amongst the most expensive. Therefore, social workers should develop and introduce DGSW services that are 'data-friendly'. For example, text-driven services as opposed to videoconferencing.
- High data costs thwart older persons from their right to use ICT optimally. It is a social injustice which requires social workers to embark on social action to lobby for policy change. The South African government could reach an agreement with mobile service providers to subsidise 1GB of data per month ( $\pm$ US\$4.40) to recipients of the Older Persons Grant as part of their corporate social responsibility. Between the South African Social Security Agency (SASSA) and the Regulation of Interception of Communications (RICA) of mobile phones, the administration could not be impossible, nor financially unviable. Alternatively, the government could budget for an increase in the Older Persons Grant.

### **Recommendations for services concerning older persons' use of technology**

- Older persons mostly use messaging independently. Social workers could use messages during casework, especially when contact services are prohibited.
- Older persons read online news. Government departments, welfare organisations and residential facilities could distribute newsletters/announcements via e-mail or messaging applications as part of community

education. For example, during a public health crisis information on treatments available and protection measures could be shared. Furthermore, DGSW services could be marketed to potential service users via newsletters.

- Social media is used independently by older persons. It offers a great opportunity for service providers to undertake community education on different topics, e.g., forms of elder abuse and how to report such cases. In addition, short videos could be curated to change the attitudes of older persons about using DGSW services.
- Online consultation and videoconferencing were found not to be used by older persons. Social workers should establish an educational group work programme to change the attitude of older persons and train them in using platforms. Alternatively, each residential facility could start a community work project where intergenerational contact is promoted, e.g., children from the neighbourhood, or nearby schools visit residential facilities and teach older persons how to use technology, while the younger generation benefits from older persons' wisdom and life experience. The knowledge and skills of videoconferencing could enable older persons to address loneliness and promote social interaction.
- Welfare organisations and statutory bodies, e.g., the South African Council for Social Service Professions (SACSSP), should consult with social workers and develop policies to guide technology-assisted services and to offer guidelines on context-specific e-professionalism.

### Recommendations for services concerning older persons' *acceptance* of technology

- Older persons' PEOU could be positively influenced through community work projects. For example, social workers could organise an exhibition where service providers market an array of technologies, especially those older persons may use, such as pushbutton phones. Information about the use and value of different technologies may improve the attitude of older persons.
- As people age their PEOU declines. Therefore, social workers should ideally distinguish between services for the young-old and old-old.
- Residential facilities could create FC for older persons to use technology. For example, employ someone or get a volunteer to run weekly workshops where older persons are taught to use platforms/applications, such as messaging and videoconferencing. Budget constraints may prevent the facilities from buying computers or mobile phones, but social workers could establish a community project where community members are motivated to donate their unused computers and mobile phones for this initiative.

### Recommendations for future research

- The study should be replicated across South Africa and the rest of Africa with larger samples to determine the access, use and acceptance of ICT among older persons and ensure context-specific DGSW services are introduced. The focus should shift to community-dwelling older persons, especially exploring the rural-urban divide.
- Qualitative studies are needed to explore the needs of older persons to ensure a bottom-up approach in co-designing services. The design of the technology will require transdisciplinary research involving scholars from engineering and computer sciences.
- Furthermore, the mHealth intervention addressing loneliness and the *Yabelana* application could be adapted for the eight other provinces of South Africa.
- It cannot be assumed that social workers have the knowledge and skills to use technology in service delivery. Future studies should explore social workers' needs for continuing professional development to develop and present appropriate training opportunities while ensuring sensitivity to the digital divide among service providers and users.

## CONCLUSION

This study is unique as it is the first empirical evidence on the African continent to inform DGSW services. The results of the study reveal that older persons in Tshwane-based residential facilities mostly connect with mobile data/routers using a mobile/smartphone. Sending text messages, reading news, and the use of social media are among the platforms they use independently. Participants rated their health and abilities high and overall showed high acceptance and competent use of technology. Implications for DGSW services from a DSW framework are delineated, albeit limited to older persons in residential facilities. The time is opportune to explore the exact needs of older persons on the African continent, to develop and introduce DGSW services to ensure their right to connection in the digital world is secured and their social well-being promoted.



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