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RESEARCH ARTICLE

The Experiences of Older Turkish Adults in Using Information and Communication Technologies (ICT) for Mitigating their Deepening Social Isolation During Disasters

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Abstract

Disasters continue to occur and deepen the problems of older adults from disadvantaged groups. In COVID-19, a recent example of a biological disaster, the issue of social isolation worsened, like several other problems among the aged in Turkey. For this reason, it has become essential to try to reduce these problems of the aged, whose population is increasing, to be ready for future disasters. Within the activity theory framework, there has been a need to conduct solution-oriented research with the following research question: "What are the experiences of Turkish older adults in mitigating social isolation by using ICT for social connectedness during the COVID-19 biological disaster?" Thus, we wanted to understand how they tried to reduce their social isolation through ITC by conducting in-depth interviews with 50 older adults who lived in Istanbul and used ICT during the COVID-19 biological disaster. It has been concluded that the aged are shown as passive individuals by constantly comparing them with other generations with the dualities of 'digital native' and 'digital immigrant' or 'silver surfer' and 'nonuser' who can continue their activities of obtaining information, staying connected and socializing by finding alternative ways through ICT even in disasters. This positive result may be due to not including the aged who have social problems such as severe health problems and digital and social inequalities in the study. However, older adults can continue their occupation regardless of the conditions, even if they are on ICT, because it positively affects their well-being in terms of being connected to life.

Keywords: COVID-19 • Social isolation • Social connectedness • Information and communication technologies • Older adults • Disaster

The Experiences of Older Turkish Adults in Using Information and Communication Technologies (ICT) for Mitigating their Deepening Social Isolation During Disasters

The world is constantly facing different disasters. Although they vary from country to country according to the type of disasters, through globalization some disasters have begun to threaten the whole globe. It has become clear that biological disasters are among the globalizing disasters, as seen from the painful experience of COVID-19. COVID-19, or SARS-CoV-2, appeared in December 2019 in China's Wuhan province and quickly spread to the whole world. On March 11, 2020, the World Health Organization (WHO) defined the disease as a pandemic, which precipitated a series of precautions across the globe. Despite these preventative measures, the virus spread worldwide and infected hundreds of millions of people, killing over 6,000,000 within two years, including many immunocompromised individuals and older adults (Akman-Dömbekçi et al., 2020, p. 114; Demirtaş-Madran, 2021, p. 63).

Although COVID-19 has been studied extensively, it is discussed in this study. This is because it affects older adults the most among the disadvantaged groups in a biological disaster. After all, it is the closest example to our purpose of seeing how senior citizens have social cohesion through ICT to reduce their isolation at the point of preparedness for the disasters they will encounter in the future. For this reason, unlike other studies, this study aims to present older adults' perspectives on disasters by giving place to their lived experiences.

In Turkey, older adults were most affected by the 1999 Marmara Earthquake and the COVID-19 pandemic that started towards the end of 2019 (Baechler, 2018, p. 810, 816; Sağlık Bakanlığı, 2020, p. 6). Therefore, we only used their lived experiences in this study. It does not mean excluding other age groups, but completing other age group studies by focusing on a specific age group.

This study starts with the socio-demographic structure of the aged and their problems, such as social isolation, which deepens in disasters due to their health statuses related to social inequalities. After that, studies on how senior citizens can stay in social contact through ICTs in catastrophe, for example, by reducing their social isolation, are included. Finally, we discussed some lived experiences of fifty older adults interviewed during the pandemic regarding their use of ICTs in detail to contribute to the literature.

Grounding the Study

Conceptual Framework
The population of older adults in the world is increasing day by day. According to the latest aged population estimates, 9.8% of the world population is the older adult

population. Although Turkey's population is rather young when compared to those of European neighboring countries, statistics show that it has begun aging rapidly. While older adults comprised 7.1% of the Turkish populace in 2007, this group increased to 9.7% in the latest Address Based Population Registration System Results of the Turkish Statistical Institute in 2021 (Türkiye İstatistik Kurumu, 2022).

The aging of a society is not limited to statistics only. It has different effects reflected in every field. These effects generally complicate countries regarding older adults' problems (Chen & Schulz, 2016, p. 1). These problems manifest themselves mainly in disasters. In COVID-19, one of the closest examples of biological disasters, different problems for senior citizens have emerged. One of these problems is social isolation.

It is difficult to give a clear definition of social isolation. Suppose we define social isolation in terms of older adults. In that case, it is possible to describe it as a decrease or absence of interaction of senior citizens with others for different reasons (Chen & Schulz, 2016, p. 2). Some people use social isolation and loneliness interchangeably by mistake. Sociologically, social isolation occurs when older adults experience limited relationships with others or may lack meaningful relationships entirely. Loneliness, on the other hand, involves a psychological perception of social isolation, which results in a subjective feeling of emptiness or solitude (Biordi & Nicholson, 2013, p. 88; National Academies of Sciences, Engineering, and Medicine, 2020, p. 28; Neves et al., 2019, p. 51).

What makes social isolation critical among all the problems of older adults in disasters is the increase in its negative impact on them (Tyrell & Williams, 2020, p. 215). For example, studies have shown that older adults exposed to social isolation face digital exclusion in disasters, and their problems deepen (Seifert et al., 2020, p. 1). That is because the 'digital divide' not only changes according to age but also health status, culture, and living place, although there are also 'silver surfer' ideas mentioning older adults don't have any problems using ICT (Selwn, 2004, p. 370; Song et al., 2021, p. 3).

Older adults' use of technology, including ICT, may vary according to their environment and individual characteristics. Therefore, it is necessary to mention some technology studies to clarify this point first.

In general, one can put technologies for older adults into three main categories: safety-enhancing technologies, technologies for health and wellness, and social connectedness technologies (Alwan & Nobel, 2007, p. 3). ICT is in the last of these categories. In short, social connectedness technologies include cell phones, video telephones, and communication software.

Three technology categories assist older adults by enabling them to live independently and healthily. However, some barriers can prevent older adults from adopting these technologies (Wang et al., 2019, p. 16). For example, in the Turkish-Ottoman case, power structures once tried to block Western oriented technological innovations due to the belief of them not being completely culture-free (Refik, 1929, p. 10). Therefore, the innovation model of technology should consider potential resistance while diffusing it throughout society (Shortell & Kaluzny, 2006, p. 390–401).

It is a matter of opportunity for older adults to use ICT. Their health, economic and educational statuses are definers for not being exposed to digital inequality in ICT. Whether the place where senior citizens live is rural or urban, home or nursing home affects their use of technology (Ziemba, 2019, p. 733). For example, a study shows that less than 3% of people aged 85 and over staying in long-term care institutions use Internet-connected ICT (Schlomann et al., 2020, p. 164). Some research in places other than long-term care institutions doesn't make a big difference in Internet use among older adults. For example, a study covering 17 European countries shows that 51% of those aged 50 and above didn't use the Internet. Another study shows that 27% of those aged 65 and over in the USA did the same (Seifert et al., 2020, p. 3). In Turkey, according to the Household Information Technologies Usage Survey 2021 published by the Turkish Statistical Institute, while the rate of Internet usage of individuals in the 65–74 age group was 5.6% in 2015, this percentage jumped to 27.1% in 2020 (Türkiye İstatistik Kurumu, 2021).

However, older adults start to demonstrate greater acceptance of technology, likely due to the important role that technology plays in telehealth, telecare, and social connectedness. Furthermore, developing technology supports the security, mobility, independent living, and social participation of the aged (Ekici & Gümüş, 2016, p. 26). For example, in a review that evaluated 29 studies on the use of ICT by older adults in 2015, it was concluded that senior citizens approached using these technologies positively (Ma et al., 2015, p. 239). In a study examining 25 publications, one result is that the use of ICT positively affected continuous support, social commitment, and social isolation in general. In these studies, the observation is that ICT reduces the social isolation of the elderly through four mechanisms: connecting with the outside world, receiving social support, engaging in activities related to their interests, and increasing self-confidence (Chen & Schulz, 2016, p. 1). Also, using ICT, even in people over 80, means higher autonomy and lower loneliness and anomie (Schlomann et al., 2019, p. 7).

Theoretical Framework
Gerontologists find it essential for senior citizens to engage in social activities to maintain their well-being regardless of the circumstances (Sen et al., 2022, p. 8). From

this point of view, activity theory is one of the crucial theories to understand how older adults reduce their social isolation deepens in disasters regarding their well-being. Therefore, this theoretical approach in this study examines older adults trying to reduce their social isolation through ICT in times of the COVID-19 biological disaster example.

In short, the activity theory is one of the classical theories of aging developed by Robert J. Huvighurst in 1948 (Schroots, 1996, p. 742). It has a basis on the thesis that people do not have to be passive when they get old; they can maintain their social relations balanced as in previous ages. In other words, it argues that the losses due to aging are being compensated with new gains, and balance is achieved (Akçay, 2011, p. 52-55, Kalınkara, 2011, pp. 27-31). For example, the elderly can achieve this balance by actively assuming new roles, establishing friendships, and participating in activities instead of their lost parts (Estes, 2001, p. 25; Şentürk, 2018, p. 124).

Activity theory places such importance on the activities and roles of older people that it identifies their existence with what they do. In terms of the social participation of senior citizens, their roles in society contribute to their mental health and life satisfaction (Moody, 2006, p. 10). Therefore, the theory establishes a positive relationship between activity and life satisfaction. Contrary to the disengagement theory based on withdrawal from life, it asserts that people will be satisfied with life as long as they are active (Moody, 2006, p. 9). Therefore, according to this theory, older adults provide life satisfaction to the extent that they maintain their activities and social relations. In other words, the elderly who participate in social networks by supporting their social integration is more advantageous in terms of life satisfaction (Lemon et al., 1972, p. 511). Moreover, the fact that senior citizens are engaged in constant social interaction with others connects them to life. This occupation makes them happier and healthier in terms of successful aging (John, 1984, p. 86).

According to this theory, the activities and usefulness of people are more important than chronic age. Passivity is a situation one should avoid because it shows people as isolated from society. After all, this situation makes the elderly unhappy (Tufan, 2001, p. 40).

Older adults also need to socialize by staying in touch with others with a sense of belonging in line with a purpose. Activity theory sees this as necessary for the quality of life of the aged. In this respect, this approach aims to find a suitable solution for older adults to overcome difficulties by enriching their lives with activities (Tabet, 2016, p. 23).

As a result, activity theory provides a framework for understanding how the interaction of the aged through ICT in disasters impacts their well-being in terms of reducing their social isolation. For this reason, this study examined the lived experiences of older adults on this issue during the COVID-19 biological disaster within the activity theory framework.

Method

Problem Statement

The social isolation problem of older adults is increasing. Therefore, there is an increase in studies on this subject (Coyle, 2012; Hand et al., 2017; Nitanai & Goto, 2022; Tomaka et al., 2006). Since this problem of older adults also deepens in disasters, it has become essential to study how to reduce it. In this qualitative study, we used the lived experiences of senior citizens in Istanbul to understand how they reduced their deepened social isolation during the COVID-19 biological disaster through ICT for social connectedness. In other words, we put "What are the experiences of older Turkish adults in mitigating social isolation by using ICT for social connectedness during the COVID-19 biological disaster?" research problem for investigation. Therefore, this study will shed light on what other generations can learn from experienced older adults in mitigating their social isolation in catastrophes.

Research Type, Sample, Analysis, Credibility, and Ethics

The choice of research type depends on the research problem (Streubert & Carpenter, 2007, p. 23). We employed the qualitative research type for this study to answer the research problem with the qualitative framework above. In short, in this type of research, the phenomenon is observed in its natural environment (Yıldırım & Şimşek, 2005, p. 39). Moreover, while quantitative research collects a large amount of data on social isolation, it falls short of understanding the experiences of older people in depth. It is where qualitative research comes into play. Qualitative studies capture deeper meanings rather than focusing on numbers about the phenomenon under investigation (Berg, 2009, p. 2–3; Bogdan & Taylor, 1975, p. 4–5).

While the population refers to all individuals included in a particular study, the sample represents only one component of such a population (Dibley et al., 2020, p. 63). A sampling from a specific population and a qualitative data collection tool is needed to find the deep meanings of the phenomenon under investigation. In this study, 50 people aged 65 and over from Istanbul, who could use ICT to reduce their deepening social isolation during the COVID-19 biological disaster, were selected as a sample from Turkey until data saturation was obtained. In-depth interviews were conducted with them face-to-face and over the phone in Turkish. The reason for choosing the in-depth interview tool, each of which lasted approximately one hour, was to allow the participants to reveal their lived experiences in depth. It was to make the participants a part of the research with their ideas and thoughts, a distinctive feature of qualitative research (Mayring, 2011, p. 43–44).

The diversity of the study group in qualitative research is as essential as in quantitative research (Şentürk & Altan, 2015, p. 110). Despite this, there is no tradition of giving

detailed socio-demographic characteristics of this diversity in qualitative studies. However, this study has the criteria of being 65 years old and over, male and female in terms of gender. Apart from these socio-demographic characteristics, it only included the participants using Internet-connected ICT. Therefore, the participants, half of whom were male (n = 25 and half of them female (n = 25), were reached through purposive snowball sampling. The reason for choosing this method is also because the participants used Internet-connected ICT to reduce their social isolation during the COVID-19 biological disaster. For this reason, this study didn't include older adults who stay in long-term care facilities and do not have Internet connections due to some social inequalities in society.

One of the analysis methods used in qualitative research is thematic analysis. It is an effective method for describing, coding, and creating themes from data (Kiger & Varpio, 2020, p. 2). Thematic analysis has a six-step process: recognizing data, generating initial codes, searching for themes, reviewing themes, identifying and naming themes, and preparing the report (Braun & Clarke, 2006, p. 16–23). These six processes were in the analysis of this study in terms of the following. First, all the data collected from the field were handled with all their dimensions and recognized. Afterward, there was the generation of starting codes from well-known data. After that, the generated codes were thoroughly examined and looked for specific themes. After that, there was a review of the themes sought for the study. Finally, the themes were defined, named, and made available for presentation and discussion in the findings.

Although qualitative studies may lack the validity and reliability of quantitative research, it is still important for researchers to be transparent about the rigor of such studies, since these studies should strive for trustworthy interpretations and representations of participants' experiences (Streubert & Carpenter, 2007, p. 28). Qualitative researchers typically discuss the credibility, dependability, confirmability, and transferability of their results, rather than the validity and reliability discussions made by quantitative researchers. Since our study has a qualitative research type, the criteria of truth and intersubjective validity were employed by articulating individual perceptions and testing out others (Moustakas, 1994). Therefore, the rigor of study is based on providing verbatim accounts of participants' experiences as frequently as possible, alongside announcing researcher biases rather than bracketing them. The study's intersubjective validity was reached by member-checking with participants to clarify any misinterpretations of their responses, as well as by seeking the opinions of experts in the fields under investigation.

The works including human subjects were approved by the Social and Human Sciences Research Ethics Committee at Yildiz Technical University. The participants provided their informed consent to participate in this study

Findings

The acceptance of ICT, its role in establishing social connections, and its socialization dimension are essential in understanding how it reduced the social isolation of older adults during the COVID-19 biological disaster. Therefore, this section reports the results of the technology acceptability, social connectedness, and socialization themes that emerged through the thematic analysis of the collected data for this study.

Technology Acceptability

Although there was a distance due to culture, ideology, poverty, and a lack of education in ICT usage in Turkey, it has started to be more accepted by older adults for some reasons as follows:

First, in the context of technology literacy, the adoption, adaptation, and use of ICT positively affect older adults, who are more affected by disasters (Madianou et al., 2015, p. 4). In these fora, one of the participants mentioned how she was happy about learning to use ICTs before the pandemic period, explaining, "*Technology and communication worked for me. Fortunately, I had learned how to use some appliances before*" (Participant 11). The adoption of ICT tends to lead a person to use more over time, which one participant described as, "*The using of video talks with my family members led me to use other applications too*" (Participant 9).

Second, ICT benefits the elderly in terms of having a better time psychologically in disasters (Toker, 2016, p. 262). One of the participants mentioned this point as follows: "*Social media and digital platforms have been very beneficial, as it was difficult to find activities to spend time at home for more than a month. Watching video content, programs, movies, and serials made it easier to spend time*" (Participant 5).

Third, smart homes were equipped with innovative technologies to reduce disaster risk with the concept of an intelligent environment. Integrating ICT with these supportive, intelligent technologies that ensure safe and healthy aging has also helped to remove the barriers to its use (Maresova et al., 2020, p. 545–575). For example, using ICTs for health also helped Turkish older adults monitor and improve their health. One participant described this aspect: "*I used the health application installed on my phone linked to my Wi-Fi at home. The pedometer feature of this application was useful when I was walking around the house in order not to be inactive because I had the chance to view the duration of the exercise and the calories burned with it*" (Participant 9).

Fourth, meeting the needs of the elderly to receive information via ICT faster in times of disaster plays a motivating role for them to use these technologies. For example, the use of social media has increased by 36% in the COVID-19 biological disaster (Lee et al., 2021, p. 2). One of the participants mentioned how he kept up with

the news through social media: "*We are the ones most affected by the process because of our age. To follow the situation, I generally followed the news on Facebook. I watched the speeches of the Minister of Health. I spent more time with the computer*" (Participant 10). Another participant mentioned receiving critical health information online: "*With the advice of my son, who is a physician, I viewed the speeches given on YouTube for individuals over 65. I learned the precautions we need to take during the pandemic*" (Participant 5).

Finally, the fact that ICT allows people to express their feelings has increased its use (Al-Saggaf & Simmons, 2015, p. 12). The older adults, who used it more, have even begun to enjoy it. One participant expressed this situation with an anecdote as follows: "*When I was first told that I had to do a lesson on the computer as a physical education retired teacher, I made fun of it, saying, 'How can I do somersaults in front of the screen?' (laughing). Surprisingly, we did it perfectly after experiencing it*" (Participant 19).

Social Connectedness

The senior citizens, who have social isolation in disasters, try to reduce it in terms of social connectedness in the following ways.

First, older adults try to compensate for the harmful effects of the restrictions that separate them from others in disasters with the social connectedness they establish through ICT (Chai, 2022, p. 7). A participant explained how he overcame the social isolation he experienced due to the limitations of the COVID-19 biological disaster through ICT as follows: "*We initiated video talks with relatives and friends because it was hard to talk with the person we get used to chatting face-to-face without seeing their faces. Therefore, we now chat with anyone we want through video talks as if we were in a physical space*" (Participant 10).

Second, using ICT for the social connectedness of older adults in disasters is vital for their well-being (Sen et al., 2022, p. 8). The reason is that forming and maintaining meaningful social relationships benefits elders' well-being (Findlay, 2003, p. 648). One participant described how he reduced his boredom when he used ICT for social connectedness with someone else: "*They were very useful in this period when I could not spend time outside and was bored at home so that I could not completely disconnect from social life*" (Participant 40). Another participant had a similar experience: "*We were very bored, we needed to talk, talk and see people. After having the smartphone, these needs have decreased a little. When I use technology, it has become easier to spend time, which I enjoy*" (Participant 5). He added, "*Thanks to WhatsApp, we were video chatting with my family every two days. It helped me a lot psychologically, because many people, especially those who lived alone like me, felt very lonely and helpless during this period*" (Participant 5).

Finally, the social connections of older adults, who are in constant contact with other generations through ICT, give them an online sense of belonging by giving them the feeling that they fulfill their responsibilities towards others (Young, 2009, p. 42). A participant expressed his transfer of experience to other generations via ICT with the awareness of online belonging as follows: "*I shared my experiences with other generations and transmitted our cultural values by ICT*" (Participant 6).

Socialization

Engaging in activities within the scope of socialization is very important for every person, including older adults. Socialization activities that are mostly outside, for example, in the COVID-19 biological disaster, have now started to be carried out at home via ICT (Gül Ünlü, 2021, p. 14; Söğüt, 2020, p. 62). It means that socialization has gained a new dimension. One participant expressed this situation as follows: "*The outdoor socialization I had in the public space before is now can be in cyberspace as well as in the private space, indoor*" (Participant 7). Another participant described this point as online socialization as follows: "*After isolating ourselves, my wife and I started to be curious about reading books at first. We first started using online shopping for this purpose. Later, after we learned that we could meet many of our needs, including food shopping, we started using online shopping more often*" (Participant 10). He added, "*We established pandemic groups over 65 on Facebook in addition to family WhatsApp groups and talked about our experiences and recommendations*" (Participant 10).

Socialization of older adults through ICT occurs through mutual interaction (Tuna Uysal, 2020, p. 52). This interaction is mostly between acquaintances and friends (Mortimer & Simmons, 1978, 423–424). One participant expressed this point as follows: "*I was socializing with my peer groups. Therefore, even a temporary disconnection with them was affecting my psychology a lot*" (Participant 20). Moreover, older Turkish oadults are more prone to socializing with people they know, as mentioned by another participant: "*I downloaded WhatsApp for video chat. I do not do much texting, but I can call the kids all the time. Most of our friends are using it on Facebook, so I downloaded it. Now I can follow the news and see the relatives in the village from there*" (Participant 1).

Discussion

The findings reveal how the elderly in Turkey used ICT to reduce their social isolation during the COVID-19 biological disaster. As our results show, in general, like other age groups, senior citizens use ICT to obtain information, interact with others and meet their socialization needs (Tuna Uysal, 2020, p. 52). Considering the three themes in the findings above, how older adults meet these three needs in disasters is as follows.

First, in the information age, the use of ICT by older adults during disasters to obtain information depends on whether or not they accept it. There may be different reasons for older adults' rejection and acceptance of technology. However, ICT has become necessary to mitigate the social isolation problem of the aged deep in disasters. This need has led to a new development toward acceptance, as supported by findings. In other words, although the 'digital divide' debate continues over the contrasts of 'digital native' and 'digital immigrants' with 'silver surfers' and 'nonusers,' older adults are now in a different place in ICT acceptance compared to the past (Selwn, 2004, p. 369). That is because they have learned to live with ICT due to the 'digitalization of society' (Peine & Neven, 2019, p. 17).

However, the spread of false information during disasters has a negative effect on older adults' psychology and even leads to their exclusion due to ageist approaches in media (Oostlander, 2022, p. 234; Partiöz & Tarhan, 2019, p. 304). Older adults can overcome this information pollution on disasters by having more knowledge about ICT. They can only do this by mastering and using ICT, which reduces the 'digital divide.' For this reason, ICT needs to be 'reshaped' to be used by all senior citizens (Selwn, 2004, p. 382). Therefore, 'universal design' has gained critical importance (Gjøsæter et al., 2018, p. 64). If there is no universal design, the 'digital divide' that occurs for different reasons will continue despite the existence of ICT.

Second, ICT helps to reduce the deepening social isolation of older adults in times of disaster, not only by informing them but also by keeping them connected with others (Cotton et al., 2013, p. 10; Neves et al., 2019, p. 51). The finding supports the importance of ICT for the elderly in maintaining contact between them during disasters, reducing the hardships they experience, and establishing a digital identity. For example, restrictions placed during the COVID-19 biological disaster also led to the social isolation of the aged (Chai, 2022, p. 7). In this respect, ICT has enabled them to remain active by reconnecting them with each other, albeit virtually. Thus, one can see this situation's confirmation by the activity theory thesis that the activeness of older adults is associated with well-being. It also indicates that there is no significant difference between them and other generations in terms of acquiring a digital identity since the aged, who can maintain their activeness through ICT, are not supported but supporters of others.

Finally, ICT mediates socialization, which is crucial for older adults during disasters (Haase et al., 2021, p. 6; Soydan & Alpaslan, 2014, p. 55). Socialization, processing more outdoors, is now also in the virtual world through ICT. As seen in our findings above, the aged, exposed to the COVID-19 biological disaster and closed at home, could not continue their socialization outdoors, so they carried it into the house and realized this via ICT.

Conclusion

Social isolation is a critical problem for older adults in many countries. Feelings of isolation may stem from psychological conditions or separation from family and friends through geographic distance or death. In particular, social isolation increases as a result of biological, natural, and environmental factors that can connect with the frailty of the aged (Gale, 2018, p. 396). For this reason, we researched how the older adults who have experienced this problem in Turkey during the COVID-19 biological disaster, one of the closest disasters, overcame this problem through ICT. The main results reached are as follows:

First, ICT, a requirement of the information age, is a tool that helps to overcome the 'digital divide' that negatively affects mainly older adults to be isolated in disasters (Prensky, 2001, p. 1–2; Selwyn, 2004, p. 369–370). As seen in the findings above, one of the results of our research is that the 'digital divide,' which is the reflection of social inequalities in every field in the digital world, has decreased due to the widespread use of ICT by older Turkish adults during the COVID-19 biological disaster. Despite its dangers, the fact that ICT is accessible and valuable as a result of its redesign to appeal to the aged, who are said to have a different approach to technology within the framework of 'universal design,' also has an effect (Ziemba, 2019, p. 731–734).

Second, as evident through the participants' reflections, older Turkish adults faced more social isolation during the COVID-19 biological disaster than previously. Thus, another result of the research is that Internet-based ICT was essential for mitigating such social isolation of the aged because of its power to keep them informed about current events and build their social connectedness (Cotton et al., 2013, p. 10). We understood that, without the contributions made to their lives through ICT, the participant would have significantly experienced more significant psychological distress during this disaster.

Finally, during the COVID-19 biological disaster, in which 'physical distance' was framed as 'social distance,' separating older adults from other members of society, every tool that enabled senior citizens to socialize became critical. The social connection voiced by older adults during this period interrupted the perception that socialization ends after childhood and youth. In this way, another result of this study truly reflects the "cradle to grave" nature of socialization. That is because older Turkish adults manifested that they had successfully transferred their outdoor daily socialization routines to the virtual world during the COVID-19 biological disaster.

The bottom line is that research results show that older adults actively use their new digital identities in disasters. It is evident that this identity now has a meaning beyond 'communicating' and 'staying in touch' with others (Young, 2009, p. 42). Furthermore, they are trying to overcome the 'digital division' problems and social isolation that

deepen in disasters with this new identity through ICT. Therefore, making ICT accessible and adaptable to everyone should be a sustainable social policy of the state within the scope of social development.

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