Digital Divide as a Challenge for Polish Social Gerontology

Łukasz Tomczyk[1](✉), Joanna Wnęk-Gozdek[2], and Katarzyna Potyrała[3]

[1] Jagiellonian University, Stefana Batorego 12, 31-135 Kraków, Poland
lukasz.tomczyk@uj.edu.pl
[2] Pedagogical University, Romana Ingardena 4, 33-332 Kraków, Poland
[3] Cracow University of Technology, Warszawska 24, 31-155 Kraków, Poland

Abstract. Along with the intensive development of the information society, many beneficial phenomena improving the quality of life of Internet users have appeared. Unfortunately, there is still an unharmonic participation of all age groups in cyberspace. This phenomenon is described as digital exclusion. This digital divide has been studied in detail and described in the sociological, pedagogical and gerontological literature. Despite a solid theoretical basis and many activities aimed at digital inclusion, so far the digital divide has not been completely eliminated. More than two decades of research allow us to notice several important regularities about the phenomenon of lack of full participation of older people in cyberspace. This chapter is unique due to the first attempt to systematise the phenomenon of digital exclusion in Poland with the use of the popular J. V. Dijk concept. The article presents several perspectives: individual conditions, systemic solutions and gaps to be filled. Despite its theoretical nature, due to the methodology used, the text has a number of postulates useful in gerontological practice. The individual perspective refers to the needs of seniors, their physical conditions and cognitive characteristics. The community perspective, on the other hand, aims at presenting proven and useful practices for digital inclusion in various non-formal education institutions. Thus, the text intertwines the perspectives of individual and horizontal conditions. The study is the result of the international project "REMEDIS is supported in Poland by the National Science Centre - NCN [021/03/Y/HS6/00275]".

Keywords: Poland · Digital Divide · Digital Inclusion · Social Gerontology · Geragogy · Universities Of The Third Age · Volunteers

1 Introduction

It may seem that today's societies have the privilege to live in the times of great opportunities and unlimited possibilities. The previous time and space limits have been overcome thanks to the latest technologies and digital solutions are being introduced into every area of human life Unfortunately, progressing digitisation and computerisation are not followed by the development of digital literacy of individual citizens. The concepts of digital or information society [1] are not fully adequate if we consider the indicators of

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participation of certain individuals in using digital technologies and information processing. Some social groups, like seniors, the unemployed or people with disabilities remain less active and sometimes passive in these areas [2]. In addition, it should be mentioned that the way the information society is currently being defined is changing, which is sometimes referred to not only as an information or network society, but also as a platform society [58]. The accessibility to platforms, i.e. e-services, is an important determinant of belonging to the group of e-citizens or the digitally excluded.

This situation requires the implementation of wide-scale actions to minimise the digital divide in every aspect and area of human life. The goal of digitisation of the society is to increase the individual participation in the social life and the chances for self-development. However, we must remember that this process has various consequences. On the one hand, popularisation of the modern technologies helps to level social inequalities and fight exclusion [3]. On the other hand, it may lead to even greater divide [4–8]. According to research [9] digital gap is not only the result of the lack of access to modern technologies or insufficient digital literacy but depends on such subjective factors as distrust, ignorance, lack of faith in own abilities or interest [10, 11]. And while mass-scale computerisation really levels the access and enables participation in the social life, thus, reducing the risk of social exclusion [12] (p. 173), it is not capable of eliminating the subjective, psychological barriers mentioned above.

Since 2000 (Strategia Lizbońska), Poland has been taking different initiatives to develop the information society. All refer to the three strategic objectives adopted by the European Commission: access to cheaper and faster Internet, mobilisation of the citizens to use it and investing in people by increasing their competencies [3]. Digital inclusion is being implemented country-wide and locally. Some of the initiatives, especially these focusing on overcoming the motivational barriers, are implemented based on Reder's pathway to digital inclusion [13]. The interventions address elimination of barriers at the following stages: digital access, digital taste, digital readiness and digital literacy. The needs in this area are great as there is still a great percentage of Poles, especially the oldest citizens, who for different reasons remain offline [14].

In the age of general ageing of the human population, the issues of inclusion and participation of seniors in the social life have become particularly relevant. According to the UN estimates, by 2030 people aged 65 and more will constitute 23.8% of the global population. In Poland, senior citizens will be 1/4 of the population by that year [15]. For different reasons, some of them will remain at social margins. One of the key challenges of the humanity is to create the conditions which would facilitate inclusion of this population into all forms of activity, also the ones using new technologies. Active participation of seniors in the global network will allow us to benefit from their potential to even greater extent.

The problem of participation of the older people in the cyberspace presented herein is a valuable contribution to the global discourse about reduction of social inequalities and promotion of active ageing. Learning about the nature of digital inclusion of the oldest citizens in different European countries supports the effective continuation of the already implemented actions and the development of new, holistic solutions. The goal of this publication is the exchange of opinions and experiences related to digital inclusion. It is the contribution of Polish researchers to the development of an interdisciplinary space for

collaboration to solve the problems of digital divide. It shows the characteristic features of digital divide and documents the selected good practices in the area of inclusion. The authors present the actual state of research into the activity of Poles in the cyberspace and attempt to implement the concept of J. V. Dijk to Polish conditions. The implications discussed in the paper are based on the experiences related to teaching seniors in U3As or the Lighthouse Keepers of Digital Poland project. They are a valuable source of practical knowledge and inspiration to continue the studies in the area of reducing the "digital gap". The final recommendations are universal and may be useful for all the international community.

2 Digital Divide – Theoretical Framework

Research on digital exclusion generally focuses on socioeconomic factors, although basic internet access is no longer a major obstacle to digital integration. Individual factors are considered less frequently, which causes some people to remain unadjusted to the surrounding world of new media. This is because in this case, you cannot generalize the results on the reasons for digital exclusion and you cannot predict changes in the population due to a lack of involvement in digital media. However, many negative attitudes towards the Internet are identified. They are related to a lack of confidence in digital technologies, perception of the age as exclusion factor or a lack of digital knowledge.

In the light of the analysis carried out by Jasiński and Bąkowska [16], the fact of being a senior does not increase the risk of social exclusion. Rather, exclusion is associated with specific traits and behaviors that may accompany old age, e.g. material poverty, negative stereotypes widespread in society, less physical fitness or disability.

Literature in the field of digital participation highlights both the material factors that lead to digital exclusion and the attitudes, skills and culture of using the Internet [17]. Exclusion patterns persist even when access is almost universal and many services are only available online [18].

Helsper, Reisdorf [18] cite studies that show that there is rarely a direct relationship in which one indicator pierces all others as an explanation of digital exclusion, while three indicators consistently appear as strong predictors of Internet access and use: age, education and disability. In 2010, Van Dijk and Van Deursen [19] noted that the level of education is a key explanatory variable in understanding differences in Internet literacy.

The concept of digital exclusion is generally associated with unequal access and the ability to use information and communication technologies that are perceived as necessary for full participation in social life [20]. Digital division is defined as inequality in access to information and communication technologies, and above all the internet [21]. In 2005, Van Dijk [22] identified a sequential relationship between social inequalities and unequal access to digital technologies.

In 2012, definitions based on the terms "user/non-user" and the internet ("have/do not have") were moved to the exploration of the gradation of Internet use and skills that are the cause of the "digital divide" between people [23]. In 2012, van Dijk cited the concept of "digital skills" as a series of several types of skills. The most basic are "instrumental skills" or "operational skills", the ability to work with hardware and software, however, he also drew attention to all types of skills related to content required

for the effective use of computers and the Internet, distinguished "structural/information skills" from "strategic skills". Information skills are the skills to search, select, and process information in computer and network sources. Strategic skills can be defined as the ability to use computer and network sources as a means to achieve specific goals and the overall goal of improving position in society [24].

The digital division of society can also be understood as inequality in four further types of access: motivation, physical access, digital skills and various uses [24]. The current, mainly European situation of all four types of access is described in details. For example, the differences in digital engagement were identified from basic use involving individual communication, through indirect use involving individual networking to advanced use involving civic participation. Therefore, more recent literature focuses on areas related to skills and knowledge in understanding digital exclusion as much as Internet access.

Van Dijk and Van Deursen [25] tackled the digital divide in terms of differences in Internet skills. They include operational (basic skills), formal (navigation and orientation), information (information needs for users), strategic (ability to use the Internet as a means to achieve specific goals and improve position in society), as well as social skills, creative and mobile. Helsper and Van Deursen [18] add that communication and socio-emotional skills should be included in this framework, as these are important skills in the context of social media. It is emphasized that the development of digital skills is also influenced by social environments and learning patterns by family, friends, school and workplace [26].

Already in 2012, Scheerder, van Deursen and van Dijk [9] wrote that social conditions could, for example, be used for qualitative research, how individuals interact and negotiate with others in various contexts, such as home or work, but social and cultural conditions require additional information to interpret their meaning.

In digital exclusion studies, Śmiałowski [27] describes two approaches: lenticular and holistic. In the lenticular approach, the phenomenon of digital exclusion is analyzed independently for each of the dimensions (access, use, skills), which leads to difficulties in the overall assessment of the scale of digital exclusion. However, in a holistic approach, all dimensions are taken into account simultaneously. The most frequently studied dimensions in the holistic approach are: infrastructure, availability and application. For some indicators, the following conditions are also taken into account: political, economic and socio-demographic. The most popular holistic measures include: DIDIX (Digital Divide Index), NRI (Network Readiness Index), IDI (ICT Development Index) and DDI (Digital Divide Index). The CSO report from 2007–2011 contains information that shows that among people aged 65–74 in 2011, only 10.8% regularly used a computer, while among people aged 55–64 - as much as 31.6%. In response of the Undersecretary of State in the Ministry of Administration and Digitization to the interpellation on the digital exclusion of seniors in 2014, we read that only 12% of Polish people in the 55–64 age group and 19% in the 45–54 age group have an average level of computer skills, while the average level of internet skills is declared by 11% of Polish people in the 55–64 age group and 17% in the 45–54 age group. The above data indicate a significant barrier to professional exclusion of the 45+ age group, which is the lack of basic competences and digital skills. The report on the quality of life of the elderly, prepared by the Central

Statistical Office in 2015, shows that 13% of people 65+ use the Internet every day or almost every day. In turn, statistics obtained by Megapanel/PBI show that every fifth Polish 55+ used the network in 2016, when in 2005 it was only a percentage (3.4%) [27].

The conclusions of the Aasa Report - Digitally Excluded Polish Women 2017, largely focus on the fact that digital exclusion concerns almost every third Polish woman aged 45–70, as a result of which more than 2 million women are within the problem. As many as 38% of digitally excluded women do not have access to the Internet, and 39% do not use the network despite having access to it. Among the digitally excluded women, a large proportion are rural residents (43%) and people with secondary education (43%). The share of women in the digitally excluded group increases with age. For women aged 45–49, it is 8%, and for women aged 65–70 it is 35% [27].

Research carried out by Śmiałowski [27] indicates the existence of a large diversity in the access and use of ICT. In the period of his analysis (2003–2015), the phenomenon of digital exclusion is steadily decreasing, however, the problem of digital inequality is still significant in Polish society, despite the fact that almost 80% of households were equipped with a computer and Internet connection, the percentage of people digitally excluded in 2015 still accounted for over 50%, and the percentage of people fully using the latest ICT solutions was only 24.8%. The obtained results confirm that the scale of digital exclusion is increasingly influenced by the dimension of digital competences, and with a smaller impact of having ICT [27].

The digital exclusion of older people in the face of the growing number of seniors in the population may in the future be a serious social problem and also the loss of a large market for suppliers of goods and services. Social exclusion is a multidimensional phenomenon and means the inability to participate in economic, political and social life as a result of a lack of access to resources, goods and institutions, limitation of social rights and deprivation of needs.

Focus studies carried out by Huterska [28] pointed to the important role of so-called soft factors (i.e. not related to physical access to the Internet) in deciding to opt out of certain activities (online purchases) by people over the age of 65 [28].

This is confirmed by research on access to and use of the Internet by Polish society, conducted periodically by the Central Statistical Office. Walkowski [29] states that digitally excluded people are much more difficult to overcome psychological than technical barriers to Internet access and learning basic computer skills. This situation requires urgent improvement. People who do not use the Internet are socially and professionally limited or practically disabled, which causes measurable economic losses.

In Poland, according to Eurostat data, the group of people who have never used the Internet is 22%, while for the entire EU this percentage is only 14%. This share would certainly be much higher if people aged 75 and older participated in the study. Most people regularly use the Internet in Denmark, Luxembourg, Great Britain, Finland, the Netherlands and Sweden (over 90%). In these countries, the percentage of people who have never used the internet reaches a maximum of 5%, and the least people regularly use the internet in Bulgaria (59%), Romania (60%), Italy (69%), Greece (69%) and Portugal (70%). In these countries, the highest percentage of people who have never used the Internet was also identified (from 25% in Italy to 33% in Bulgaria). The level

of all tested skills related to using the Internet was lower in Poland than the average for the European Union. For example, the average percentage of people using e-mail in the EU is 72%, and in Poland only 60%. The results of the analysis indicate that Poland is in a group of nine countries where the extent of the threat of digital exclusion is the largest [30].

Statistics in this respect are not satisfactory for Poland - the level of socially and digitally excluded people is higher than the European average [31]. In 2019, 86.7% of households had access to the Internet in Poland, which means an increase of 2.5 pp. compared to the previous year. Therefore, it seems that counteracting digital exclusion should focus mainly on overcoming psychological barriers and therefore it is important that the assistance program be adapted to the needs, possibilities and individual characteristics of the beneficiaries [31].

To the above data showing the level of digital exclusion in Poland, the most recent results of analyses conducted by Eurostat should be added, which show that 92% of households in Poland have access to the Internet. This result places Poland among the European Union average. However, the same report notes that the frequency of regular Internet use decreases with metric age. For example, in the 45–54 interval, 91.5% use the Internet, while in the 55–64 interval, this rate decreases to 75.5%, and in the 65–74 interval, only 51% of respondents use the Internet. Metric age is also a key factor not only for the regularity of Internet use, but also for the level of digital competence. For example, in the 65–74 age bracket, only 13.4% can copy files, 9.4% can install software and 7.0% can change the settings of any software. Based on the cited data, it is apparent that digital exclusion is a real challenge for the Polish information society [32].

3 Digital Inclusion - Polish Case Study

This chapter presents a review of the most popular educational solutions in Poland, related to digital inclusion of the senior citizens. It should be pointed out that in this aspect, Poland stands out compared to other countries in the region due to, among others, very active Universities of the Third Age or NGOs [33]. The uniqueness of the initiatives presented herein has been proved by the number of seniors engaged in the information society or the number of volunteers or organisations working with older people. What we present is only a brief description which does not fully cover all the methodological, administrative or conceptual solutions.

3.1 Lighthouse Keepers of Digital Poland

One of the interesting and innovative projects aimed at minimising digital divide in Poland is the project Lighthouse Keepers of Digital Poland. Given the high percentage of digitally excluded senior citizens who do not have the access to digital education offered by U3As, senior activity centres or commercial institutions, a non-standard initiative has been launched. In small towns and villages, which lack senior-oriented educational infrastructure, the concept of social forces has been implemented as volunteers educate seniors in the area of new media. In reference to the classic theory of social forces which very often become the grounds for many activities in local settings, every community,

even a small one, has its own, internal resources which can be used to meet important social challenges. In this case it was the human capital, that is volunteers called the Lighthouse Keepers of Digital Poland, who became the agents of digital inclusion. The word lighthouse is not accidental here, as it represents the light (digital enlightenment, education). The Lighthouse Keepers - properly trained and prepared volunteers took on the role of educators of the seniors and so far have introduced almost 300,000 of them into the digital world. The Lighthouse Keepers worked thanks to the Cities on Internet Association from Tarnów, which provided methodological support. The volunteers did not collect any remuneration and they were mainly: librarians, IT and other teachers, local government administration staff, local activists, school and university students or simply, enthusiasts of the idea - in total, more than 2 thousand individuals. The majority of them did not have advanced knowledge of adult education methods. The Lighthouse Keepers of Digital Poland project has been recognised by many international organisations [34].

The vast majority of the volunteers declared they used classic social pedagogy methods and forms. Thus, the initial phase involved: environmental diagnosis (collecting information about the older citizens and their needs), selection of the operator (analysis of the map of resources: computer laboratories), attracting allies in the local communities (schools, libraries, NGOs, church organisations), development of action plans (What actions? When? How?), implementation of the plans using local resources and monitoring and promotion of the activities. When analysing the Lighthouse Keepers of Digital Poland project, we need to refer to several important aspects of social forces. Frist, motivation of the volunteers seems interesting. The most frequent reasons for engaging in education of older people were: the necessity to help others, creating new educational opportunities for seniors, opportunity to acquire new didactic and organisational competencies, strengthening self-esteem, sympathy for older people, desire to improve own well-being. The Lighthouse Keepers often emphasised that when they taught others, they gained many new competencies themselves and strengthened their own psychosocial functioning. Thus, as they worked for others, the volunteers have benefited from many new opportunities themselves [35].

The success of the social forces is not only the increase of the level of digital literacy among the senior citizens and digital inclusion (as a form of social inclusion). It also brought about other positive consequences. The volunteers mentioned the following personal achievements: change of attitudes of their students towards new technologies, changed view of themselves (by both seniors and educators), strengthening the idea of lifelong learning, assuming the role of public persons (especially in small communities), higher visibility of the role of education in active ageing, engaging in new activities beyond digital education, networking with many local stakeholders, new relationships. All these positive outcomes show the power of senior education. The project Lighthouse Keepers of Digital Poland revealed the needs of small local communities (mainly villages) which do not have U3As or senior activity centres. However, with proper support individuals with no previous experience of working with this target group were able to introduce seniors into the virtual world without large financial investments from the central budget. The Lighthouse Keepers of Digital Poland project may be an inspiration and a good practice example of universal solution for digital education - not only of

people who lack digital literacy but also for those who want to expand their own skills in the area of transforming digital services [35, 36].

3.2 Universities of the Third Age

Education is one of the significant activities which improve the quality of life of the elderly [37]. In the light of the demographic changes, the concept of active ageing have become the key issue in the European policy. This assumption is exemplified by the growing number of institutions supporting the psychosocial functioning of seniors in Poland. As pointed out by Polish researchers into social gerontology, in the U3A movement has been developing very fast in the recent years both in Poland and abroad [38]. At present, only in Poland there are more than 600 institutions of this type. Despite the unquestioned positive influence on the quality of life of its students, the Universities of the Third Age are still not accessible for an average senior due to location, financial conditions and individual willingness to participate in such activities. Besides, most beneficiaries of these institutions are seniors who have some biographical experiences in improving their knowledge and skills in their middle adulthood. However, we must emphasise that, based on the qualitative analyses, participation in U3A classes has significantly changed the way older people see the process of ageing and functioning in the old age and has greatly improved the quality of their life [39, 40]. This relation is particularly noticeable among U3A students who are active in the sections dealing with different aspects of new technologies. Based on meta-analyses of Czech and Polish U3As, we have noticed that new technologies used by the senior students facilitate: social participation, maintaining proper intellectual ability, access to information, quick communication, shopping, paying and ordering services provided offline [41]. Thus, we can see that seniors use new technologies in similar way to other age groups. This is connected mainly with the communication, utility and entertaining nature of the Internet. What is different in many cases, is the level of digital literacy. This group is very heterogeneous in this area.

Digital education of seniors in the U3A is organised differently than in case of the previously presented voluntary project. U3As are based on the academic model. The classes are usually led by academic teachers who have professional experience in working with university students. The meetings are arranged as trainings with clear operational goals set depending on the level of digital literacy of the participants. The classes are scheduled in line with the traditional academic year. Depending on the methodology adopted by the teacher, the course objectives are sometimes negotiated (e.g. to include the needs declared by the participants) or follow arbitrarily adopted curricula. The U3A courses usually take place in academic facilities (universities, colleges), which symbolically lifts the status of the trainings. The only issue which still needs to be discussed is methodical preparation of teachers. Trainers hardly ever have sufficient knowledge of andragogy or gerontology [42, 43]. They use methods which have proven effective in other age groups and this may generate some dissonances between the desired and obtained outcomes. Many educators adapt their teaching forms, methods and tools in response to the didactic challenges they experience as they introduce seniors to the information society. However, we must clearly emphasise that despite the ongoing challenges related to the preparation of teachers, it is U3As where "mass" education of seniors in terms of new technologies has began in Poland. In addition, almost all Polish U3As have interest

sections or courses on Internet, smartphones or computers, that is, widely understood digital technologies.

3.3 Senior Activity Centres

The two solutions mentioned above are complemented by the local senior activity centres which also teach seniors how to use computers and Internet. Usually, institutions of this type are treated as leisure activity centres. They are independent institutions or units within the the networks of community culture centres, religious organisations or informal groups. In 2019, the Ministry of Family, Labour and Social Affairs established more than 500 of such institutions in Poland. Of course, apart from the centrally supported activities, we have numerous self-financing senior activity centres or the centres financed from grants or local government resources. Senior activity centres also offer classes in using new digital technologies. However, these courses are less formal. The curricula are more freely compiled that in U3As. In many cases, the main goal of these meetings is more to socialise rather than complete certain educational programme [44]. However, we must remember that often (especially in small towns or villages) these places are the only ones to advance digital inclusion. They also play many other important roles in adult education.

4 Implications for Gerontological Practice

Nowadays, rapid changes affect every area of human life. The dynamic development of information technologies changes the way of functioning of people in every age and forces them to adapt to new conditions [45]. This need refers in particular to those individuals who, due to different circumstances (demographic, health, environmental) are at risk of exclusion. With all its benefits, computerisation of social life aggravates the already existing divisions. Thus, there is the necessity to introduce some wide-scale actions to include these groups and equip them in the necessary competencies. One of the crucial tools to do it is education. It enables (but also necessitates) building the community of people who, thanks to their competencies, will be able to adapt to any civilisational changes. Education should promote emancipation, which would serve the following goals: changes in mentality, revealing agency, strengthening independence and liberation from the existing objective and subjective limitations [46]. It should be formal and informal.

Educational efforts addressed to seniors should be based on a thorough diagnosis of all the aspects of their functioning: health, financial, environmental and psychological. The focus should be on developing sensitive measuring tools which would provide information about the needs, conditions and expectations of this age group. Formal and non-formal leaders emerging from this population will play a vital part, like in case of U3As or Digital Lighthouse Keepers 65+. The fact of being part of the certain community will help them to overcome the fear of reaching out, and it will allow them to asses the situation in a reasonable way, often with support of their own experience.

Successful actions require collaboration between different subjects and institutions. It is important to build networks (form local to international) and develop social capital. Exchange of ideas and experiences, in particular those resulting from the good

practices, is one of the key determinants of the effectiveness of educational initiatives. Such collaboration should involve both people who manage the inclusion, education and adaptation processes professionally, as well as seniors themselves, especially the leaders. One of the elements of building this global capital is the exchange of knowledge. Leaders and seniors should have access to scientific publications and reports on digital divide and inclusion, according to the timeless principle: nihil novi sine communi consensu. Gerontology environments should ensure that there are different platforms of thought exchange developed and popularised, starting from the simplest ones such as online forums, through social media to education platforms.

The foundation of successful awareness raising and education is the proper motivation of the process participants. According to various scientific reports [41], the matters of motivating seniors to embrace changes and take learning initiatives still require systemic solutions. Senior educators need resources with practical guidelines. The most valuable are those developed during years of practice. It is also important to include the voice of the seniors. Very often, they are the best experts.

Another issue are mentality changes resulting from the stereotypisation of ageing and old age [41]. We need to emphasise the correlations between the change of the way seniors see their own abilities and the quality of their life. These activities should be implemented as campaigns reaching as many senior communities as possible. According to educators, motivating the elderly to take part in education initiatives is only half of the success. The biggest challenge is to sustain their engagement and faith that they have all they need to be active citizens of the information society. They need to be given as many opportunities as possible to recognise and experience the tangible benefits of learning in their private lives. The role of the gerontologists is to create opportunities to use the competencies acquired during different trainings and U3A classes in practice. As many initiatives to include seniors in the cyberspace as possible should be taken. Advisory roles played by people in their late adulthood are extremely valued in the societies in the countries with highly developed economy and humanistic culture [45].

Trainers interviewed in the SELI project pointed out that they lack practical methodology materials which would facilitate their teaching [47]. There are some publications available in the market [41] but the trainers need very specific guidelines how to deal with the barriers to digital inclusion or the challenges of keeping their students motivated throughout the training. Publications presenting good practices in different countries are also in demand. Some of the available digital inclusion trainings and activities are based on the inter-generational integration and creating and strengthening the solidarity between the generations. Despite many limitations, members of the oldest generation have a lot to offer to the younger ones. This potential includes: life wisdom, social (relational) potential, family life potential, psychological potential of culture transfer and mastery in various professions [45]. In addition, active integration of seniors into the public life, including life in the cyberspace, contributes to building the social capital [48]. Gerontologists study this capital in the three fundamental aspects: improvement of own existence through restoration of the relationships with the environment (for example, thanks to digital literacy); becoming a unique social force (involvement in different voluntary initiatives, also regarding digital inclusion) and fulfillment of the idea of self-education by being socially useful [49, 50].

The experiences of different countries show that the oldest citizens are very grateful new technology users and reliable testers. If only they are provided with safe conditions, they willingly explore the new areas and share their experiences with their peers. Senior-oriented portals are very popular, as well as various offline and online training offers. The wide choice of such offers is one; other issue is the feedback from the seniors about which areas in their lives require technological support. Sometimes seniors do not know that certain solution or support is available to them. The role of social gerontologies is to identify and describe these "blind spots", followed by the efforts to link the needs with the offers. This in turn requires detailed, often interdisciplinary research.

5 Conclusions

Digital divide is still a challenge, especially in the countries where information society have been developing heterogeneously. The process is observable globally both in Europe and in other continents [51]. However, not all digitally excluded individuals experience live a lower quality life. When analysing digital divide, we must be aware that some seniors meet all their daily needs using analogue solutions. Thus, despite this group being digitally excluded, the divide is only apparent. This phenomenon is connected with other important issue, namely those who experience the actual digital divide but due to, for example, lack of access to education institutions are not able to develop one of the key competencies - digital literacy [52, 53]. A solution in this case may be the activities offered by the Lighthouse Keepers of Digital Poland of Equal Opportunities or other voluntary-based initiatives [54]. Even though the problem of digital divide and digital inclusion has been discussed for many years, it is still relevant. The area of research are determined by the development of the information society [55–57], change of life style of older citizens and transformations of lifelong learning institutions.

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