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Seniors in the media world

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These days, the media education process starts at a very early stage of life and lasts throughout it. Older people are still in a worse position in this respect. In order to find their place in the information society, they have to master the IT and media skills and competences that enable them not only to use new forms of education (such as e-learning, distance learning, blended learning), but also to an ever-greater extent to handle everyday affairs. (such as making payments, booking tickets, taking care of official matters without having to wait in long lines), or even communicate with other people. Education – computer and Internet training – and non-institutional support play a key role in this respect. Among the most frequently cited reasons for not using technology, researchers list the lack of motivation, access to media and the Internet, as well as lack of competencies and awareness of how ICT (information and communication technology) can be used. The main barriers to the dissemination of new technologies in society are not hard – such as the lack of infrastructure or financial constraints, but soft barriers related to the lack of knowledge, awareness of needs or skills.

KEY WORDS: media, new technologies, ICT, skills, competencies, old people, senior citizens

Introduction

These days, the media education process starts at a very early stage of life and lasts throughout it. Older people are still in a worse position in this respect. In order to find their place in the infor-

mation society, they have to master the IT and media skills and competences that enable them not only to use new forms of education (such as e-learning, distance learning, blended learning), but also to an ever-greater extent to handle everyday affairs. (such as making payments, booking tickets, taking care of official matters without having to wait in long lines), or even communicate with other people. It should be stressed that "the lack of competencies in use negatively correlates with the willingness of potential new users to take an interest in technologies."[1] Education – computer and Internet training – and non-institutional support play a key role in this respect. Among the most frequently cited reasons for not using technology, researchers list the lack of motivation, access to media and the Internet, as well as lack of competencies and awareness of how ICT *(information and communication technology*) can be used. The main barriers to the dissemination of new technologies in society are not hard – such as the lack of infrastructure or financial constraints, but soft barriers related to the lack of knowledge, awareness of needs or skills.[2] "*New technologies became a fundamental link in the development of the young generation …*"[3], but we should ask ourselves the question how does an elderly person find themselves in this new social reality? What are the problems and opportunities for seniors in connection with the use of new technologies? What educational activities in the field of ICT tools are undertaken for the benefit of the elderly? To what extent are new technologies adapted

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[1] K. Stachura, *Wymiary cyfrowych nierówności. Uwagi o problemie technologicznej nieobecności*, [in:] *Nieobecność społeczna. W poszukiwaniu sensów i znaczeń*, Z. Galor, B. Goryńska-Bittner (eds.), Wydawnictwo Wyższej Szkoły Nauk Humanistycznych i Dziennikarstwa w Poznaniu, Poznań 2012, p. 264.

[2] D. Batorski, *Technologie i media w domach i w życiu,* [in:] *Diagnoza społeczna 2015. Warunki i jakość życia Polaków*, J. Czapiński, T. Panek (eds.), Rada Monitoringu Społecznego, Warsaw 2015, pp. 373–395, http://www.diagnoza.com/pliki/raporty/Diagnoza_raport_2015.pdf [access: 13.06.2018].

[3] K. Wasilewska, *Zaangażowanie seniorów w zakresie technologii informacyjno-komunikacyjnych na tle umiejętności młodszego pokolenia*, Zeszyty Naukowe Wydziału Elektroniki i Informatyki Politechniki Koszalińskiej, 2015, no. 7, p. 101.

to the needs of senior citizens? In order to look for answers to these questions, we will analyse the available literature and research results related to the use of ICT tools by the elderly.

Changes occurring in societies

Scientists and scholars do their utmost to describe the technological changes and shifts taking place within societies with such notions as network society;[4] information society;[5] knowledge society;[6] post-industrial society;[7] post-modernity;[8] late modernity;[9] second modernity, risk society;[10] third wave.[11] Another very important aspect of transformations are demographic changes and the shift occurring in the population age structure, which determine many changes taking place in societies and actions taken. The generation born in 1961–1984 is called Generation X, functioning in the world of media, which McLuhan referred to as hot media – press, radio, television. The generation born in 1977–1997 is referred to as Gener-

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[4] M. Castells, *The Rise of the Network Society*, 1996, Polish edition: *Społeczeństwo sieci*, Wydawnictwo Naukowe PWN, Warsaw 2008.

[5] T. Goban-Klas, P. Sienkiewicz, *Społeczeństwo informacyjne: szanse, zagrożenia, wyzwania*, Wydawnictwo Postępu Telekomunikacji, Krakow 1999, http://informacja cyfrowa.wsb.edu.pl/pdfs/SpoleczenstwoInformacyjne.pdf [access: 3.07.2015]; S. Juszczyk, *Człowiek w świecie elektronicznych mediów – szanse i zagrożenia*, Wydawnictwo Uniwersytetu Śląskiego, Katowice 2000.

[6] P.F. Drucker, *Myśli przewodnie Druckera*, Wydawnictwo MT Biznes, Warsaw 2002.

[7] A. Touraine, *The Post-Industrial Society. Tomorrow's Social History: Classes, Conflicts and Culture in the Programmed Society*, Random House, New York 1971; D. Bell, *The Coming of Post-Industrial Society*, Basic Books, New York 1973.

[8] Z. Bauman, *Liquid Modernity*, Polity Press, Cambridge 2000; Polish edition: *Płynna nowoczesność*, Wydawnictwo Literackie, Krakow 2006.

[9] A. Giddens, *Nowoczesność i tożsamość. „Ja" i społeczeństwo w epoce późnej nowoczesności*, Wydawnictwo Naukowe PWN, Warsaw 2001.

[10] U. Beck, E. Grande, *Europa Kosmopolityczna. Społeczeństwo i polityka w drugiej nowoczesności*, Wydawnictwo Naukowe Scholar, Warsaw 2009.

[11] A. Toffler, *The third wave*, Bantam Books, New York 1980.

ation Y – the representatives of this generation function mainly in the world of computers, Web 1.0 Internet – characterised by low use of tools enabling creating and generating own content on the Internet (for example reading and commenting on blogs, discussions on forums, participation in discussion groups, promoting one's own activity on the Internet). Generation Z is a generation of people born in 1995–2010. Their world is dominated by social networking sites, mobile phones, web games and Web 2.0 Internet. People born after 2010 are referred to as the Alpha Generation, believed to function in the world of electronic gadgets and smartphones.[12] "It is one of the first generations to experience a new, technology-led system of upbringing, education, play and entertainment."[13] The world of new technologies has been present in their lives since birth and it is as natural for them as paper editions of books, newspapers, or writing traditional letters is for seniors.

With every year, the group of seniors constitutes a larger subpopulation. According to the Central Statistical Office (GUS), between 2000 and 2017 in Poland their numbers increased by over 2.3 million.[14] "The fact that we live longer and in better health is a great success for modern society"[15] and at the same time it poses a major challenge, not only for social policy, but also for medicine, pharmacology and education. Changes in lifestyles, behavioral pat-

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[12] M. Gruchoła, *Nowe formy zachowań społecznych wobec i pod wpływem mediów oraz nowych technologii. Analizy porównawcze*, Państwo i Społeczeństwo, 2017, vol. XVII, no 3, pp. 123–133.

[13] M. Gruchoła, *Nowe formy zachowań społecznych wobec i pod wpływem mediów oraz nowych technologii. Analizy porównawcze*, Państwo i Społeczeństwo, 2017, vol. XVII, no 3, pp. 132.

[14] *Ludność. Stan i struktura oraz ruch naturalny w przekroju terytorialnym w 2017 r. Stan w dniu 31 XII*, Główny Urząd Statystyczny, Warsaw 2018, https://stat.gov.pl/obszary-tematyczne/ludnosc/ludnosc/ludnosc-stan-i-struktura-oraz-ruch-naturalny-w-przekroju-terytorialnym-w-2017-r-stan-w-dniu-31-xii,6,23.html [access: 21.05.2018].

[15] M. Ferry, R. Baker, *Strategie regionalne a starzenie się społeczeństwa*, Komitet Regionów-Age Concern England, Brussels 2006, p. 2, http://ec.europa.eu/regional_policy/archive/conferences/demographicchallenge_jan07/doc/presentations/ageproofing_toolkit_pl.pdf [access: 21.05.2018].

terns, relationships and communication of older people open up new opportunities for them, but also cause the need for continuous education, including in new technologies. An important aspect of the information society is "to educate the public towards further development so that everyone can take full advantage of the opportunities offered by the means of mass communication and information."[16].

The generation of seniors is called the generation of Digital Immigrants – they are people who came into the digital age and the world of computers as adults. This has often been accompanied by great anxiety and uncertainty. Not because they do not need any facilities or that they do not need to use the latest technologies, but because they are a novelty for them, something that needs to be learned, which at the same time destroys the traditional way of functioning. Such a change requires time and the development of new working patterns.[17] It is often difficult for them to find themselves in an ICT environment, in a society where the ability to access, collect and process information has become a paramount value.

Use of ICT tools by elderly citizens

The age of users continues to be one of the main indicators of access to technology. Research shows that the most excluded group are people over 55 years of age, in particular those over 65 years of age. In 2017, among the 55–64 age group, regular computer users accounted for 46.8% of the respondents, and among people aged

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[16] The definition comes from the website of the Office of the Committee for European Integration: http://archiwum-ukie.polskawue.gov.pl/www/serce.nsf/0/6A1F328341480FEAC1256F6A0038762F?Open and is used in the terms and conditions of competitions in defining the notion of information society in projects implemented by the Digital Poland Project Centre.

[17] G. Small, G. Vorgan, *iMózg. Jak przetrwać technologiczną przemianę współczesnej umysłowości*, Vesper, Poznań 2011.

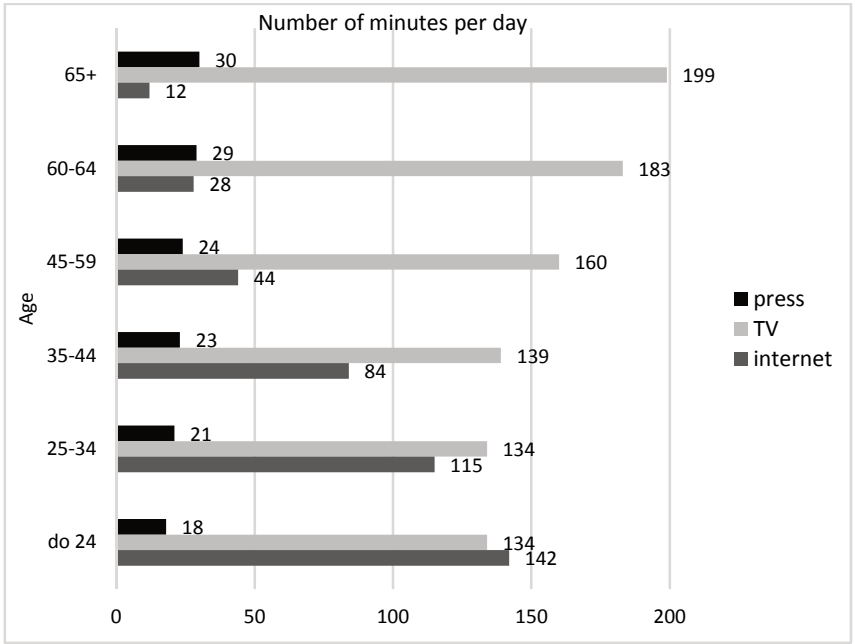

Fig. 1. Time spent during the day by respondents on reading press, watching the TV and using the Internet in 2015

Source: D. Batorski, „Technologie i media w domach i w życiu Polaków", [in:] *Diagnoza społeczna 2015. Warunki i jakość życia Polaków*, J. Czapiński, T. Panek (eds.), Warsaw 2015, p. 390.

65–77 only 25.6% used computers on a regular basis. Only 19.6% of respondents in the 55–64 age group, and only 8.6^ of respondents in the 65–74 age group used Internet for shopping. As far as digital literacy is concerned, only 20.2% of people aged 55–64 were able to transfer files between a computer and another device, with only 9.4% respondents between the ages of 65–74 being able to do so. Only 10.1% of respondents aged 55–64 and only 4.7% of respondents aged 65–74 were able to change the settings of the operating system or software ensuring the safety of their devices. An even smaller percentage of respondents in these groups was able to install software or applications on devices (9.6% – 55–64 years; 4.7% –

65–74 years).[18] People living in Poland spend 4 hours a day on average perusing various media. This time is distributed among the various media – press, radio, television, the Internet – and is strongly linked to age. Older people still prefer to watch the TV (the older, the more time they spend in front of the TV during the day) while younger people prefer to use the Internet. People up to 24 years of age declared spending the most time using the Internet. As the Figure 1 shows, the readership of the press is not very diversified, seniors devote more time during the day to this activity.[19]

The number of Internet users is systematically growing year by year in every age group. In 2015, every fourth retiree and about every third pensioner used the Internet. It is worth noting that over the period of two years (2013–2015) a 5.3% increase in the age group 60–64 years was observed in the group of users, along with a 3.8% increase in the group of users over 65 years of age.[20] On the other hand, NBP research shows that less than 3% of seniors declare using mobile banking. PKO BP reports that mobile banking is used by 2% of people aged 65+ and 5% of people aged 55–64.[21]

A survey conducted by the European Commission – the Digital Economy and Society Index (DESI) – shows that only 44% of Poles

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[18] *Społeczeństwo informacyjne w Polsce. Wyniki badań statystycznych z lat 2013–2017*, Central Statistical Office, Warsaw–Szczecin 2017, http://stat.gov.pl/obszary-tematyczne/nauka-i-technika-spoleczenstwo-informacyjne/spoleczenstwo-informacyjne/spoleczenstwo-informacyjne-w-polsce-wyniki-badan-statystycznych-z-lat-2013-2017,1,11.html [access: 13.06.2018].

[19] D. Batorski, *Technologie i media w domach i w życiu Polaków*, [in:] *Diagnoza społeczna 2015. Warunki i jakość życia Polaków*, J. Czapiński, T. Panek (eds.), Warsaw 2015, p. 390

[20] D. Batorski, *Technologie i media w domach i w życiu,* [in:] *Diagnoza społeczna 2015. Warunki i jakość życia Polaków*, J. Czapiński, T. Panek (eds.), Rada Monitoringu Społecznego, Warsaw 2015, pp. 373–395, http://www.diagnoza.com/pliki/raporty/Diagnoza_raport_2015.pdf [access: 13.06.2018].

[21] M. Bednarek, *Zagubiony senior w bankowości mobilnej. Specjalne infolinie w Orange i doradcy w PKO*, Wyborcza, 2017, 23rd of June, http://wyborcza.biz/biznes/7,158582,21998635,zagubiony-senior-w-swiecie-bankowosci-mobilnej-specjalne-infolinie.html [access: 18.06.2018].

have basic digital competences, which include the ability to use office software, e-mail and instant messaging software. It also draws attention to the fact that people with low education or income levels as well as the elderly, retired and unemployed, are less active users of the Internet. Although usage rates among these groups are growing, in each of them about 4 out of 10 people do not use the Internet on a regular basis. This means that the risk of digital exclusion in this group is particularly high.[22]

Table 1. Computer use – PIAAC survey

Age	Lack of experience in computer use (as declared by respondents)	Lack of basic computer skills despite the declaration of computer use (failed computer use test)	Lack of information about the level of digital literacy (refusal to solve tasks using a computer)	Sufficient computer use skills (enabling the respondents to solve tasks using a computer)
16–24	1%	19%	9%	28%
25–34	4%	22%	19%	33%
35–44	13%	21%	22%	19%
45–54	32%	19%	25%	12%
55–65	50%	20%	25%	7%

Source: M. Palczyńska, "Wykorzystanie technologii informacyjno-komunikacyjnych" [in:] *Umiejętności Polaków – wyniki Międzynarodowego Badania Kompetencji Osób Dorosłych (PIAAC)*, Warsaw 2013, p. 118.

In almost every aspect of digital literacy, 17–24 year olds are the best performers in the surveys conducted.[23] PIAAC survey shows

[22] *Human Capital – Digital Inclusion and Skills*, Digital Economy and Society Index Report 2018, Human Capital, http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=52247 [access: 12.10.2018].

[23] *Społeczeństwo informacyjne w Polsce. Wyniki badań statystycznych z lat 2013–2017*, Central Statistical Office, Warsaw–Szczecin 2017, http://stat.gov.pl/obszary-tematyczne/nauka-i-technika-spoleczenstwo-informacyjne/spoleczenstwo-informacyjne/spoleczenstwo-informacyjne-w-polsce-wyniki-badan-statystycznych-z-lat-2013-2017,1,11.html [access: 13.06.2018].

that 82% of respondents declared lack of experience in computer use, and the majority of them comprised people aged 45–65, while only 1% of respondents aged under 24 declared the same. Less than 7% of respondents aged 55–65 demonstrated computer skills sufficient to solve tasks using a computer. The best performers in this category were people aged 25–34 (Table 1). Thus, the age of the users still remains the main indicator of not only access to technology, but also of experience in its use.

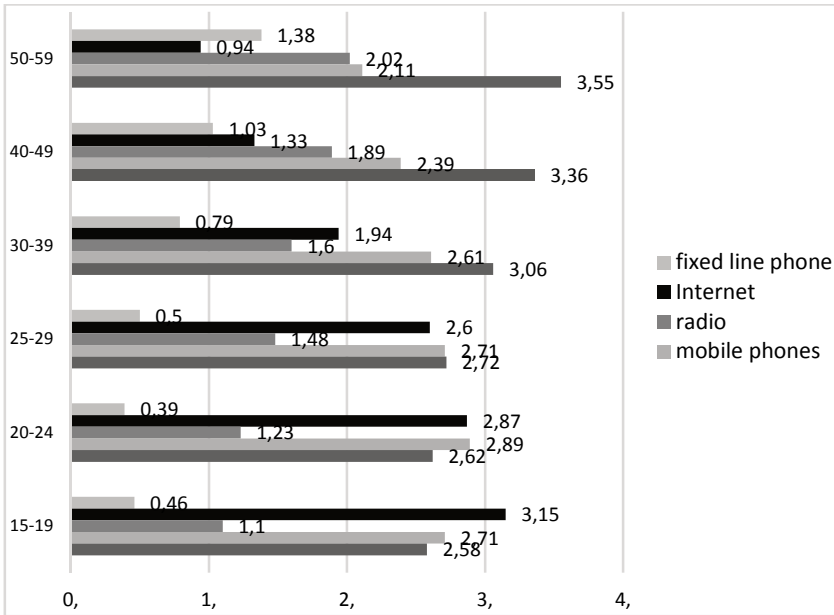

Fig. 2. The importance of media in different age groups

Source: own study based on *World Internet Project Poland 2012*.

Preferences for the selection of traditional sources of information, such as books, papers, radio and television among the elderly are confirmed not only by the World Internet Project survey

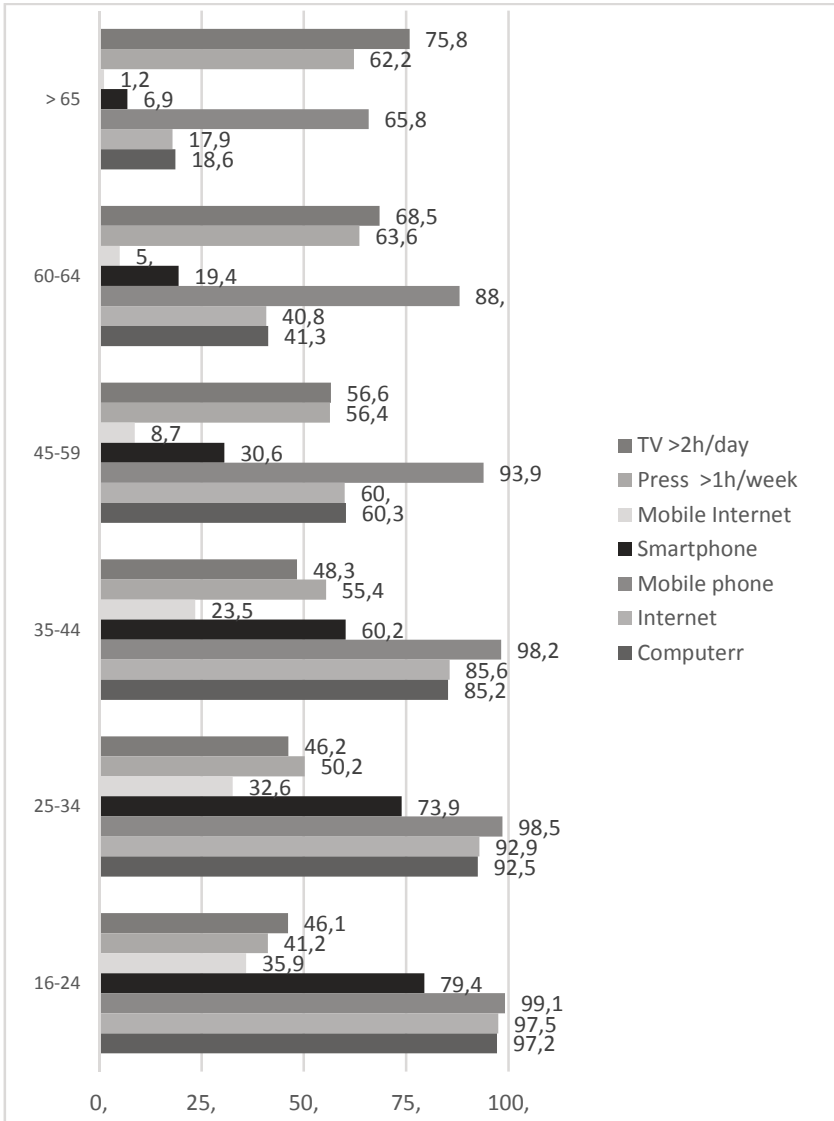

Fig. 3. Use of technology and media in different age groups

Source: D. Batorski, "Technologie i media w domach i w życiu Polaków" [in:] *Diagnoza społeczna 2015. Warunki i jakość życia Polaków*, J. Czapiński, T. Panek (eds.), Warsaw, 2015, p. 383.

(Figure 2), but also by the social diagnosis study carried out 3 years later (Figure 3). For the elderly, television broadcasting is by far the most important, while the younger the person, the more emphasis they put on the use of the Internet.

The social diagnosis study additionally distinguished the use of computers and smartphones. However, in this case too, there is a strong tendency for younger people to use new technologies. The elderly tend to use the press and television, although there is also a strong tendency to use cell phones.

Despite the ever-increasing number of senior citizens using the Internet and new technologies, they are still the group endangered the most with digital exclusion. It should also be noted that older people using ICT tools treat them as tools to facilitate work and life, and not, as in the case of young people, as an equal reality.[24]

Soft barriers to the use of ICT tools by seniors

Jan van Dijk distinguished a number of types of access to new technologies: motivational, functional, competence, material and physical.[25] Research among elderly people shows that problems with the use of new technologies are related to the motivational and competence aspects.[26] Elderly people are distrustful of new technol-

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[24] K. Barani, M. Hołda, *Osobowość i jakość życia, a korzystanie z Internetu przez seniorów*, [in:] *Senior zalogowany*, ed. B. Szmgielska, Wydawnictwo Uniwersytetu Jagiellońskiego, Krakow 2014, after: J. Gacka, *Polscy seniorzy w sieci: wirtualna złota jesień? Korzystanie przez osoby dojrzałe z internetu i nowych technologii*, Konteksty Społeczne, 1 (9)/2017, p. 87.

[25] J. Dijk, *Społeczne aspekty nowych mediów*, Wydawnictwo Naukowe PWN, Warsaw 2010, after: A. Niemczyk, *Seniorzy wobec nowych technologii*, Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach, 2016, no. 303, pp. 102–113.

[26] Cf. e.g. D. Batorski, *Technologie i media w domach i w życiu*, [in:] *Diagnoza społeczna 2015. Warunki i jakość życia Polaków*, J. Czapiński, T. Panek (eds.), Rada Monitoringu Społecznego, Warsaw 2015, pp. 373–395, http://www.diagnoza.com/pliki/raporty/Diagnoza_raport_2015.pdf [access: 13.06.2018]; M. Mucha, *Demogra-*

ogies "using them in a way analogous to the previous use of previously owned devices (for example telephone), they are less mobile in the virtual world, they prefer text content over multimedia, they prefer linear and serial thinking and information processing, and they better understand longer content."[27]

Seniors are not able to achieve the same level of media literacy as young people. Many options and ICT applications are not adapted to their needs and capabilities. They also often feel anxiety, discomfort and fear of using them. *Can they do it? Won't they break anything?* Very often, even the operation of a mobile phone surpasses their capabilities and thus they require help of third parties. According to Natalia Bojarska and Monika Dawidowska, this fear of using new technologies may result from the fact that seniors "are not able to remember the information necessary to live in an alternative reality. One can get the impression that they give room to shine to younger generations, because it is the generation of their children and grandchildren whom they consider to be the proper users of the new technologies. They are inclined to think that they can live without the Internet, because they lose more than they gain from learning it to the extent that would enable further, satisfactory use."[28] Digital competences give great opportunities to manage

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ficzne uwarunkowania konsumpcji – seniorzy na rynku dóbr i usług w Polsce, Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, 2017, no. 501, pp. 87–95; T. Zalega, *Konsumpcja osób starszych w Polsce*, Nierówności Społeczne a Wzrost Gospodarczy, 2015, no. 42 (2/2015), pp. 152–173; *Społeczeństwo informacyjne w Polsce. Wyniki badań statystycznych z lat 2013–2017*, Central Statistical Office, Warsaw–Szczecin 2017, http://stat.gov.pl/obszary-tematyczne/nauka-i-technika-spoleczenstwo-informacyjne/spoleczenstwo-informacyjne/spoleczenstwo-informacyjne-w-polsce-wyniki-badan-statystycznych-z-lat-2013-2017,1,11.html [access: 13.06.2018].

[27] J. Gacka, *Polscy seniorzy w sieci: wirtualna złota jesień? Korzystanie przez osoby dojrzałe z internetu i nowych technologii*, Konteksty Społeczne, 1(9), p. 86.

[28] N. Bojarska, M. Dawidowska, *Zamiast zakończenia. O zróżnicowaniu internetowego krajobrazu*, [in:] *W sieci i poza siecią. Typologia relacji i strategie przystosowawcze wokół cyberprzestrzeni*, ed. K. Stachura, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2010, after: M. Szpunar, *Senior w środowisku nowych mediów*, [in:] *Seniorzy w świecie nowych technologii. Implikacje dla praktyki edukacyjnej oraz rozwoju społec-*

one's own development, give an opportunity for access to information, knowledge and self-development. However, seniors often exclude themselves from the group of people using new technologies by giving them up, believing that they lack the right skills and qualifications. Lack of interest, fear and anxiety associated with situations requiring new knowledge and skills, as well as the lack of confidence in one's own abilities determine the sense of inadequacy to live in a world dominated by information and communication technologies. Taking up learning to use these tools late in life is also associated with low self-esteem and the fact that their family often does a lot of work for them, which results in a lack of confidence in their own skills and development opportunities.[29] People without access to ICT face social isolation and increased distance from the rest of society. Seniors' fear of new technologies and changes is described by many researchers. Elderly people say things such as "I am afraid of change. For a long time, I resisted all novelties, so I didn't spend time on the Internet. When I stumble upon anything new, I'm always afraid that I won't know something and that I'll have to learn something new." "Older people are more nervous, so they'll get upset before they type something", "These names, all these ways of looking for things, I'm absolutely not attracted to them. I don't want to learn it", "You know, Olbrychski doesn't even use the phone because he doesn't want to learn."[30] "The worst fears are the fear of something new and the fear of breaking the device.[31]

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zeństwa informacyjnego, Ł. Tomczyk, A. Wąsiński (eds.), Biblioteka Gerontologii Społecznej, 2013, no. 1–2, p. 38.

[29] A. Bąk, A. Jaszczak, *Rzeczywiste kompetencje seniorów w zakresie korzystania z Internetu*, [in:] *Senior zalogowany*, ed. B. Szmigielska, Wydawnictwo Uniwersytetu Jagiellońskiego, Krakow 2014 after: J. Gacka, *Polscy seniorzy w sieci: wirtualna złota jesień? Korzystanie przez osoby dojrzałe z internetu i nowych technologii*, Konteksty Społeczne, 1(9)/2017, p. 87.

[30] J. Ambrosiewicz, I. Szylke, *Społeczne, kulturowe i technologiczne uwarunkowania (nie)korzystania z Internetu*, [in:] *W sieci i poza siecią. Typologia relacji i strategie przystosowawcze wokół cyberprzestrzeni*, ed. K. Stachura, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2010, after: M. Szpunar, *Senior w środowisku nowych mediów*, [in:] *Seniorzy w świecie nowych technologii. Implikacje dla praktyki edukacyjnej oraz rozwoju*

Educational activities

Education plays a key role in e-inclusive activities and lifelong learning is taking on a new importance. Changes in the psychological and physical sphere of elderly citizens make it difficult to adapt to new technologies and learning. Reduction of brain mass, as well as degeneration of synaptic connections result in slower reaction times, longer learning time, as well as slower assimilation of new information. However, as Gary Small's study carried out using the so-called functional nuclear magnetic resonance pointed out,[32] surfing the Internet and searching for information on the web creates new connections in the brains of people over 50 years of age, which proves that the human brain is capable of developing even in old age. American scientists recommend training the brain in order to prevent brain ageing process by surfing the web, since "browsing the Internet using search engines is a better way of exercising the brain for people over 50 than reading books, and the power of the web is comparable to solving jigsaw puzzles or crosswords. The reason for this is that the decision-making process when reading the book is reduced to a dilemma: close it or continue reading, while navigating on the Internet, the user constantly makes decisions about the information of interest to them."[33]

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społeczeństwa informacyjnego, Ł. Tomczyk, A. Wąsiński (eds.), Biblioteka Gerontologii Społecznej, 2013, no. 1–2, p. 44.

[31] M. Sulik, *Jesień życia kobiety – aspekty edukacyjne*, [in:] *Edukacja wobec starości – tradycja i współczesność*, ed. A. Stopińska-Pająk, Uniwersytet Śląski, Katowice 2009, after: M. Szpunar, *Senior w środowisku nowych mediów*, [in:] *Seniorzy w świecie nowych technologii. Implikacje dla praktyki edukacyjnej oraz rozwoju społeczeństwa informacyjnego*, Ł. Tomczyk, A. Wąsiński (eds.) Biblioteka Gerontologii Społecznej, 2013, no. 1–2, p. 44.

[32] G. Small, G. Vorgan, *iMózg. Jak przetrwać technologiczną przemianę współczesnej umysłowości*, Vesper, Poznań 2011.

[33] J. Morbitzer, *Seniorzy w społeczeństwie informacyjnym*, [in:] *Seniorzy w świecie nowych technologii. Implikacje dla praktyki edukacyjnej oraz rozwoju społeczeństwa informacyjnego*, Ł. Tomczyk, A. Wąsiński (eds.), Biblioteka Gerontologii Społecznej, 2013, no. 1–2, p. 26.

Over the years, seniors were discriminated against in access to computer and Internet education, and their knowledge has been based on information from younger family members. Recent years have brought many changes related to elderly people's education and lifelong learning. Nowadays, not only Universities of the Third Age, but also libraries, NGOs, associations and foundations offer the opportunities to learn about IT and media. A number of measures are being taken to educate older people. Government grants, as well as subsidies from local government, private or EU funds enable carrying out projects aimed at seniors.[34] Meetings with representatives of academia are held, during which seniors can listen to speeches on the information society, the purpose of using new technologies, as well as security in the cyberspace. Senior citizens are the addressees of many books and brochures devoted to the skills of using new technologies. Learning is encouraged by factors such as pressure, a strong need for information or contact, curiosity, as well as social support and awareness of the opportunities offered by new technologies.[35] The most important aspect of using ICT tools is mo-

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[34] Among the activities aimed at information and media education of the elderly we may mention: "Digital Senior" carried out by the Kielce Chapter of the Polish Scouting Association, "Safe IT Academy – equal opportunities on the labour market", carried out by NASK academies together with the Warsaw School of Information Technology; "Pass it Forward – Senior for Culture" carried out in 2014 and 2015 by NASK; "Computer and Internet for Senior Citizens", a computer course organised by the High School Complex No. 2 in Siedlce; „@ctive 60+", carried out by the Zaczyn Foundation within the framework of digital education projects; "E-competencies without barriers", carried out by Warmińsko-Mazurski Zakład Doskonalenia Zawodowego in Olsztyn within the framework of the Digital Poland Operational Programme. "E-Senior Academy" initiated in 2006 by UPC Polska as part of the "In One Community" pro-social programme. These are just a few examples of actions aimed at raising digital competences of seniors and counteracting digital exclusion.

[35] K. Stachura, *Wymiary cyfrowych nierówności. Uwagi o problemie technologicznej nieobecności*, [in:] *Nieobecność społeczna. W poszukiwaniu sensów i znaczeń*, Z. Galor, B. Goryńska-Bittner (eds.), Wydawnictwo Wyższej Szkoły Nauk Humanistycznych i Dziennikarstwa w Poznaniu, Poznań 2012, pp. 262–277.

tivation,[36] which is accompanied by the willingness to purchase the appropriate devices. In many cases an effective form of learning how to use ICT tools is education, as well as support from the family, usually grandchildren. This is an excellent lesson both for seniors who learn how to use the tools, as well as for grandchildren who learn patience and humility. Most importantly, it is a way to establish closer intergenerational relationships, an opportunity for grandchildren to get to know the stories told by their grandparents. The use of ICT tools offers many benefits to every age group, and in the case of seniors, the Internet and mobile telephony enable communication with their loved ones. This is particularly important in the case of elderly with mobility impairments, illness or disability. Lower dynamics, fatigue, worsening motor skills, slowing down, as well as worsening agility and flexibility often cause older people to withdraw from active life. The Internet allows them to find information on health care, social assistance, leisure time management, finding additional work, dealing with official matters without having to leave home, shopping or even comparing prices. It gives them an opportunity to search for cultural offer, as well as look for information on topics of interest without having to leave home. It also makes it possible to reduce, for example, the cost of telephone calls by using instant messaging to communicate with loved ones, and to connect to several people at the same time and enrich it with the video of the caller. This is extremely important given the low incomes of retirees and financial difficulties.

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[36] In the 1990s and at the beginning of the 21st century, the main focus of research on digital exclusion was access to infrastructure, the Internet, as well as financial hardships (the so-called hard barriers.) Currently, it is believed that the skills of using ICT tools, as well as the ability to benefit from their use by increasing the sense of independence is more important than simply access to infrastructure (cf. Stachura 2012; Batorski 2015; Polańska 2012).

Improper adaptation of ICT tools to the needs of the elderly

Seniors face many difficulties when dealing with new technologies. One of the main problems is the limitations associated with visual perception and shaking hands while using the keyboard or mouse. Programming TV channels is often an insurmountable barrier and requires support and help from third parties. Progressive miniaturisation – incorporating more and more possibilities in smaller devices – is a real challenge for seniors. Touchscreens or voice control of devices cause additional difficulties for the elderly.

The unsuitability of ICT tools for older people hinders their use. The new generation of media is too complicated for them to handle. Interfaces are often described by specialised vocabulary, often unknown to seniors. There is no room or possibility to adapt the software to their needs, for example by increasing the contrast, enlarging the font or adapting websites to text-to-speech software. Many people over the age of 60 have problems with impaired visual acuity, reduced vision in low light or reduced field of vision. Their visual, auditory, olfactory, tactile, kinesthetic analysers are weakened, while synaptic connections degenerate.[37] Device manufacturers are trying to meet the needs of older people and are increasingly offering phones with limited functionality, larger fonts on the display or large buttons. Special devices, applications or software dedicated to this age group also helps overcome the limitations resulting from sight impairments. The main recipients and users of new technologies are young people and manufacturers usually address their offer to them in the first place. However, there is a noticeable increase in campaigns targeting older people, who are treated as active and

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[37] A. Kowalewska, *Wybrane układy i funkcje organizmu człowieka ważne dla procesów uczenia się*, [in:] *Biomedyczne podstawy kształcenia i wychowania*, Z. Izdebski, K. Komosińska, A. Kowalewska, B. Woynarowska, Wydawnictwo Naukowe PWN, Warsaw 2010, after: Ł. Tomczyk, *Edukacja osób starszych. Seniorzy w przestrzeni nowych mediów*, Difin, Warsaw 2015.

conscious users of information and communication technologies. The list of entities that aim their offers towards seniors include banks. Although they do not offer special mobile applications for the elderly, they try to adapt their offer to their needs, for example mBank has established a special group of agents whose task is explaining how the application and services work in simple terms; Orange has a special helpline for seniors; PKO BP has agents who inform and show customers how to use the iPKO website and the IKO mobile application at its branches.[38]

Conclusions

In modern times, we as the people created a technical society, in which its everyday functioning and safety are increasingly determined by technology.[39] On the one hand, the development of technology, information and communication tools contributes to the improvement of the quality of life, facilitates everyday tasks, but on the other hand it leads to divisions, digital exclusion, marginalisation of people and even entire social groups. In the absence of adequate support, education and, above all, motivation, the digital divide will widen. Over time, people whose media competence is at a higher level will enter old age. However, the development of technology will be much faster than the replacement of generations. Accelerating progress in the field of technology, ICT makes more and more elderly people who use ICT tools do not keep up with their development. That is why education in this area is so important.

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[38] M. Bednarek, *Zagubiony senior w bankowości mobilnej. Specjalne infolinie w Orange i doradcy w PKO*, Wyborcza, 2017, 23rd of June, http://wyborcza.biz/biznes/7,158582,21998635,zagubiony-senior-w-swiecie-bankowosci-mobilnej-specjalne-infolinie.html [retrieved: 18.06.2018].

[39] P. Sztompka, *Socjologia. Analiza społeczeństwa*, Wydawnictwo Znak, Krakow, 2002, after: Ł. Tomczyk, *Edukacja osób starszych. Seniorzy w przestrzeni nowych mediów*, Difin, Warsaw 2015.

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