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Education and digital competencies of elder adults

ABSTRACT

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The next decade was announced by WHO as the Decade of Healthy Aging. This is the answer to the social issue of highly developed countries, which is the aging of the society. In this context, there is the problem of active participation of seniors in social life, and especially the prevention of their social marginalization. Hence, projects that counteract exclusion and support active aging processes largely refer to modern technologies. Searching for answers to these questions and dilemmas, this text adopts an interdisciplinary approach, situating undertaken analyzes in the context of theories of aging, motivation as well as learning and using new technologies. The conclusions of the research undertaken – theoretical and empirical studies – undermine the hypothesis of digital exclusion of seniors perceived as the age group category. In the light of this research, it seems that education is the factor that influences the development of digital divide and digital inequalities within the community.

Introduction

One of the biggest contemporary challenges are the processes of ageing. In the past they were connected to the natural succession of generations, where ageing people would step back from socially active lifestyle, and undergo a process of

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marginalising within the so-called family care. That situation drastically changed, following the so-called second demographic shift, characterised both in terms of demographic processes categories (lengthening of human life, decline in fertility rates), as well as evolution of social and family patterns (women's employment activation, decline of family care potential, fading of multi-generation families), migration processes (separated families), or increase in wealth, and individual and group aspirations. As a consequence, the number of ageing people, with varied health and personal needs, began to rise.

The aforementioned processes have become one of the substantial challenges, that contemporary governments and societies face (DG ECFIN, 2018). Baby boomers retiring have caused a deficit of qualified personnel on job markets, which poses a threat to economy growth. The increasing strain on systems of social security has become a subject of concern for financiers managing national budgets. The necessity to ensure the elderly have access to effective healthcare and wellness has become a social priority. Being old and ageing have become politicised in many discourses.

In response to the era's challenges, WHO proclaimed the years 2020–2030 the *Decade of Healthy Ageing*, pointing out to the governments and societies the need for, and courses of action, necessary for enhancing the quality of life of the elderly. One of the most important were deemed actions undertaken at various levels, aimed at preventing discrimination, social exclusion, and marginalising of the elderly, strengthening their presence in social life, their subjectivity, as well as enhancing care and range of services offered to this age group. New media have become an important element of this newly designed system (WHO, 2019a, 2019b).

Achieving above goals requires changing the paradigm of caring for ageing people, so they get reactivated into society and the job market, regain their subjectivity and retake responsibility for their own life. The change needs to entail more intensive and systemic use of the possibilities given by new media and digital society (like communication, increasing personal security, use of and access to entertainment and information, online shopping, e-banking, e-office or remote care). An important condition to carry out those solutions is the readiness of the elderly to use modern technologies, especially Internet, in everyday life, as well as having relevant competencies to do so. The reality of developing said predisposition amongst the elderly is often called into question.

The reasons for those doubts can be both pictures of old age shaped in the past[1], as well as the variety of strategies being adopted by the elderly to cope with

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[1] In Poland i.a. it is a stereotype of a person that is poor, sickly, senile, requiring care and withdrawing from their usual activities and lifestyle to their households (Świderska, Kapszewicz, 2015; Miszczak, 2006).

ageing. Not without significance is the hypothetical premise of digital exclusion of old people, stemming both from the extrapolation of the historical marginalisation of the elderly to power relations in the cyberspace (Błeszyńska, 2018), as well as empirically proven concerns regarding the elderly adults' ability to learn, considered in the context of human learning. In post-communist countries, such as Poland, of importance can also be worse (compared to Western Europe) material condition of society, but also its relatively late contact with IT (Orłowska, 2016).

Bearing in mind the above, it seems crucial and necessary to carry out an analysis that would enable identification of the degree, goals and conditions of the new media usage (esp. Internet) by the contemporary elderly. The need to avoid generalisation ignoring the specifics of national contexts, prescribes focusing the analysis on one particular society, in this case – the Polish one.

Theoretical framework

Theoretical basis for analysis in this text is interdisciplinary and references the idea of ageing, motivation, human gap, digital exclusion and domestication. The intent of this argument is to draw attention to the sometimes ignored developmental potential of the elderly. Its primary thesis is a notion that ageing societies have latent developmental potential. Unlocking this potential depends not only on rejecting the paradigm of the policy socially marginalising the elderly, but also on intensified employment of possibilities of new media into working with this age group.

Old age and ageing are natural patterns of development. The definitions of old age and the elderly however are not unambiguous and would get redefined in the past (Phillipson, 1982). As socially-constructed categories, they refer to two dimensions of human's functioning: biological changes in the organism, and changes to existing in the social structure. Currently, according to WHO (2019a), we recognise old age as starting around 60, so around the age of retiring. There are three stages of getting old: young old (60–75), middle old (75–90) and old old (above the age of 90 yo). In this period the humans' health and physical condition declines, their ability to adapt, as well as and mental (especially cognitive) capabilities, weaken, their relations and social roles (including marginalisation and isolation) change, but also the perception of self and the world changes (lowering of self-esteem, feeling of no longer being needed, loss of meaning of life). Those processes progress in a varied way and have a different degree of severity in particular persons. A big role in their dynamics play, apart from genetics, the activities the elderly undertake (especially those stimulating social contacts), their tendencies to

maintain or limit social interactions, social capital limited to, or exceeding peers, as well as individual adaptability.

Interactions between all those dimensions determine the strategy an elderly person adopts to cope with the experience of ageing. Following the results of Neugarten's research (1996), we can distinguish two basic strategies: 1) redefining own situation as new challenges and possibilities, and undertaking active forms of coping with ageing, without withdrawing from social life and limiting life satisfaction, and 2) withdrawing from participating in society into a closed circle of family life or solitude. The latter of these two, over time jeopardises the well-being of the elderly, adding to their social marginalisation and quicker physical and mental degradation (Johnson, Mutchler, 2013).

Considering the above, the contemporary programs aimed at solving problems of ageing society refer to UN's postulate of "society for all ages", which points to the necessity to change the patterns of working with the elderly, that is to be a shift from the paradigm of caring to the paradigm of active ageing (WHO, 2002: 34). Active ageing is defined here as the process of optimising actions enabling the elderly to achieve the quality of life characterised by the triad of values: health, safety, and social participation (WHO, 2002: 12). Rowe and Kahn (1977: 424) employ a similar definition for "successfully ageing", characterising it as multi-dimensional, including activities focused on illness prevention, sustaining physical and cognitive functions, as well as social engagement, and productive forms of activity.

Among essential pillars of "active ageing", apart from maintaining good physical condition and ability to be autonomous and self-reliant, is also the category of "participation", which includes varied forms of social activity by the elderly (professional activity, participation in culture and consumption, interactions with family and friends, political participation, cultivating interests, searching for information, or educational activities). The possibilities to undertake those by the elderly of varied living standards (including those living alone, experiencing functional limitations, or even requiring specialised care) are enabled by contemporary technologies, where one of the most significant ones (next to assisting technologies) is IT. For a long time, those technologies, as well as new media, have been perceived as belonging mostly to young generations, for whom they have always been a natural environment to thrive in. Older generations were associated with defined by Botkin (2014) the "human gap", that describes the phenomenon of increasing divergence between a rapid development of knowledge and technology, and human ability to assimilate and absorb them, on a mass scale. It was assumed that the ageing processes would be a significant factor exacerbating the digital divisions

and exclusion existing in the society, which could, to a great extent, hinder the use of new media to meet the needs of the elderly.

The idea of the "digital divide" (also: "technological divide", "digital gap", or "technological gap") pertains to the differences in access and the level of use of digitization and related technologies by various social groups and communities (Compaine, 2001). Broadly speaking, it defines "the differentiation between individuals, homesteads, enterprises and geographic areas in access to information and communication technologies and the possibility of using these technologies for various purposes" (OECD, 2001: 5). The aforementioned gap may occur at many levels, and its causes are related to the influence of factors of a varied nature. Thus, we can speak of a digital gap between individual countries and the societies living in them, as well as digital divisions and inequalities within the same society.

Analyses of digital divisions generally cover three levels: access to technology, the ability to use it and the benefits obtained by its users (Scheerder et al., 2017). The causes of the phenomenon in question can be divided into two categories. The first of them, presented by Regnedd and Muschert (2013), is constituted by conditions external to the individual. They mirror economic and social inequalities, both between countries and within the same society. They include the technological backwardness of a given country (e.g. Poland widespread access to Internet only after the year 2000), low level of economic development, underdevelopment of infrastructure necessary to popularise IT, generally low level of education, political conditions (e.g. authoritarian governments limiting citizens' access to Internet) and cultural factors (Amish communities, for example, do not accept modern technologies). The second category includes individual features of the entity shared with other people and restricting or preventing access to modern technologies (such as age, gender, disability, low income or difficult housing). Personality traits (such as the level of intelligence, and anxiety), individual motivations, lifestyle and general life values, as well as the level of competence in using IT are of great importance (Correa, 2015; Scheerder et al., 2017). Individual users also differ in the degree and forms of Internet use (Siverstone et al., 1996).

According to the Domestification Theory, the elderly include IT in everyday life, adapting their use to their individual habits and lifestyle. According to Hynes and Rommes (2005), this process can be divided into four basic phases: the adaptation stage (acquisition and beginnings of using new media), the objectification stage (placing the newly-acquired device in the home space and exploring its possibilities), the incorporation stage (including the Internet in the activities undertaken and the routine of everyday life, as well as the related consequences), and the conversion stage (relationships of Internet users with the outside world

after acquiring the ability to use the purchased devices and integrating them into the daily routine). Reaching the conversion stage by the subject is an indicator of success in the process of domestication of the Internet, but it does not end this process, because as the life situation of the subject develops, the way of using the said devices will also change (Berker et al., 2006). And the phenomenon of digital inequality can occur at any stage.

According to van Dijk (2013), it is related to the more general phenomenon of social marginalisation resulting from the stratification system of a given community. As indicated by the research of Scheerder et al. (2017), its significant determinant is the level of education of the subject. People with higher education use new media more often and more competently than people with lower education. They also include Internet activities more frequently in their daily routine. To some degree, it is undoubtedly related to more efficient navigating in cyberspace and longer training in learning. However, motivational factors may play a significant role (van Dijk, 2005).

Attempts to explain the specificity and role of individual motivations related to the use of IT were made on the basis of theories referring to both the sociological and psychological perspective (such as the Expectation-Confirmation Theory ECT, the Social Cognitive Theory SCT, the Theory of Reasoned Action TRA, the Theory of Planned Behaviour TPB, the Innovation Diffusion Theory IDT), creating models focused on selected aspects of behaviour (such as the Technology Adoption Model TAM, the Motivational Model MM, or Model of Adoption of Technology in Households MATH). The Unified Theory of Acceptance and Use of Technology UTAUT2 seems to be the most useful for a comprehensive explanation of the attitudes of the elderly towards the use of IT technology.

Its authors propose a multidimensional model of behaviour, that takes into account the complexity of the factors motivating (or demotivating) the subject to use new technologies. This group includes the impacts of the social environment, comparison of the expected expenditure and effort, with the anticipated effects and benefits, assessment of the conditions accompanying the action under consideration, costs and value of possible investment, hedonistic attitudes of the subject and habits formed during their life (Venkatesh et al., 2016). The usefulness of UTAUT2 for the analyses undertaken in hereby text has been confirmed by both studies on socio-psychological changes accompanying ageing processes, as well as studies on the use of various forms of Internet activity by senior citizens (Niehaves et al., 2014).

With age, the need for personal comfort and convenience increases. As demonstrated by research on the relationship between age and the propensity to risk, the

neurobiological changes occurring with ageing limit the tendency to engage in impulsive and risky behaviours, boosting caution and reflexion, that takes into account the calculation of expected costs and benefits (Grubb et al., 2016; Tymula et al., 2013). Further to digital forms of activity, this regularity is confirmed by the attitudes of seniors towards online banking, perceived by many people as a risky form of managing their financial resources. The aversion to this form is also independent of the level of digital competences, because even in the group of people who eagerly and easily use the Internet, most people avoided this form, preferring direct contacts (Ainin et al., 2005; Hill et al., 2008; Asmi et al., 2012).

Senior citizens show more positive attitudes towards other forms of digital activities. Studies by Wyatt (2003), Bradbrook and Fisher (2004), Selwyn et al. (2003), Russell et al. (2002) show that the elderly are very interested in using ICT for communicating with family and friends, searching for information, shopping, learning or getting help and helping others. An important factor in making decisions about the use of ICT by people who have not yet done so, is the local context of the subject's functioning (Woolgar, 2002), especially the impact of the social environment (Cushman et al., 2006).

Ageing processes generally increase the role of environmental factors (limiting or favouring the activity of seniors) and the impact of the social environment, especially of the immediate family. In line with the regularities of post-figurative cultures distinguished by Mead (1970), which include the cultures of Western civilisation, intergenerational relations play a special role, where knowledge and skills flow from children to parents, and from grandchildren to grandparents. Through them, the elderly enter the world of modern technologies. The guide in the digital world for the contemporary elderly is usually representatives of the millennial generation, i.e. people born already in the times of popularisation of digital media (1980s), who use them efficiently and do not show technophobic fear. By stimulating Baby Boomers' interest in new technologies, they often are also the most effective teachers shaping the competencies of using them (Strauss et al., 1991; Roberts, 2010).

Developing digital competencies, however, requires some preparation acquired in the course of earlier stages of education. As Klecun (2008) points out, these competencies are a hybrid, which consists of numerous skills, such as literacy, computer skills, information searching and media literacy. They enable the IT user to comprehend read texts, and express themselves correctly in writing, use multimedia equipment, effectively search for and use information, as well as understand the principles of media functioning and critically judge the information obtained through them. The complexity of this hybrid is best expressed by Thomas

et al. (2007) in the term "transliteracy", which indicates the new quality of interactions of individual, more traditional components.

Deficits of digital competencies, as well as general lack of knowledge and ICT's low physical availability, lack of access to assistive technologies enabling the use of ICT by people with disabilities (especially visually impaired), insufficient motivation, poverty, poor living conditions and psychophysical condition, lack of social support or demotivating impact of the environment can contribute to the digital exclusion of the subject (Georgiu, 2004; Jedlińska, 2018). Further to Suchman and Klecun (2006), or McLean (2008), this concept describes a situation in which a person is deprived of access, use and/or free decision on the use (or abandonment) of information and communication technologies. The limitation in question is closely connected to the phenomena of marginalisation and social exclusion.

The specifics of the functioning of contemporary societies increasingly forces members of individual communities to use the aforementioned technologies. At the same time, little importance is attributed to individual needs and preferences. Institutional and social pressure create the norm of presence in cyberspace[2]. People who reject these achievements of civilization progress, have difficult access to them or, for various reasons, cope with their requirements in a worse way, are being stigmatised and marginalised (Selwyn, 2003). More and more often they experience social exclusion manifested by limitation of social contacts, exclusion from social circles[3] or deprivation of access to certain goods and services. The spiral of exclusion often appears, when the factors acting at the outset (such as poverty, disability, low level of education, belonging to socially marginalised groups) become the primary reason for the lack of access to ICT. As a consequence, by limiting the possibility of using the Internet, impoverishment of the social support network of a given person and the low level of their digital competences, a digital exclusion which deepens social exclusion is generated. There are also feedback links between digital and social exclusion.

An attempt to reduce the aforementioned phenomenon is the development of digital competencies in people experiencing this spiral, especially in the elderly. Such activities are generally seen as necessary for the inclusion of seniors into the digital society. However, as McLean (2008) warns, these actions, if taken carelessly

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[2] The pressure in question can have a number of negative effects. For some, the norm of using ICT becomes a source of an obsessive need to constantly immerse in cyberspace (the phenomenon of cyberzombies), for others it is a source of social anguish and emotional disturbances.

[3] Vide: the infamous slogan "If you are not on Facebook, you do not exist".

and detached from the individual context, may have negative effects, burdening senior citizens with costs, efforts and responsibility, that they are not always able to bear. Failure to take into account the specificity of the life situation, as well as the individual physical and mental differentiation of the functioning of older people, may therefore result in inadequate training and training programs, as well as social programs that do not meet the needs of the recipients.

Despite these caveats, the inclusive potential of initiatives aiming at reducing digital inequalities experienced by the elderly, should be appreciated. Particularly valuable are the activities proposed by WHO focusing on selecting and supporting institutions of leaders within senior communities (WHO, 2002). These people, acting primarily at the local level, would fulfill two functions. One, external, would involve representing seniors and advising government and non-governmental agencies through community panels or focus groups. The second function – intra-group – would include advisory, educational, supportive and encouraging activities addressed to seniors themselves. The selection and education of leaders who fulfill these functions requires at the same time a change in the way of thinking of older people and a departure from standard forms and content of shaping digital competencies generally understood as detached from the context, a relatively simple set of technical skills taught at various courses addressed to people in the so-called Third Age. The first stage of the process of designing more effective forms of interaction is the analysis of the forms and conditions of digital activity of seniors.

Research method

The subject of the analysis of Polish senior citizens in cyberspace, its scope and forms. They looked for answers to the following questions:
- Is the group of Polish seniors generally characterized by the phenomenon of digital exclusion?
- If, and if YES, what is the significance of age and education level for the attitudes of Polish seniors towards the Internet?
- If, and if YES, what is the significance of the age and education level of seniors for the forms of their activity in cyberspace?

Driven by the need to obtain data that fully reflect the characteristics of the analysed population, the research referred to the analysis of already existing data (Babbie, 2015). The said data came from research conducted by highly credible

institutions. The most important source of obtained research material were statistical offices and reputable public opinion research centres. The subject of the undertaken analyses were data from studies published in 2015–2018.

These data, presented in individual parts of the next chapter, come from studies with a high degree of reliability and comparability. Polish statistical offices used the research methodology, which was repeatedly verified, and which allows for comparisons between the obtained data. The cited studies were also conducted on large (often several dozen thousand) and representative samples or the so-called general populations.

Another group of analysed statistical materials is research material on the use of the Internet conducted by public opinion research institutions – in this case the Public Opinion Research Centre. This type of research material relates to smaller populations and concerns the so-called representative samples. The principle of a transparent state makes information collected by government agencies or from research financed by these agencies available to interested persons.

To sum up, we assume that the compilation and analysis of the collected data allows for finding answers to the discussed and research questions. The conclusions drawn on their basis may be useful for the purposes of constructing programs for the social inclusion of seniors.

Presentation and discussion of the collected data

General data on Internet use by people of retirement age seem to confirm the thesis of digital exclusion of seniors. As indicated by CBOS data, over the past 15 years the number of people using the Internet has been growing rapidly and successively (from 17% in 2012 to 67% in 2017). The recorded increase was over four times. The research conducted by this studio revealed that in the age group of 18–24 and 25–34, almost everyone uses the Internet (100% and 96% respectively). With age, this percentage slowly decreases and amounts to 87% of the population for the age group of 35–44 years, 70% for 45–54 years, and only 47 and 23% (CBOS, 2017: 2). In comparisons with younger age groups, internet users over 65 yo constituted less than a quarter of their age group. The digital exclusion of seniors perceived en masse is also confirmed by the data of the Polish Central Statistical Office. Research conducted on the general population shows that 63.6% of respondents over 65 have never used the Internet (GUS, 2018). However, the digital division of Poland begins to change its demarcation lines if, in addition to age, we also take into account the level of education of Internet (non-)users.

Using the Internet, and age and level of education

In light of the collected statistical material, it turns out that age is not the main factor determining the use of the Internet. The level of education of the subject is of greater importance. As indicated by the data of the Central Statistical Office presented above, the degree of involvement in online activities of people with higher education in all age groups is similar and covers over 90% of representatives in all age groups included in the research. Inequalities related to age characterise mostly people with lower level of education. Only in the youngest group (up to 25 years of age), education did not differentiate the intensity of using the Internet. In later age (25–64 years), people with a lower level of education began to lag behind the better educated ones, using the Internet less frequently (56,6% for a low level of education and 99,8% for a high level). Over the age of 64, education began to play an important role as the basic factor differentiating the level of internet activity and amounted to 13,5% for people with low education and 92,1% for people with high education (GUS, 2018, tab. 10B).

Age and types of Internet activities

The Internet is a tool that enables many different forms of activity (such as searching for information, self-education, entertainment, shopping, family and social contacts, self-expression, civic participation, contacts with offices or seeking and obtaining support). Research conducted on the general population of adult Poles shows, however, that not all of the opportunities offered by them are used to the same extent. Age does not differentiate preferences regarding the purposes for which Poles use the opportunities offered by the Internet (Fig. 1).

Note:
– indicators rounded according to existing rules.

Fig. 1. Adult Poles according to age and purpose of Internet usage (% of the test sample)

Source: own elaboration based on GUS, 2018, tab. 12A.

As the figure above shows, elderly people are significantly less likely to engage in various forms of Internet activity. Despite the fact that the general level of all these activities in people of retirement age is almost half lower than in professionally active people, about 1/5 of the members of this group use the opportunities offered by ICT. The age factor does not differentiate the type of preferences regarding individual forms of the mentioned activity. The most important goals indicated by all Internet users were: access to information, communication and using the service referred to as "e-health". Other forms (such as creativity, participation in social affairs or online services) were less popular in all age groups. A significant influence of the age factor occurred only in relation to indications concerning activities enabling the fulfillment of the need for creativity. Interest in this type of possibilities was generally declared by more than 1/5 of all respondents, while in the 25–64 years old group such activities were displayed by less than 1/20 of the respondents, and in the 65+ group less than 1/30 of the respondents. The differences in question cannot be explained by the lower level of digital competencies of seniors, because such differences do not appear in relation to other forms of activity in cyberspace. However, it seems justifiable to suppose that these differences result from different styles of expression and forms of satisfying the need for creativity, which in the age groups compared, were shaped under different socialisation conditions.

The age factor is of greater importance for the dynamics of changes taking place in relation to the analysed preferences with the increase of the age of the respondents. First of all, noteworthy is the generally large drop in the level of interest in the most popular forms of Internet activity after the age of 55. The aforementioned differences deepen in the next age group covering people over 65 (obtaining information: a decrease in interest by 23,1% in the 25–64 age group and a further 20,6% in the 65+ group; communication: a decrease in interest in by 27,2% in the age group 55–64 and further 40,6% in the age group 65+; e-health services: decrease in interest by 10,8% in the age group 55–64 and further 15,2% in the group 65+;). The least frequently indicated as attractive and interesting are forms related to creativity, social participation and the use of online services (such as e-banking or e-office). Thus, services that can significantly support the maintenance of intellectual fitness and more effective functioning of seniors in everyday life.

This phenomenon can be explained by referencing several factors. One of them is probably the psychological changes accompanying the ageing processes (such as ossification of cognitive structures, limiting creativity or reducing life stress, gradual withdrawal from less important forms of activity). The previously mentioned distrust towards impersonal forms of online services (especially online payments)

may play a significant role. It is also justified to say that due to the conditions of socialisation, older people manage their social relations differently than the younger generation, preferring more direct forms of interpersonal contacts.

However, if we look at the purposes of using the Internet through the prism of the level of education, we see a different picture (Fig. 2).
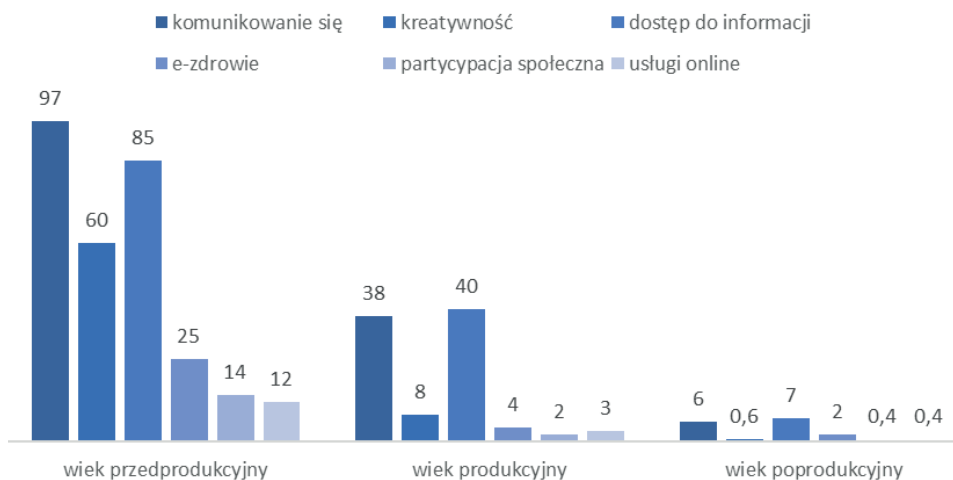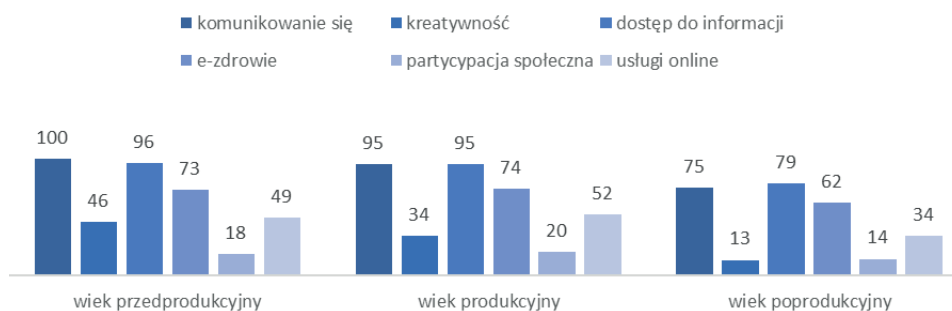

Note:
– indicators rounded according to existing rules,
– pre-working age is 18-24 years old; working age is 25-54 yo; post-working age is above 55 yo.

Fig. 2. Adult Poles with low level of education according to age/level of professional activity and purposes of Internet usage (in %)

Source: own elaboration based on GUS, 2018, tab. 15B.

People with a low level of education are characterized by a gradual and generally high level of withdrawal from online activities as they age. Only in adolescence (pre-working age – up to 25 years of age) do they show more intense activity related to the processes of communication, searching for information and creative behaviour. The remaining behaviours are characterized by a low level of activity, even amongst very young people. Nearly in all areas (including those most strongly preferred in youth), along with the cessation of professional activity, a significant decrease in interest in Internet activity can be noticed, especially dramatic in regard to communication functions. The group in question, in all age categories, is also distinguished by the lowest interest in online services.

The Internet activity of Poles with a higher level of education looks different (Fig. 3).

Note:
– indicators rounded according to existing rules,
– pre-working age is 18–24 years old; working age is 25–54 yo; post-working age is above 55 yo.

Fig. 3. Adult Poles with high level of education according to age/level of professional activity and purposes of Internet usage (in %)

Source: own elaboration based on GUS, 2018, tab. 15B.

Internet users with a higher level of education are generally characterised by greater intensity and diversity of online activities. Better educated people use the Internet to a greater extent than respondents with lower education for health-related purposes and use online services and websites more often.

The exceptions are forms related to social participation, the popularity of which is generally low in all groups of respondents, regardless of their age and education.

Trying to explain the regularities outlined above, we can assume that they result primarily from higher competencies and greater intellectual efficiency of better educated Internet users (the links between education and the aforementioned competencies were noted in the characteristics of the theoretical framework of this paper), and a different lifestyle characterising both discussed groups (lower education is conducive to limiting activity to family and professional life), as well as greater care of better educated people for their own and family health.

Barriers to using the Internet by seniors in Poland

As the data presented above show, digital inequalities may be conditioned by many factors, among which, in addition to the level of affluence, the age and level of education of Internet users play an important role. However, as indicated by the works of Correa (2015) or Scheerder et al. (2017), factors related to motivation and the sense of own competence may also play a significant role. These theses are confirmed by the research conducted by the Central Statistical Office on a general

sample of adults on the degree and forms of using the Internet in contacts with offices (Figures 2 and 3).

Generally speaking, Poles are reluctant to contact offices via automated forms, preferring contacts with living people. This service is perceived as a kind of barrier hindering access to officials. In 2018, almost 60% (56,9) of the adult population of Poland did not send electronic forms. 31,4% of the respondents indicated that they did not have such a need, of which only 5,3% admitted to having no skills in this area, and 13% of the respondents also stated that the forms required by the office were filled in by someone else for them. These indicators were only slightly better in the group of educated people (GUS, 2018, tab. 19B).

The use of internet-mediated forms is treated as one of the indicators of digital competencies, and the sense of having those motivates to undertake this type of behaviour. As the data presented below show (Fig. 4), the feeling of having these competencies is not common, which is reflected in the limited use of the Internet as an intermediary medium in contacts with offices (mainly as a source of information or facilitation in obtaining and submitting the forms required by the office).
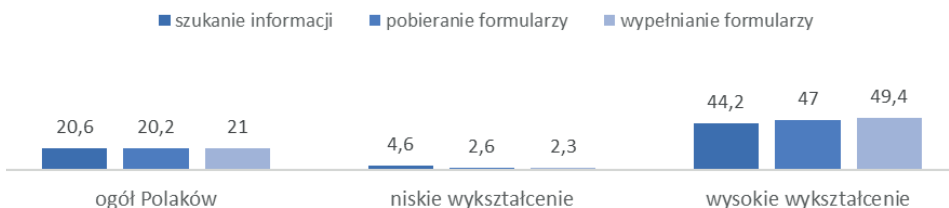

Fig. 4. Adult Poles by education level and declared reasons for using the Internet in contacts with public administration (%)

Source: own elaboration based on GUS, 2018, tab. 18B.

A general analysis of the data presented above shows that official contacts via the Internet are not the form used only by 1/5 of the surveyed Poles. However, the picture changes radically if we take into account the level of education of the respondents. People with a lower level of education are characterised by digital absenteeism (a slight increase in the degree of Internet use concerns only the search for information regarding, among others, the address, telephone or working hours of a given office), while people with a higher level of education demonstrate a greater degree of Internet immersion, which the expression is twice as often than the average for the entire population and ten times more frequent than in the group of less educated people, using its ability to obtain information as well as fill in and submit online forms.

However, this positive impact of education weakens with the increasing age of the respondents (Fig. 5).
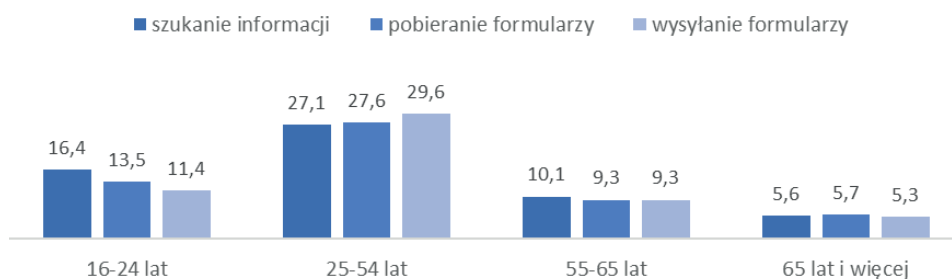

Fig. 5. Adult Poles by age and declared reasons for using the Internet in contacts with public administration (%)

Source: own elaboration based on GUS, 2018, tab. 18B.

The relatively highest level of involvement in dealing with official matters via the Internet is characteristic of people who are fully professionally active (25–54 years old). They, too, are the main recipients of services related to obtaining information as well as downloading and submitting online forms. However, digital inequalities increase along with the age of respondents. In the group of young retirees (55–64 years old), this form is chosen less frequently (almost threefold decrease in popularity). Seniors over 65 can be described in terms of digital exclusion.

Conclusion

Summing up, we can say that the undertaken analyses allowed us to come to the following answers to the research questions posed.

The Polish society is generally characterised by the phenomenon of digital division, in which the demarcation lines follow the vectors of age and education. The age-related division occurs at the age of 65, which separates people who actively use ICT (up to 65) from people who do not undertake this type of activity (65+). An intermediary variable that is significant for the level of digital activity is, however, the level of education. People with a higher level of education, also in the senior group, use ICT opportunities more often and to a greater extent. Less educated people, also in working age, use these opportunities less frequently. Earlier, they also limit or abandon them, experiencing digital exclusion in retirement age.

When analysing the situation of seniors themselves, it should be stated that the existing data contradict the thesis of digital exclusion of the entire age cohort, which is internally differentiated in terms of competencies, forms and degree of Internet use. Instead of digital exclusion, we can rather talk about a digital division within it, in which the level of education plays a decisive role. Older people manage their internet activities in a similar way to younger people. Individual needs, interests and a sense of competence play a decisive role here.

The collected data challenge the stereotype of seniors perceived as people who do not find themselves or are unable to function in the digital world. This population is very diverse, both in terms of their capabilities as well as competences and needs to use the Internet. Over one third of Polish pensioners use the Internet more or less intensively. The age factor plays a significant role in shaping the forms and intensity of Internet use. The limiting period, however, is not the time of retirement, but the time of transition from early adulthood to the phase of progressive expansion, characterised by the beginnings of life stabilisation, weakening of ties with the peer group and an increase in the subject's involvement in social roles related to professional and family life (approx. 35 years of age). The changes in lifestyle and the way entities function during this period contribute to a radical reduction in the time spent in cyberspace. The historical specificity of the conditions of socialisation of modern seniors is also important, as it protects against the negative effects of mediatisation, often referred to as "mediatism", such as: superficiality of undertaken activities, narrow and limited scope of interests or low selectivity and lack of criticism towards the information obtained (Morbitzer, 2016).

Moreover, the conducted analyses indicate that the factor that significantly differentiates the degree of Internet use is not age, but the level of education. Only in the group of the youngest Poles (16–24 years old) this factor did not play any role. In all older groups, better educated people used the Internet significantly more often, and the percentages of Internet users were not significantly differentiated in these groups.

The purposes of use of the Internet turned out to be independent of age, but dependent on the education of Internet users. The basic ones were, first of all, information search, communication and healthcare services. However, the lower level of education of the respondents coexisted with the decreasing interest in searching for information and in communication processes with age, which did not occur in the group of people with higher education.

The age factor did not differentiate the degree of involvement of the respondents in internet-mediated forms of social and political activity. In all age groups, the percentage of people involved was very low.

To sum up, it should be stated that, contrary to popular belief, the group of seniors is not at risk of information exclusion. However, their approach to the Internet is characterised by greater distance and utilitarianism than in the group of young adults. Some of them, to a greater or lesser extent, also experience deficiencies in their competencies.

Practical recommendations

Translating these statements into the language of practical recommendations, it should be stated that it is advisable to increase the offer and availability of courses that shape or increase digital competences of the elderly and to undertake actions encouraging this group to increase digitally mediated activity – this postulate applies especially to people with low levels of education;

However, the following assumptions should be made in the planned activities:

– in Poland, no one is obliged to use the Internet and any attempts to impose this type of service are against the law;

– excessive involvement in activities in cyberspace is a social pathology (new addictions) and a health risk;

– increasing the involvement of people in retirement age in Internet activities may contribute to increasing their social isolation and worsening their health condition; therefore requires programs to stimulate their direct social contacts and physical activity;

– the functioning of elderly people in online matrices and information bubbles may threaten the adequacy of their functioning in the real space;

– elderly people are characterised by varied health, economic, family and social situation, different lifestyles, needs and ways of acting; therefore, it would be unfounded and even harmful to try to generalize their view and treat them all the same.

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