Title

A survey study on differences in ICT use among Flemish people with mild intellectual disabilities

Abstract

Previous research has demonstrated that throughout the years people with mild to moderate intellectual disabilities (ID) have become more frequent ICT users and share similar entertainment and communication use patterns as peers without ID, as well as that significant differences in ICT skills and literacies exist between people with and without ID. While existing studies consider people with ID as a homogeneous group with regard to their ICT use, the aim of this study is to examine differences in varying ICT use aspects within a sample of people with ID. Survey data were collected among 94 people with mild ID (57.4% men; M_{age} = 45.28, SD_{age} = 12.20). Based on people's age, daily activity, living situation, need for professional support, daily social contacts, and amount of social support, significant differences in ICT access, use purposes, skills, support, and outcomes were found. As such, our findings demonstrate that people with ID are heterogenous with regard to digital inequality. Therefore organizations and caregivers should differentiate when educating and applying ICTs among this population.

Keywords: ICT, people with intellectual disabilities, digital inequality, vulnerable people, survey study

Introduction

An increasing number of studies have focused on the use of Information and Communication Technologies (ICTs) among people with intellectual disabilities (ID). A great part of these studies have demonstrated that people with mild to moderate ID have become more frequent users of ICTs, such as smartphones, computers, the internet, and social networking sites (Chiner et al., 2017; Delgado et al., 2019; Lough and Fisher, 2016; Ramsten et al., 2019) and that people with ID have similar ICT use patterns as peers without ID (Alfredsson Ågren et al., 2019; Gutiérrez-Recacha and Martorell-Cafranga, 2011). Moreover, several studies suggest that their motives to use ICT are likewise, i.e., they use ICTs to communicate with friends (Ramsten et al., 2019; Sallafranque-St-Louis and Normand, 2017), for entertainment (Sallafranque-St-Louis and Normand, 2017), development of social identity (Caton and Chapman, 2016), and exploration of love and sexual identity (Löfgren-Mårtenson et al., 2015). At the same time, some studies revealed that compared to people without ID, only few people with ID use ICTs (Chadwick et al., 2017; Patrick et al., 2020), and that people with ID use ICTs less for specific purposes, such as video gaming, content creation, or education (Jenaro et al., 2018; Sallafranque-St-Louis and Normand, 2017). Also, people with ID seems to be limited to search and understand online information due to lacking skills to formulate adequate search terms, select trustworthy sources, navigate on websites, or comprehend texts (Alfredsson Ågren et al., 2019; Delgado et al., 2019; Salmerón et al., 2016). In addition, peers, parents, teachers, and professional caregivers who are acquainted with people with ID have great concerns that people with ID are more exposed to inappropriate content or harmful experiences, such as being bullied online, abused, mislead or threatened, or being seduced to sexual solicitation or to disclose personal information (Chadwick et al., 2017; Chiner et al., 2017, 2019; Lough and Fisher, 2016; Normand and Sallafranque-St-Louis, 2016; Ramsten et al., 2019; Sallafranque-St-Louis and Normand, 2017).

Digital Inequality Research

Digital inequality research investigates the unequal distribution of ICT access, skills, and related resources based on – amongst others - income, education, ethnicity, disability, gender, age, or geography, and examines how differences in such resources result in more or fewer benefits for individuals (Helsper, 2012; Mossberger et al., 2003). The unequal distribution based on socio-demographic and socio-economic variables is also referred to as the stratification hypothesis, which states that existing offline inequalities between vulnerable and non-vulnerable groups (e.g., differences in income, education, and age), are reflected and reinforced in online inequalities, i.e., inequalities in ICT access, skills, use purposes, or outcomes (van Deursen et al., 2017). While, in the beginning of digital inequality research, access to ICTs was considered as the sole condition to experience benefits from ICTs (Mossberger et al., 2003; van Deursen and van Dijk, 2014), throughout the years differences in skills, use frequency, use purposes, and use outcomes were found to be other ICT use aspects at which digital inequality manifests or strengthens itself (Calderón Gómez, 2020; van Deursen and Helsper, 2015; van Deursen and van Dijk, 2014). Other studies emphasized the importance of social support for ICT use in order to fully exploit benefits from it (Courtois and Verdegem, 2016; Helsper and van Deursen, 2017).

Based on the stratification hypothesis, a significant amount of studies have set the ICT use of the general population as a benchmark and compare their use to the ICT use of vulnerable groups, like people with ID (Alfredsson Ågren et al., 2019; Jenaro et al., 2018), elderly people (Olsson et al., 2019), women (Rashid, 2016), socially isolated people (Park, 2017), or the poor (Mingo and Bracciale, 2018). Other studies have found associations between ICT access, skills, use purposes, outcomes or support, on the one hand, and socio-economic and socio-demographic variables, such as income, education, ethnicity, gender, age, or geography, on the other hand (Dodel and Mesch, 2018; Dolničar et al., 2018; Forenbacher et al., 2019; Hargittai,

2003; Puspitasari and Ishii, 2016; Ragnedda et al., 2019; Tsetsi and Rains, 2017). Based on these studies, it has been concluded that vulnerable people have significant less or inferior ICT access, use purposes, skills, and support than non-vulnerable people. Although research comparing the ICT use of vulnerable and non-vulnerable groups, such as poor and non-poor, disabled and non-disabled people, has proved to be valuable in order to understand existing social inequalities, it can be argued that differences in ICT use do not only occur between vulnerable and non-vulnerable groups, but also within these groups. Indeed, a recently conducted study found differences in internet use purposes between elderly people have been found (Schehl et al., 2019). Based on qualitative interviews among youngsters, Calderón Gómez (2020) concluded that within-group differences exist regarding the ICT devices youngsters have, what activities they use them for, and which offline outcomes they reach through ICTs. However, until now, little is known about differences in ICT use aspects within vulnerable groups, like people with ID, as these individuals are mainly considered as a homogeneous group of ICT users.

The Present Study

The aim of this study is to examine differences in ICT use aspects within a sample of people with ID, instead of between people with and without ID. More specifically, we will investigate whether differences in ICT use aspects can be identified between people with ID based on their age, daily activity, living situation, need for professional support, daily social contacts, and amount of social support. To the best of our knowledge, this has never been investigated before. In line with digital inequality literature (e.g., Hargittai, 2003; van Deursen and van Dijk, 2014), the following ICT use aspects will be considered: (1) ICT access, (2) ICT use purposes, (3) ICT skills, (4) ICT support, and (5) ICT outcomes. This study further adds to the literature by collecting quantitative data on ICT use aspects of people with ID through face-to-face surveys with them, instead of questioning their relatives, teachers or caregivers (e.g., Chiner et al., 2017,

2019; Löfgren-Mårtenson et al., 2015; Palmer et al., 2012; Ramsten et al., 2019) who are not always aware of the actual ICT use of people with ID (Chiner et al., 2017). Our findings will provide practitioners, professionals and relatives more nuanced insights on the ICT use of people with ID and will support them to differentiate between people with ID when applying ICTs.

Method

Participants

This study is based on the results of a cross-sectional survey completed in the period between October 2019 and January 2020 by 94 persons with mild ID (n = 54, 57.4% were men) between 23 and 66 years old (M_{age} = 45.28, SD_{age} = 12.20). Inclusion criteria were that the respondents were over 18 years old and were able to understand and answer questions from a questionnaire either written or read to them. This study received ethical approval from the ethical board of the faculty of Social Sciences from [name of university blinded for purpose of review].

Procedure

First, we constructed a simple, easy-to-administer questionnaire in plain language. The questionnaire also included images and pictograms, like images of ICT devices and "thumbs up/down" to indicate to what extent respondents (dis)agree with statements. Before the main data collection, the questions' content and formulations were evaluated on clarity and simplicity by two social care workers and two people with ID. Thereafter, some minor adaptions were made where necessary.

For the recruitment of our respondents we worked together with social care workers from two organizations under the Flemish Agency for People with Disabilities which assist people with mild ID to live and act independently. All social care workers involved in the data

collection received a short training in survey administration in advance, in order to avoid that they would influence respondents' answers.

During the data collection, the social care workers invited their clients to participate in the survey and explained the study purpose. If a client agreed on filling out the survey, the social care worker helped the respondent through the informed consent and survey questions by reading them aloud to him/her if necessary. The questionnaire was conducted using a tablet and for each question the respondent selected the preferred answer.

Questionnaire

Socio-demographic variables. Respondents were asked to report their gender (n = 54, 57.4% men; n = 40, 42.6% women); age (M_{age} = 45.28, SD_{age} = 12.20); daily activity during the week (n = 51, 54.3% did paid or voluntary work; n = 3, 3.2% went to daycare; n = 38, 40.4% stayed at home; n = 2, 2.1% other); and living situation (n = 64, 68.1% lived assisted alone; n = 17, 18.1% lived assisted together with others; n = 10, 10.6% lived together with parents; n = 3, 3.2% other).

Individual characteristics. Respondents were asked to indicate how often their social care worker comes by at home for care and support, with answer options ranging from 1 = *never*, 2 = *less than monthly*, 3 = *monthly*, 4 = *weekly*, to 5 = *daily* (*Mdn* = 4, minimum = 1, maximum = 4). Two open questions were asked to measure respondents' daily social contacts and their amount of social support. The items were: "On average, how many people do you see, hear or speak with on a normal weekday (this can be in real life or via your smartphone/computer)?" (M = 12.53, SD = 13.90, minimum = 1, maximum = 100), and "With how many people can you discuss personal or important matters?" (M = 4.16, SD = 2.32, minimum = 1, maximum = 10).

ICT access. Respondents' access to ICTs was measured for computer, internet at home, smartphone, and mobile internet, with four questions: "Do you have [a computer at home/an

internet connection at home/a smartphone/mobile internet on your smartphone]?". Consistent with the material deprivation scale (Eurostat, 2020), answer options were 1 = *yes*, 2 = *no, because I don't want or need it*, 3 = *no, because I cannot afford it*. For the purpose of this study, answers were recoded to a dichotomous variable, with 0 = *no, not having the ICT* and 1 = *yes, having the ICT*. This revealed that 77.7% (*n* = 73) of the respondents had a computer at home, 86.2% (*n* = 81) had an internet connection at home, 73.4% (*n* = 69) had a smartphone, and 62.8% (*n* = 59) of the respondents had mobile internet on a smartphone.

ICT use purposes. Six items were used to measure the purposes for which the respondents use a smartphone or computer: (1) to talk with friends and family, (2) to meet new people, (3) to know what is happening around me (e.g., Facebook), (4) to search information (e.g., the weather, opening hours), (5) to entertain myself (e.g., gaming, movies, music), (6) to ask others for support (e.g., ask social care worker to make an appointment with the doctor). Respondents multiple answers were recoded into separate dichotomous variables, with 0 = *no, not engaged in the behavior* and 1 = *yes, engaged in the behavior*. The frequencies are included in Table 1.

*** INSERT TABLE 1 ABOUT HERE***

ICT skills. Respondents rated their perceived skills with five items from the subscale general digital difficulties of the Digital Difficulties Scale (Anrijs et al., 2020). These items gauge for individuals' (in)convenience in using a computer or smartphone in general. Two examples are: "In general, I often have questions or problems when using my smartphone, apps, websites, or computer programs", and "In general, I need help when trying something new on my smartphone or computer". Items are scored on a 5-point scale ranging from 1 = *disagree* to 5 =

agree. The mean score was used in further analyses based on reversed answers, with higher scores indicating higher perceived skills (*Cronbach's alpha* = .89, *M* = 2.92, *SD* = 1.25)

ICT support. ICT support was questioned with two self-developed items. The sample items are: "If necessary, I can go to others with questions or problems I have in using a smartphone, apps, websites or computer programs (e.g., family, friends or acquaintances)" and "If necessary, I can ask others to arrange things for me with a smartphone or computer (e.g., to buy something, to search information)". Respondents scored these items along a 5-point scale ranging from 1 = *disagree* to 5 = *agree.* The mean score was used in further analyses, with higher scores indicating more support perceived for ICT problems (*Cronbach's alpha* = .86, *M* = 4.04, *SD* = 1.17).

ICT outcomes. In order to measure which outcomes individuals are able to reach with ICTs, we adopted four items from the subscale specific digital difficulties of the Digital Difficulties Scale (Anrijs et al., 2020). These items measure whether or not respondents are able to reach practical outcomes by using a smartphone or computer. For the present study we adopted four items relevant for people with ID: "Would you have difficulties to reach the following outcomes: (1) to receive a financial benefit from the government online, (2) to find a job vacancy online, (3) to find information on social organizations online, (4) to buy a ticket for public transport online?". Respondents could select one of the following answers: 1 = *no difficulties,* 2 = *rather no difficulties,* 3 = *rather difficulties,* 4 = d*ifficulties*. Items were recoded as dichotomous variables with 0 = *no, not able to reach outcome because of having difficulties* and 1 = *yes, able to reach outcome, having no difficulties*. The frequencies are included in Table 1.

Analytic Strategy

Differences in ICT use aspects within our sample of people with ID were assessed based on the following grouping variables: age, daily activity, living situation, need for professional

support, daily social contact, and amount of social support. Considering our sample size, all grouping variables were recoded into two categories. More specifically, *daily activity* was divided in those who did paid or voluntary work (n = 51, 54.3%) and those who had another daytime activity (n = 43, 45.7%). *Living situation* was recoded as those who lived alone (n = 64, 68.1%) and those who lived together with others (e.g., housemates, parents) (n = 30, 31.9%). *Need for professional support* was categorized as those who needed support from their social care worker monthly or less (n = 43, 45.7%) and those who needed support weekly (n = 51, 54.3%). Furthermore, based on median scores, *age, daily social contact,* and *amount of social support* were recoded into two equally sized categories: those who were aged between 23 and 48 years old (n = 48, 51.1%) and those who were aged between 49 and 66 years old (n = 46, 48.9%); those who had ten or less social contacts a day (n = 61, 64.9%) and those who had more than ten social contacts a day (n = 33, 35.1%); those who had four or less social support contacts (n = 62, 66.0%) and those who had more than four social support contacts (n = 32, 34.0%).

Chi-square tests were used to assess group differences in ICT access, ICT use purposes, and ICT outcomes as these are dichotomous variables. In case that more than 20% of the expected counts were less than five, we employed Fisher's Exact Tests to analyze differences between groups. Mann-Whitney tests were applied to assess group differences in ICT skills and ICT support as these are non-normally distributed mean score variables. Statistical significance was set at $p < .05$. Two-tailed test statistics were used considering the exploratory purpose of the present study. From the 94 respondents, two respondents did not continue after the questions on ICT access and use purposes, and three respondents ceased after the questions on ICT skills and ICT support. Analyses were conducted on the available responses, and therefore slightly differ between the ICT use aspects. All statistical analyses were performed using IBM SPSS statistics (version 26).

Results

ICT Access

Significant associations were found between ICT access and age, and ICT access and living situation. More specifically, significant more respondents between 23 and 48 years old had access to a computer at home, internet connection at home, a smartphone, and mobile internet on a smartphone than respondents aged between 49 and 66 years. Also, respondents living together with others reported significantly more having a smartphone and mobile internet access than respondents living alone. No significant associations were found between ICT access, daily activity, need for professional support, daily social contacts, or amount of social support. Exact percentages and test statistics can be found in Tables 2, 3, and 4.

*** INSERT TABLES 2, 3, and 4 ABOUT HERE***

ICT Use Purposes

ICT use purposes did not differ between respondents based on their need for professional support or amount of social support. Significant associations were found between ICT use purposes and respondents' age, daily activity, living situation, and daily social contacts (see Tables 2, 3, and 4). The analyses revealed that significant more respondents in the younger age category use ICTs to talk with friends and family, to know what is happening around, to search for information, to get entertainment, and to ask for support than respondents in the older age category. Furthermore, significant more respondents who do not work use ICTs to meet new people, than employed respondents, while the latter use ICTs significant more often to ask others for help. In addition, we found that respondents who live alone reported significantly less using ICTs for entertainment than respondents living together with others. With regard to

daily social contacts, those respondents with more daily social contacts used ICTs significantly more to know what is happening around than those with fewer daily social contacts.

ICT Skills

There were significant associations between ICT skills and respondents' age and need for professional support. As shown in Tables 2 and 3, younger respondents and those needing fewer help from their social care worker perceived themselves significantly more skilled than older respondents and those needing weekly support from their social care worker. No significant associations were found between ICT skills and daily social contacts, and between ICT skills and amount of social support (see Table 4).

ICT Support

With regard to ICT support, test statistics revealed significant associations between ICT support and daily social contacts, as well as ICT support and amount of social support, in that respondents with more daily social contacts or more social support contacts perceived significantly more support for ICT problems or questions than respondents with fewer daily contacts or social support contacts (see Table 4). No other significant associations were found (see Tables 2 and 3).

ICT Outcomes

Respondents' age and need for professional support were significantly associated with ICT outcomes (see Tables 2 and 3). More specifically, significantly more respondents aged between 23 and 48 years were able to find a job vacancy online, to find information about social organizations online, and to buy a ticket for public transport using a smartphone or computer than respondents older than 48 years. Also, respondents who need help from a social care worker monthly or less reported significantly more to be able to find information about social organizations and to buy a public transport ticket online than respondents which rely on support from their social care worker on weekly basis. No associations were found between ICT

outcomes and daily activity, living situation, daily social contacts, or amount of social support (see Tables 2, 3, and 4).

Discussion

While previous studies on this topic considered people with ID as a rather homogeneous group with regard to their ICT use, and consequently investigated ICT use of people with disabilities on group level, or by comparing their use to the ICT use of people without disabilities, this study adds to the literature by empirically investigating within-group differences in ICT use aspects of people with ID, and by administrating face-to-face surveys from people with ID, instead of questioning their relatives, teachers or caregivers.

Our study revealed that differences in ICT use aspects among people with mild ID exist based on people's age, daily activity, living situation, need for professional support, daily social contacts, and amount of social support. More specifically, we found that significantly more younger respondents have access to a computer, a smartphone or internet than older respondents, which is in line with existing data collections in the general population that have demonstrated that in general younger individuals have more ICT access than older individuals, as well as that they use it for a broader range of applications (OECD, 2020; Tsetsi and Rains, 2017; Vandendriessche and De Marez, 2020). Not surprisingly, we also found that younger respondents use ICTs for more varying purposes than older respondents. Also, respondents living together with others have significantly more access to a smartphone and mobile internet than those living alone. Additionally, we found that respondents without employment use ICTs significantly more often to meet new people than respondents with employment. This finding is in line with a research of van Deursen and van Dijk (2014) who found that people without employment use the internet more hours a day in their spare time than employed people. Another explanation could be that respondents without employment substitutes the daily activity of employment with enlarging one's social network in order to also have a meaningful

daytime activity or to break through social isolation that often accompanies unemployment. Furthermore, we found that respondents with more daily social contacts use ICTs more often to know what is happening around them, than respondents with fewer daily social contacts. As explained by Rice and Barman-Adhikari (2014), albeit in a sample of people without disabilities, this may be interpreted as an online engagement of respondents in existing social ties. By following and/or reacting on social media profiles of friends, family, and acquaintances people can maintain or strengthen existing relationships. Also, we found that respondents who live together with others use ICTs more often for entertainment than those living alone. It may be that people living together with others use ICTs more for entertainment in order to seclude themselves from others in the house, or that they use entertainment apps together with their inmates as a social activity. As this is the first study to examine differences in use purposes among people with ID, further research could explore the motivations for varying ICT purposes, in order to gain more in depth understanding of these differences. Considering ICT skills, our results demonstrated that respondents who meet with their social care worker monthly or less frequently perceived themselves more skilled in using ICTs than respondents who rely on weekly help from their social care worker. A possible explanation could be that because respondents who meet their social care worker monthly or less are more independent in general, they are also more self-reliant in using ICTs. Furthermore, our findings indicated an age difference with regard to ICT skills, with younger respondents perceiving themselves more skilled than older ones, which is in line with existing research (Vandendriessche and De Marez, 2020). With regard to perceived ICT support, differences were identified based on respondents daily social contacts and amount of social support. Both respondents with more daily social contacts or with more social support contacts reported to perceive higher levels of support from others when having ICT questions or problems. This finding may indicate a rich-get-richer effect, Helsper and van Deursen (2017) already demonstrated that this effect applies to the

acquisition of digital assets as they found that people who were most likely to experience ICT problems, had most difficulty obtaining support, due to the lack of a social network or due to a lack of knowledge it their network. In the context of this study, it seems that people who already have more resources (e.g., social contacts), can deploy these resources in more situations (e.g., asking help for an ICT problem), which may result in additional resources or benefits (e.g., becoming more skilled in using ICTs or being able to use ICTs for more purposes or outcomes). Finally, considering ICT outcomes, we found some differences based on age, in that younger respondents reported to be more capable to use ICTs to find a job vacancy, to find information on social organizations, and to buy a ticket for public transport. Similar with the results on ICT skills, we found that respondents who meet with their social care worker monthly or less frequently feel more confident to find information on social organizations and to buy a public transport ticket online than respondents who meet weekly with their social care worker. As previously suggested it may be that the former respondents are more self-reliant both offline and online.

Although we believe this study has several strengths, some limitations should be mentioned. First, as a convenience sampling approach was used, the study results should not be generalized to a larger population of people with ID. Furthermore, this convenience sampling approach may have resulted into participation bias as that people with ID who are more interested in ICTs or use ICTs more often, might have been more enthusiast to participate in the research. Second, as the social care worker of respondents helped with filling out the questionnaire (e.g., reading survey questions and answer, explaining unclear questions), it is possible that respondents have sometimes answered in a socially desirable way or in way to impress their social care worker. Third, respondents may also have overestimated or underestimated their ICT skills and ICT outcomes. Based on observational studies, future research could overcome this limitation. Fourth, participating in a survey can be a highly cognitive demanding activity for people with

ID, which may have decreased the answer reliability. However, during the training which the social care workers received in advance, they were instructed to insert intermissions when filling out the survey if necessary.

The study results are of importance for organizations and professionals, such as teachers, social care workers or caregivers, who interact with people with ID. As our results indicate significant differences in ICT access, use purposes, skills, support, and outcomes, professionals should attempt to approach people with ID as a heterogeneous group when teaching or applying ICTs. For example, when people with ID learn to use new ICTs, some may expect step-by-step guidance and support, while others may prefer an independent trial-and-error learning process; or when caregivers apply ICTs in interactions with people with ID, some of them may be enthusiastic to use a health or budget monitoring app, while others may only feel comfortable to use ICTs to make an appointment with their social care worker or nurse. Furthermore, organizations, and public and health services should be thoughtful when deciding (not) to implement ICTs in their interactions with certain population subgroups, such as people with ID, as this may exclude individuals from opportunities. While some may be excluded because they are unable to access the digital service (e.g., buying a bus ticket through a mobile app) or because they do not know how to use the service, others may be excluded by being perfectly capable of using the digital service, but by not being allowed or expected to use it. Therefore, we advocate to implement dual services, in which the online service can be the by-default service, while the offline alternative service is still easily to access. This recommendation is not only applicable for socially vulnerable populations, such as people with ID, of which it is often taken for granted that a majority has limited ICT access, skills, or support, but also for other populations in which some individuals may have limited ICT access, skills or support either by financial constraint or by choice. Additionally, it may be interesting to involve end users, such as persons with ID, in the process of digital service development and implementation, this may

result into digital services that meet end users' needs and expectations. A final recommendation for policy and social organizations is to make decisions on ICT implementations based on empirical research results. Subsequently, we call researchers to further examine differences in ICT use aspects, - based on surveys, interviews, and observations -, among vulnerable and hard-to-target groups, such as people at-risk of poverty, disabled people, or foreign-speaking minority groups. Seldomly, these individuals are all equally disconnected or unskilled with regard to ICT use, which may result in more informed policy and organizational decisions.

In conclusion, this study demonstrated that people with ID differ in ICT use aspects. Therefore, we advocate to consider people with ID as heterogeneous with regard to their ICT use, while previously the ICT use of these and other vulnerable groups have often been considered as homogeneous equal for all individuals of these groups. Future research should further explore differences in ICT use aspects among disabled people and among other vulnerable groups. In this way, public services and professionals can more differentiate by applying ICTs in interactions for those individuals who are capable of it and/or want it, while sticking to non-digital services for others.

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Figures and Tables

Table 1

Frequencies of ICT Use Purposes and ICT Outcomes in the Total Sample

ICT use aspects	*n*	*%*
ICT use purposes (*n* = 94)		
To talk with friends and family (no/yes)	14/80	14.9/85.1
To meet new people (no/yes)	36/58	38.3/61.7
To know what is happening around me (no/yes)	35/59	37.2/62.8
To search information (no/yes)	22/72	23.4/76.6
To entertain myself (no/yes)	25/69	26.6/73.4
To ask for support (no/yes)	55/39	58.5/41.5
ICT outcomes (*n* = 89)		
To receive a benefit from government (no/yes)	83/6	93.3/6.7
To find a job vacancy (no/yes)	57/32	64.0/36.0
To find info about social organizations (no/yes)	42/47	47.2/52.8
To buy a public transport ticket (no/yes)	34/55	38.2/61.8

Table 2

Differences in ICT Access, Use Purposes, Skills, Support, and Outcomes based on Respondents' Age and Daily Activity

ICT use aspects	Age			Daily activity		
	23-48 year	49-66 year		Employment	Other	
	%/*Mdn*	%/*Mdn*	X^2/*U*	%/*Mdn*	%/*Mdn*	X^2/*U*
ICT access (*n* = 94)	*n* = 48	*n* = 46		*n* = 51	*n* = 43	
Computer at home(no/yes)	12.5%/87.5%	32.6%/67.4%	**5.475 (*p* = .019)[a]**	19.6%/80.4%	25.6%/74.4%	0.480 (*p* = .488)[a]
Internet connection at home (no/yes)	6.3%/93.8%	21.7%/78.3%	**4.729 (*p* = .030)[a]**	15.7%/84.3%	11.6%/88.4%	0.322 (*p* = .570)[a]
Smartphone (no/yes)	2.1%/97.9%	52.2%/47.8%	**30.189 (*p* < .001)[a]**	23.5%/76.5%	30.2%/69.8%	0.537 (*p* = .464)[a]
Mobile internet on smartphone (no/yes)	12.5%/87.5%	63.0%/37.0%	**25.677 (*p* < .001)[a]**	29.4%/70.6%	46.5%/53.5%	2.919 (*p* = .088)[a]
ICT use purposes (*n* = 94)	*n* = 48	*n* = 46		*n* = 51	*n* = 43	
To talk with friends and family (no/yes)	2.1%/97.9%	28.3%/71.7%	**12.699 (*p* < .001)[a]**	15.7%/84.3%	14.0%/86.0%	0.055 (*p* = .814)[a]
To meet new people (no/yes)	29.2%/70.8%	47.8%/52.2%	3.461 (*p* = .063)[a]	49.0%/51.0%	25.6%/74.4%	**5.424 (*p* = .020)[a]**
To know what is happening around me (no/yes)	22.9%/77.1%	52.2%/47.8%	**8.603 (*p* = .003)[a]**	31.4%/68.6%	44.2%/55.8%	1.639 (*p* = .200)[a]
To search information (no/yes)	10.4%/89.6%	37.0%/63.0%	**9.229 (*p* = .002)[a]**	15.7%/84.3%	32.6%/67.4%	3.705 (*p* = .054)[a]
To entertain myself (no/yes)	12.5%/87.5%	41.3%/58.7%	**9.983 (*p* = .002)[a]**	27.5%/72.5%	25.6%/74.4%	0.042 (*p* = .838)[a]
To ask for help (no/yes)	45.8%/54.2%	71.7%/28.3%	**6.494 (*p* = .011)[a]**	49.0%/51.0%	69.8%/30.2%	**4.137 (*p* = .042)[a]**
ICT skills (*n* = 92)	*n* = 48	*n* = 44		*n* = 42	*n* = 50	
Perceived skills	3.60	2.00	**511.0 (*p* < .001)[c]**	3.10	2.80	1005.5 (*p* = .727)[c]
ICT support (*n* = 92)	*n* = 48	*n* = 44		*n* = 42	*n* = 50	
Perceived support	4.50	4.00	818.0 (*p* = .051)[c]	4.50	4.00	940.5 (*p* = .368)[c]
ICT outcomes (*n* = 89)	*n* = 45	*n* = 44		*n* = 41	*n* = 48	
To receive a benefit from government (no/yes)	91.1%/8.9%	95.5%/4.5%	0.668 (*p* = .677)[b]	89.6%/10.4%	97.6%/2.4%	2.238 (*p* = .212)[b]

ICT use aspects	Age			Daily activity		
	23-48 year	49-66 year		Employment	Other	
	%/*Mdn*	%/*Mdn*	*X²/U*	%/*Mdn*	%/*Mdn*	*X²/U*
To find a job vacancy (no/yes)	51.1%/48.9%	77.3%/22.7%	**6.612 (*p* = .010)[a]**	62.5%37.5%	65.9%/34.1%	0.108 (*p*= .742)[a]
To find info about social organizations (no/yes)	35.6%/64.4%	59.1%/40.9%	**4.945 (*p* = .026)[a]**	39.6%/60.4%	56.1%/43.9%	2.420 (*p* = .120)[a]
To buy a public transport ticket (no/yes)	20.0%/80.0%	56.8%/43.2%	**12.774 (*p* < .001)[a]**	29.2%/70.8%	48.8%/51.2%	3.603 (*p* = .058)[a]

Note. [a] Chi-squared value. [b] Fisher's exact tests value. [c] Mann-Whitney U value. Significant test statistics are marked in bold.

Table 3

Differences in ICT Access, Use Purposes, Skills, Support, and Outcomes based on Respondents' Living Situation and Need for professional support

ICT use aspects	Living situation			Need for professional support		
	Alone	With others		≤ Monthly	Weekly	
	%/*Mdn*	%/*Mdn*	X^2/U	%/*Mdn*	%/*Mdn*	X^2/U
ICT access (*n* = 94)	*n* = 64	*n* = 30		*n* = 43	*n* = 51	
Computer at home(no/yes)	26.6%/73.4%	13.3%/ 86.7%	2.060 (*p* = .151)[a]	20.9%/79.1%	23.5%/76.5%	0.091 (*p* = .763)[a]
Internet connection at home (no/yes)	18.8%/81.3%	3.3%/96.7%	4.074 (*p* = .055)[b]	7.0%/93.0%	19.6%/80.4%	3.123 (*p* = .077)[a]
Smartphone (no/yes)	32.8%/67.2%	13.3%/86.7%	**3.970 (*p* = .046)[a]**	23.3%/76.7%	29.4%/70.6%	0.453 (*p* = .501)[a]
Mobile internet on smartphone (no/yes)	46.9%/53.1%	16.7%/83.3%	**7.976 (*p* = .005)[a]**	32.6%/67.4%	41.2%/58.8%	0.741 (*p* = .389)[a]
ICT use purposes (*n* = 94)	*n* = 64	*n* = 30		*n* = 43	*n* = 51	
To talk with friends and family (no/yes)	18.8%/81.3%	6.7%/93.3%	2.353 (*p* = .213)[b]	9.3%/90.7%	19.6%/80.4%	1.955 (*p* = .162)[a]
To meet new people (no/yes)	43.8%/56.3%	26.7%/73.3%	2.523 (*p* = .112)[a]	39.5%/60.5%	37.3%/62.7%	0.051 (*p* = .821)[a]
To know what is happening around me (no/yes)	35.9%/64.1%	40.0%/60.0%	0.144 (*p* = .704)[a]	32.6%/67.4%	41.2%/58.8%	0.741 (*p* = .389)[a]
To search information (no/yes)	21.9%/78.1%	26.7%/73.3%	0.262 (*p* = .609)[a]	16.3%/83.7%	29.4%/70.6%	2.244 (*p* = .134)[a]
To entertain myself (no/yes)	32.8%/67.2%	13.3%/86.7%	**3.970 (*p* = .046)[a]**	25.6%/74.4%	27.5%/72.5%	0.042 (*p* = .838)[a]
To ask for help (no/yes)	62.5%/37.5%	50.0%/50.0%	1.315 (*p* = .252)[a]	62.8%/37.2%	54.9%/45.1%	0.598 (*p* = .439)[a]
ICT skills (*n* = 92)	*n* = 63	*n* = 29		*n* = 42	*n* = 50	
Perceived skills	3.00	2.80	842.0 (*p* = .547)[c]	3.40	2.50	**798.5 (*p* = .048)[c]**
ICT support (*n* = 92)	*n* = 63	*n* = 29		*n* = 42	*n* = 50	
Perceived support	4.00	4.50	840.5 (*p* = .520)[c]	4.00	4.50	1038.5 (*p* = .925)[c]
ICT outcomes (*n* = 89)	*n* = 60	*n* = 29		*n* = 41	*n* = 48	
To receive a benefit from government (no/yes)	93.3%/6.7%	93.1%/6.9%	0.002 (*p* = 1.00)[b]	95.1%/4.9%	91.7%/8.4%	.420 (*p* = .683)[b]

ICT use aspects	Living situation			Need for professional support		
	Alone	With others		≤ Monthly	Weekly	
	%/*Mdn*	%/*Mdn*	X^2/U	%/*Mdn*	%/*Mdn*	X^2/U
To find a job vacancy (no/yes)	61.7%/38.3%	69.0%/31.0%	0.452 (p = .501)[a]	53.7%/46.3%	72.9%/27.1%	3.561 (p = .059)[a]
To find info about social organizations (no/yes)	48.3%/51.7%	44.8%/55.2%	0.096 (p = .756)[a]	34.1%/65.9%	58.3%/41.7%	**5.191 (p = .023)[a]**
To buy a public transport ticket (no/yes)	40.0%/60.0%	34.5%/65.5%	0.252 (p = .616)[a]	26.8%/73.2%	47.9%/52.1%	**4.165 (p = .041)[a]**

Note. [a] Chi-squared value. [b] Fisher's exact tests value. [c] Mann-Whitney U value. Significant test statistics are marked in bold.

Table 4

Differences in ICT Access, Use Purposes, Skills, Support, and Outcomes based on Respondents' Daily Social Contacts and Amount of Social Support

ICT use aspects	Daily social contacts			Amount of social support		
	≤ 10	> 10		≤ 4	> 4	
	%/*Mdn*	%/*Mdn*	*X²/U*	%/*Mdn*	%/*Mdn*	*X²/U*
ICT access (*n* = 94)	*n* = 61	*n* = 33		*n* = 62	*n* = 32	
Computer at home(no/yes)	26.2%/73.8%	15.2%/84.8%	1.515 (*p* = .218)[a]	22.6%/77.4%	21.9%/78.1%	0.006 (*p* = .938)[a]
Internet connection at home (no/yes)	16.4%/83.6%	9.1%/90.9%	0.958 (*p* = .532)[b]	16.1%/83.9%	9.4%/90.6%	0.808 (*p* = .532)[b]
Smartphone (no/yes)	26.2%/73.8%	27.3%/72.7%	0.012 (*p* = .913)[a]	25.8%/74.2%	28.1%/71.9%	0.058 (*p* = .809)[a]
Mobile internet on smartphone (no/yes)	39.3%/60.7%	33.3%/66.7%	0.331 (*p* = .565)[a]	37.1%/62.9%	37.5%/62.5%	0.001 (*p* = .969)[a]
ICT use purposes (*n* = 94)	*n* = 61	*n* = 33		*n* = 62	*n* = 32	
To talk with friends and family (no/yes)	14.8%/85.2%	15.2%/84.8%	0.003 (*p* = 1.00)[b]	16.1%/83.9%	12.5%/87.5%	0.219 (*p* = .766)[b]
To meet new people (no/yes)	41.0%/59.0%	33.3%/66.7%	0.530 (*p* = .466)[a]	37.1%/62.9%	40.6%/59.4%	0.111 (*p* = .739)[a]
To know what is happening around me (no/yes)	45.9%/54.1%	21.2%/78.8%	**5.586 (*p* = .018)[a]**	40.3%/59.7%	31.3%/68.8%	0.743 (*p* = .389)[a]
To search information (no/yes)	24.6%/75.4%	21.2%/78.8%	0.136 (*p* = .712)[a]	25.8%/74.2%	18.8%/81.3%	0.586 (*p* = .444)[a]
To entertain myself (no/yes)	26.2%/73.8%	27.3%/72.7%	0.012 (*p* = .913)[a]	32.3%/67.7%	15.6%/84.4%	2.991 (*p* = .084)[a]
To ask for help (no/yes)	65.6%/34.4%	45.5%/54.5%	3.571 (*p* = .059)[a]	64.5%/35.5%	46.9%/53.1%	2.706 (*p* = .100)[a]
ICT skills (*n* = 92)	*n* = 59	*n* = 33		*n* = 60	*n* = 32	
Perceived skills	2.80	3.00	943.5 (*p* = .807)[c]	2.90	2.90	901.5 (*p* = .631)[c]
ICT support (*n* = 92)	*n* = 59	*n* = 33		*n* = 60	*n* = 32	
Perceived support	4.00	5.00	**733.5 (*p* = .041)[c]**	4.00	5.00	**707.0 (*p* = .030)[c]**
ICT outcomes (*n* = 89)	*n* = 57	*n* = 32		*n* = 59	*n* = 30	
To receive a benefit from government (no/yes)	91.2%/8.8%	96.9%/3.1%	1.039 (*p* = .413)[b]	91.5%/8.5%	96.7%/3.3%	0.836 (*p* = .659)[b]

ICT use aspects	Daily social contacts			Amount of social support		
	≤ 10	> 10		≤ 4	> 4	
	%/*Mdn*	%/*Mdn*	*X²/U*	%/*Mdn*	%/*Mdn*	*X²/U*
To find a job vacancy (no/yes)	66.7%/33.3%	59.4%/40.6%	0.473 (*p* = .492)[a]	66.1%33.9%	60.0%/40.0%	0.322 (*p* = .571)[a]
To find info about social organizations (no/yes)	45.6%/54.4%	50.0%/50.0%	0.158 (*p* = .691)[a]	50.8%/49.2%	40.0%/60.0%	0.939 (*p* = .333)[a]
To buy a public transport ticket (no/yes)	42.1%/57.9%	31.3%/68.8%	1.023 (*p* = .312)[a]	42.4%/57.6%	30.0%/70.0%	1.290 (*p* = .256)[a]

Note. [a] Chi-squared value. [b] Fisher's exact tests value. [c] Mann-Whitney U value. Significant test statistics are marked in bold.