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Do the rich get digitally richer? Quantity and quality of support for digital engagement

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ABSTRACT

This paper asks what predicts having access to and using social support networks that might help an individual in using the Internet. Following the course taken by the digital divide or digital inclusion research, this paper uses socio-cultural, socio-economic, social, and digital indicators to predict access to and the type of potential and actual social support networks that might help an individual in using the Internet. In addition, the paper examines the quality of the support received which is neglected in most investigations that mainly focus on quantitative indicators of support. The study draws on a representative survey conducted in the Netherlands; 1149 responses were obtained. The results show that while there are no real inequalities in access to and use of support, the quality of the support that people access is unequally distributed replicating existing patterns of disadvantage. Thus, access to support is another level at which the digital divide manifests and strengthens itself. Those who experience most problems online also seem to have the most difficulty obtaining high-quality support even when it is available, creating an even larger 'gap' between those who do and do not need support.

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Digital divide; digital inclusion; Internet use; support networks; proxy use

Introduction

A recent review of national digital policies in Europe shows that having access to and using the Internet are considered fundamental to participating fully in society (Helsper & Van Deursen, 2015). However, at the same time research shows that the skills to use the Internet to one's benefit are underdeveloped among non-negligible parts of the population, even in countries with high levels of diffusion (e.g., Gui & Argentin, 2011; Hargittai, 2010; Van Deursen & Van Dijk, 2010). Many countries have rolled out digital skills training in public places such as schools, tele-centers libraries, and community centers but this has not been as successful as hoped in tackling digital exclusion. Other research suggests that the everyday social support people have access to when using the Internet is important for being digitally included (Bakardjieva, 2005; Courtois & Verdegem, in press; DiMaggio, Hargittai, Celeste, & Shafer, 2004; Reisdorf, 2011; Van Deursen, Courtois, & Van Dijk,

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2014). However, these studies did not set out to look at this support and the effect of networks on people's engagement with the Internet and thus did not have a good set of measures for operationalizing this type of support. Nor did this research formulate hypotheses derived from a theoretical framework regarding what might explain the differences in quantity and quality of support. In the current contribution we focus on predictors of having access to and using social support networks that might help an individual in using the Internet. Following the course taken by digital inequality research, this paper uses socio-cultural, socio-economic, social, and digital resource indicators to predict potential and actual use of support sources, and the variety of the sources used. Having someone potentially available for support does not necessarily mean this source is actually used. Our inclusion of both potential and actual use of support provides a much clearer picture of who is and who is not able to cope with problems experienced when using the Internet. Furthermore, we focus on the quality of the support that someone actually used, which is neglected in most investigations that mainly focus on quantitative measures. The overall research question is: *Do the people who need support most – those who are most likely to experience Internet skill-related problems – have more or less access to support sources, and what is the result of the support received?*

Theoretical background

Social support and social capital

People's connections to others, their social capital, is known to create opportunities for access to resources that might otherwise be out of reach and has proven key to defining participation in society in areas such as economic and political participation, and personal well-being (Bourdieu, 1984; Coleman, 1988; Putnam, 1995). When it comes to quantity of support, people receive most of their social support from those with whom they are in most frequent contact (Wellman & Wortley, 1990). Bakardjieva (2005) refers to 'warm experts' or close networked relations that have higher levels of Internet skills and who are able to help out users that seek support. People rely on relatives or friends to help them get online or whenever something is unclear (Bakardjieva, 2005). Field (2005) has shown the importance of social capital, the quantity and quality of support people receive in everyday life, for informal learning and skills acquisition. A logical continuation of this research includes recent attempts to apply social capital theory to explain access to digital or online resources (Helsper, 2012). Van Deursen et al. (2014) identified three patterns when it comes to accessing networks to find support in using the Internet: self-reliant Internet users, users that rely on informal social networks of family and friends, and formal help seekers who combine sources such as help desks, colleagues, computer experts, and courses. These patterns resemble the patterns suggested by Courtois and Verdegem (in press), who distinguished between soliciting and receiving support from family members in the first instance and friends in the second instance, support from friends and colleagues, and a group consisting of users who do not require any help. Findings of these studies suggest that the most natural solution for people is mobilizing their informal network when support is needed online. After all, contact between similar people occurs at a higher rate than among dissimilar people (McPherson, Smith-Lovin, & Cook, 2001).

The most natural solution, however, does not always sufficiently help people to catch up with those who already have higher levels of Internet skills and those who seek formal help from courses, books, help desks, and experts (Courtois & Verdegem, in press; Van Deursen et al., 2014). Learning from family might not always be evident, efficient, or preferential since family members might be unavailable, be reluctant and impatient to help, or even refuse support (Courtois & Verdegem, in press). Furthermore, although some scholars argue that young people can support adults' uses of Information and Communication Technologies (ICTs) by explaining and thus increasing their skills, others argue that such attempts are not always effective; the position of the child as the Internet expert is challengeable (Clark, 2009; Holloway & Valentine, 2003; Kent & Facer, 2004; Kiesler, Zdaniuk, Lundmark, & Kraut, 2000). It seems logical to conclude that having access to more support sources is related to an increased variety of support and that this combination of quantity and quality of support should lead to better help. Unfortunately, there is very little research that looks into what explains both quantity and quality of support sources used. Helsper and Godoy-Etcheverry (2011) have shown that access to support in use of the Internet by non-users (i.e., proxy-use) can be explained by the socio-demographic characteristics that are related to digital divides in general (see also Dutton, Blank, & Groselj, 2013; Neves & Fonseca, 2015). However, neither did this research look at how this relates to the usefulness of this support nor did it relate this to levels of Internet skills. Before describing the results of the study under discussion, we will address some of the key factors that research has shown to be related to digital inclusion and engagement.

Socio-cultural indicators and digital engagement

A general finding in Internet use research is that younger people exhibit the highest frequency and diversity of Internet use, resulting from their generation's earlier exposure, peer use, and confidence in relation to new technologies (Dutton et al., 2013; Zillien & Hargittai, 2009). Some have argued that the relationship between age and lower levels of digital engagement might be explained by higher levels of social isolation (Eynon & Helsper, 2011), though there is little research in this area. Whether older people ask for help when it is available depends on individual characteristics as well as their broader network's characteristics. Therefore, we hesitate at this point to hypothesize about the direction of the relationship between age and asking for support.

Men have historically tended to use the Internet more than women which was mostly explained by heightened prior exposure to technology and by work-related requirements (e.g., Cooper, 2006; Cotten & Jelenewicz, 2006; Meraz, 2008; Zillien & Hargittai, 2009). Recently, gender differences in quantity of use have become comparatively small but differences in skill and type of use continue to exist in high diffusion countries (e.g., Dutton et al., 2013; Haight, Quan-Haase, & Corbett, 2014; Van Deursen & Van Dijk, 2015). On the other hand, traditional research that examines social capital related to gender suggests that women are more likely to ask for help than men (Addis & Mahalik, 2003; Lehdonvirta, Nagashima, Lehdonvirta, & Baba, 2012).

Since gender and age have both been related to use of the Internet and access to and use of social support networks, but it is unclear in which direction this might work for support in relation to the Internet, we hypothesize that:

H1a: Gender and age are related to potential availability and actual use of support when digital resources are controlled for.
H1b: Gender and age are related to the quality of support when digital resources are controlled for.

Socio-economic indicators and digital engagement

Education and income are the most consistent predictors of Internet access; individuals with higher levels of education are almost always on 'the right side of the digital divide' (Buente & Robbin, 2008; Hale, Cotten, Drentea, & Goldner, 2010). Those with higher levels of education furthermore have greater Internet awareness, better training, higher capabilities, and greater abilities to evaluate online content (Van Dijk & Van Deursen, 2014). People with lower educational levels have lower levels of Internet skills and are less likely to use the Internet in ways that are beneficial to them in an economic sense (e.g., Van Deursen & Van Dijk, 2015; Van Deursen, Van Dijk, & Ten Klooster, 2014). Furthermore, those with higher income employ the Internet to greater economic advantage, while people with lower levels of income are less likely to use the Internet and, when they do, have a narrower use of the Internet (Dutton et al., 2013). Occupation, in the sense of employment or unemployment, has also been related to digital inclusion. Those in employment are more digitally engaged and benefit more from technology in their everyday lives (Clayton & Macdonald, 2013). Furthermore, the work environment has proven to be an important support enabler when it concerns the use of the Internet, especially help from colleagues which proved even more important than formal means (e.g., training) organized by the organization (Van Deursen & Van Dijk, 2014). Another socio-economic factor related to digital engagement is health, often operationalized as having a disability that hinders activities considered normal in daily life such as work (Macdonald & Clayton, 2013; Vicente & Lopez, 2010). We hypothesize that:

H2a. The more socio-economic resources (i.e., education, income, employment, and health) one has, the higher the potential availability and actual use of support when digital resources are controlled for.
H2b. The more socio-economic resources (i.e., education, income, employment, and health) one has, the higher the quality of support when digital resources are controlled for.

Social indicators and digital engagement

It seems obvious that the extent and nature of offline social support networks or social capital influence the quantity and quality of support in relation to asking for help in getting online or when being online. However, this has been very rarely studied. We do know that those who are less socially isolated are more likely to engage with the Internet and that not all social connections are equally motivational in engaging broadly with the Internet (Eynon & Helsper, 2015; Neves & Fonseca, 2015). In addition to the extent of relationships, scholars distinguish differences in the nature of bonding and bridging ties. Putnam (2000) defines bridging relationships as connections that reach outward to people from diverse social backgrounds. Bonding relationships on the other hand consists of inward looking networks that tend to reinforce exclusive identities and homogeneous groups. In the digital sphere, bridging social capital was shown to be augmented because Social

Networking Sites enable users to create and maintain larger, more varied networks of relationships from which they could potentially draw resources (Donath & boyd, 2004; Wellman, Haase, Witte, & Hampton, 2001). Nevertheless, most interactions on social networking sites are with people who are close and similar, that is, bonding ties (Haythornthwaite, 2002). We hypothesize that:

H3a: The more social resources one has, the higher the potential availability and the actual use of support when digital resources are controlled for.
H3b: The more social resources one has, the higher the quality of support when digital resources are controlled for.

Digital indicators and asking for help

Turning to support for using the Internet is likely to result from skill-related problems. It seems logical to assume that those who consider themselves to be very skilled are less likely to ask for support. One would hope that those who most need it, that is those with lower levels of Internet skills, are most likely to have access to and ask for support. Two aspects should be accounted for here: belief in one's Internet skills or self-efficacy, and one's actual level of Internet skills. Self-efficacy is a crucial factor in Internet use (Eastin & LaRose, 2000) and explains the types and the number of Internet activities people engage in (e.g., Helsper & Eynon, 2013). We expect that people with higher levels of self-efficacy need less support, since they might believe they can do most things themselves. Concerning more objective measures of Internet skills, two types of skills should be accounted for: medium- and content-related (Van Deursen & Van Dijk, 2010). Medium-related skills entail basic technical skills and skills related to navigating the Internet's hyperlinked structure. Content-related skills comprise skills to seek and evaluate information, and skills which envision the attainment of goal-directed solutions in the most optimal and efficient way. The distinction between medium- and content-related Internet skills has been shown to be theoretically and empirically distinct and have different determinants (Van Deursen & Van Dijk, 2010). Besides self-efficacy and Internet skills, years of Internet experience and the time spent online should be considered. Especially experience has often shown to be an important predictor of types of online engagement (Gil-Garcia, Helbig, & Ferro, 2006; Zillien & Hargittai, 2009). While we might expect that those with higher levels of Internet self-efficacy, Internet skills, and experience are less likely to ask for support because they feel comfortable online, based on the digital inclusion literature we would expect people with less digital resources to have a narrower network of people around them who have high skill levels. Therefore, we hypothesize that:

H4a: The more digital resources one has the higher the potential availability and the lower the actual use of support.
H4b: The more digital resources one has the higher the quality of support.

Method

Sample

The present study draws on a sample collected in the Netherlands. To obtain a representative sample of the Dutch population, we made use of Panelclix, a professional

organization for market research with a panel containing around 110,000 people. Members of the panel receive a small incentive of a few cents for every survey they complete. In the Netherlands, 98% of the population uses the Internet, making the user population very similar to the general population in terms of its socio-demographic make-up. Since the panel is a representative sample of the Dutch Internet user population, it contains beginners and advanced users of the Internet. In total, a sample of 2500 people was randomly selected from this panel with the aim of eventually having a data set with around 1200 respondents. The response rate was 44%, and a total of 1149 responses were obtained, collected over a two-week period in November 2013 using an online survey. During the data collection period, amendments to the sampling frame were made to ensure the sample was representative of the Dutch population. Background variables of the respondents are compared with the latest data from Statistics Netherlands. Given that our final sample is drawn from a representative sample and that amendments were made to be sure to represent the Dutch population, analyses showed that the gender, age, and formal education of our respondents largely matched official census data. As a result, only a very small correction was needed post hoc. The sample had the following composition: 50% Male/Female; Age ($M = 48.6$; SD = 16.9); Education: Low (e.g., primary school) 33%, Middle (e.g., high school) 41%, High (e.g., college and university) 24%; Occupation: Employed 48%, Unemployed 7%, Disabled 7%, Retired 22%, Housewife/-husband 8%, Student 8%.

The online survey used software that checked for missing responses in which users were prompted to answer them. The survey was pilot tested with ten Internet users over two rounds. Amendments were made based on the feedback provided. No major comments were provided in the second round. The time needed to answer the survey questions was 15 minutes on average.

Measures

In the survey, we considered support people believe they have access to (potential support sources), and support people actually used in the three months before the survey was administered (actual support sources). Concerning potential support, the following variables are considered: the *perceived availability of support*, the *variety of informal sources potentially available*, and *the variety of formal sources potentially available*. Concerning actual support, we considered the following variables: *actual use of support*, the *variety of informal sources actually used*, the *variety of formal sources actually used*, and the *quality of the received support*.

To measure the *perceived availability of support*, we asked respondents 'Is there someone who can help you with using the Internet?' Answer options were definitively (47.4%), maybe (25.2%), probably not (18.5%), and definitively not (9.0%). For the analysis, we transformed this scale to a dichotomous scale, No (27.5%) and Yes (72.6%). The next question was who that person would be if they had answered yes or maybe to the first question. The respondents were offered a list with one to nine possible options: friends (51%), (grand)children (38%), co-workers or fellow students (20%), siblings (17%), experts (17%), helpdesk (11%), parents (8%), librarians (1%), and Internet café employees (0.3%). *Variety of informal support potentially available* was measured by summing the checked informal sources (parents, (grand)children, siblings, friends) among those who

said that they have potential support available ($M = 1.1$, SD = 0.7). Similarly, the *variety of formal sources potentially available* was measured by summing the checked formal sources (colleagues, helpdesk, experts, library personel) ($M = 0.5$, SD = 0.7).

To measure *actual use of support,* we asked respondents 'Did you in the past three months ask for help when using the Internet?' Answer options were yes, multiple times (7.3%), yes, one or two times (33.8%), and no (58.9%). For the analysis, we transformed this scale to a dichotomous scale, No (58.9%) and Yes (41.1%). The next question was who they actually asked for help if they had answered yes. The respondents were offered a list with one to nine possible options: (grand)children (48%), friends (33%), computer experts (16%), co-workers (9%), siblings (7%), helpdesk (7%), parents (5%), librarians (0.0%), and Internet café employees (0.0%). *Variety of informal support actually used* was measured by summing the checked informal sources (parents, (grand)children, siblings, friends) among those who said that they used support in the past three months ($M = 0.9$, SD = 0.4). Similarly, the *variety of formal sources actually used* was measured by summing the checked formal sources (colleagues, helpdesk, experts, library) ($M = 0.3$, SD = 0.6). The *quality of the received support* was measured by asking the respondents who received support in the past three months whether they felt they would still need support the next time in a similar occurrence (5-point scale, $M = 3.7$, SD = 0.9).

The socio-cultural indicator *gender* was included as a dichotomous variable. *Age* was computed by subtracting the reported year of birth from the survey year.

The first socio-economic resource indicator accounted for is *education*, collected by degree as one of ten categories following the Dutch education system classification. These data were subsequently divided into groups of low and high educational level. *Income* was measured using total family income over the last 12 months, assessed on an 8-point scale. From census data, two categories were created: low and high income. *Employment status* was coded as dummy variables: employed, retired, disabled, househusbands or -wives, unemployed, and students. Finally, we asked whether respondents had *health issues* that hinder them in their daily activities.

Social resource indicators were measured by asking the respondents their *marital status*, which was coded into dummy variables: single (23%), married or living together in a relationship (66%), divorced (8%), and widow(er) (4%). We also asked for *children at home,* measured by asking the number of children aged 0–9 ($M = 0.4$, SD = 0.7), 10–14 ($M = 0.4$, SD = 0.7), and over 15 ($M = 0.5$, SD = 0.8) people have. For the analysis, we created a single dichotomous variable of having children at home or not. Finally, we created a dichotomous variable *other Internet users at home* measured by asking respondents whether the household contained others that make use of the Internet (76%).

The digital resource indicator of *frequency of Internet use* was measured by asking respondents how often they use the Internet; monthly, weekly, few times a week, daily, or multiple times each day ($M = 4.47$, SD = 0.7). *Years online* was captured by the number of years that people had been using the Internet ($M = 11.3$, SD = 5.0). *Internet skills* were measured using a frequency-based instrument adopted from Van Deursen, Van Dijk, and Peters (2012). The instrument uses a five-point scale ranging from never to daily and proposes items for operational, formal, information, and strategic Internet skills. Instead of drawing upon self-assessments, items in the original

instrument ask for actual behaviors that serve as indices for skills. The instrument was originally constructed by using extensive ecologically valid skill performance field tests as benchmarks. Eight (operational and formal skill) items were averaged as a measure of *medium-related Internet skills* ($M = 1.9$, SD = 0.6, $\alpha = .89$) and 10 (information and strategic skills) items were averaged as a measure of *content-related skills* ($M = 3.5$, SD = 0.8, $\alpha = .90$). *Internet self-efficacy* was measured with six items primarily adapted from Livingstone and Helsper (2010) ($M = 3.5$, SD = 0.8, $\alpha = .90$):

Analysis

We used binary logistic regression to determine odds ratios for predictors of the dichotomous dependent variables of *perceived availability of support* and *actual use of support*. Linear regression analyses were used to analyze which are the significant predictors of the *variety of informal sources potentially available*, *the variety of formal sources potentially available,* the *variety of informal sources actually used*, the *variety of formal sources actually used*, and the *quality of the received support*. The regression models included the independent variables of gender, age, education, income, employment, health issues, marital status, children at home, other Internet users at home, frequency of Internet use, years online, medium- and content-related Internet skills, and self-efficacy.

Results

Potential availability and variety of support

Table 1 shows the predictors for the availability of potential support and for the variety of the available informal and formal sources. Regarding the availability of potential support, women and older people are more likely to have support sources at their disposal. Compared to employed people, the unemployed are less likely to have potential support. Furthermore, those with more years of Internet experience and higher levels of medium-related Internet skills and self-efficacy indicate to have less potential support available. Concerning the variety of the informal sources that is potentially available, women have a significantly higher variety available than men. Age contributes negatively to the variety of informal support available. Compared to employed people, those retired have a greater variety in potentially available informal sources.

Table 1 furthermore shows that, contrary to informal sources available, men have a greater variety of formal sources potentially available as compared to women. Those with a higher level of educational attainment and higher income also have a greater variety of formal sources available. Compared to those employed, those unemployed, disabled, retired, or housewives/-husbands have a smaller variety of potential formal sources available. Higher levels of medium- and content-related Internet skills also result in a larger variety of potential formal sources.

Actual use of support and the quality of support received

Of all respondents, 30% requested support in the three months before the survey. Table 2 shows the predictors for the use of support in the past three months, and the varieties of

Table 1. Logistic regression to predict availability of potential support and linear regressions to predict variety of informal and formal sources potentially available.

	Availability (N/Y) Odds ratio	Variety of informal sources β	Variety of formal sources β
Gender (M/F)	1.65***	.08*	−.10**
Age	1.02**	−.23***	.03
Education (low/high)	1.07	−.05	.10**
Income (low/high)	1.09	−.04	.10*
Employment status (*ref. Employed*)			
Unemployed	0.44**	−.04	−.16***
Unable to work	1.28	.01	−.17***
Retired	1.02	.15**	−.16*
Student	1.39	.04	−.01
Househusbands/-wives	1.72	−.04	−.14***
Disabled (N/Y)	0.95	−.09*	.10**
Marital status (*ref. Single*)			
Married/relation	1.11	−.09	−.11
Divorced	1.21	−.04	−.08
Widow	1.01	−.01	−.05
Children at home (N/Y)	0.95	.08	−.02
Other Internet users at home (N/Y)	1.21	.00	.02
Frequency of Internet use	1.17	−.03	.03
Years online	0.97*	.04	−.01
Medium-related Internet skills	0.75*	−.04	.08*
Content-related Internet skills	0.84	−.03	.13**
Internet self-efficacy	0.66*	−.08	.04
Constant	6.19		
Nagelkereke R^2	.12		
Chisquare	97.21***		
Adj. R^2		.08	.18
F		3.44***	8.15***

Notes: Availability of potential support $N = 1420$; variety of support sources = 1320.
*$p < .05$.
**$p < .01$.
***$p < .001$.

the informal and formal support that were used. Older people were more likely to have requested support than younger people. Students and housewives/-husbands are more likely to have requested support as compared to employed people. Those who live at home with other Internet users are more likely to have used support. Furthermore, people with more years of Internet experience, with a higher frequency of Internet use and with higher levels of self-efficacy are less likely have requested actual support.

Table 2 further shows that the variety of the informal sources that was actually used is higher for people married or in a relationship, divorced people and widow(er)s as compared to singles. Those with a disability used less support, as did those with higher levels of self-efficacy. Finally, those with higher income levels requested more formal support. Compared to employed people, those disabled requested less formal support. Married people or those in a relationship also requested less formal support as compared to singles. Those with higher levels of content-related Internet skills requested more formal support.

In addition, Table 2 demonstrates the predictors for the quality of the received support that was actually used. Age was negatively related to quality of support; that is older people are more likely to still need support when similar problems occur again. People with a disability seem to benefit more from requested support compared to those without. Higher levels of self-efficacy result in a higher quality of support received.

Table 2. Logistic regression of the availability of actual support and linear regressions of the variety of informal and formal actual sources and the quality of support received.

	Availability (N/Y) Odds ratio	Variety informal sources *β*	Variety formal sources *β*	Quality of support *β*
Gender (M/F)	1.34	−.04	−.05	−.03
Age	1.03**	.02	−.12	−.31**
Education (low/high)	1.09	−.03	.06	−.00
Income (low/high)	1.30	−.08	.21***	.05
Employment status (*ref. Employed*)				
Unemployed	0.72	.01	−.07	.02
Unfit for work	1.41	.01	−.13*	.08
Retired	1.21	.02	−.03	.05
Student	2.46*	.03	−.13	−.05
Househusbands/-wives	1.92*	−.05	−.10	.02
Disability (N/Y)	1.22	−.19**	.04	−.18**
Marital status (*ref. Single*)				
Married/relation	0.63	.23*	−.19*	.07
Divorced	1.25	.21**	−.14	.14
Widow	1.73	.17*	−.12	.09
Children at home (N/Y)	0.84	.11	−.12	−.04
Other Internet users at home (N/Y)	2.19**	−.11	.02	.03
Frequency of Internet use	0.72*	−.08	.08	−.05
Years online	0.96*	.09	.04	−.07
Medium Internet skills	0.80	−.07	.03	−.03
Content Internet skills	1.16	−.12	.13*	−.01
Internet self-efficacy	0.47***	−.18**	.08	.25*
Constant	3.28			
Nagelkereke R^2	.14			
Chisquare	120.92***			
R^2		.18	.24	.15
F		3.28***	4.61***	2.67***

Notes: Availability of actual support $N = 1030$; variety of actual support sources $N = 423$, quality of support received $N = 423$.
*$p < .05$.
**$p < .01$.
***$p < .001$.

Overview of hypothesis

Hypothesis H1a – Gender and age are related to potential availability and actual use of support when digital resources are controlled for – is partly supported. Women are more likely to have potential support available as compared to men. They also have a larger variety of potential informal sources available, while men have a larger variety of formal support sources. We did not find evidence for gender differences concerning the actual use of support. As regards age, we can conclude that younger people are more likely to have a larger variety of informal support available. Hypothesis H1b – Gender and age are related to the quality of support when digital resources are controlled for – is accepted for the age indicator. Besides having a larger variety of informal support available, younger people also receive support of a perceived higher quality.

Hypothesis H2a – The more socio-economic resources (i.e., education, income, employment, and health) one has, the higher the potential availability and actual use of support when digital resources are controlled for – is partly supported. Education, income, employment, and having a disability especially play a role in the potential availability of formal support sources. Being retired and having a disability play a role when examining the variety of available informal support. Having a disability also relates negatively to the

variety of informal sources actually used. Hypothesis H2b – The more socio-economic resources (i.e., education, income, employment, and health) one has, the higher the quality of support when digital resources are controlled for – is rejected with one exception: disability also negatively relates to the quality of support that people received.

Hypothesis H3a – The more social resources one has, the higher the potential availability and actual use of support when digital resources are controlled for – is partially rejected for the availability of potential support sources. However, the actual use of support is higher among those who live with others that have access to the Internet. Furthermore, compared to singles, those married or in a relationship, those divorced or widow(er)s, have used a larger variety of informal support sources. Hypothesis H3b – The more social resources one has, the higher the quality of support when digital resources are controlled for – is, therefore, rejected.

Hypothesis H4a – The more digital resources one has the higher the potential availability and the lower the actual use of support – is partly rejected. In fact, contrary to expectations, having more digital resources result in having less potential availability of support and in less actual use of support. Both medium- and content-related Internet skills do however result in a larger variety of formal sources that are potentially available and actually used. Finally, hypothesis H4b – The more digital resources one has the higher the quality of support – is rejected with the exception of Internet self-efficacy. Higher levels of self-efficacy result in higher quality of received support.

Discussion

Main findings

Recently, the debate around digital inclusion has started to recognize the importance of everyday support to allow individuals to use the Internet in the most beneficial way (Courtois & Verdegem, in press; Van Deursen et al., 2014). However, empirical research is still rare. Using data from a representative survey in the Netherlands, we aimed to contribute to the debate by investigating what predicts the potential and actual sources that are used when using the Internet. This study did this by using variables commonly used in digital inclusion research (i.e., socio-cultural, socio-economic, social, and digital characteristics of the individual). In light of the research question posed, we can draw several conclusions. On the positive side, we can conclude that in the Netherlands there are no striking socio-cultural, socio-economic, and social differences in the potential availability of support (with the exception of those who are unemployed). The same goes for the actual use of support, of which we would have hoped that it would have been higher among those who need it most (i.e., the elderly, lower educated, disabled, lower skilled, and those with less experience) but feared that this might not be the case. However, the results become a bit more worrying when we examine the variety of informal and formal support sources one has access to. Informal support such as that from family and friends is sought relatively more often by those retired and those with lower levels of digital resources. To the contrary, those with more socio-economic resources more often turn to formal sources of co-workers or experts.

We, thus, must conclude that the availability of digital resources does not lead to more support as digital inclusion literature and interventions would hope. Those with more

digital resources probably feel more comfortable in using the Internet and therefore request less help, or think they are so well skilled that in the event a problem occurs, one has little faith that there is someone nearby who can help them out. The latter conclusion is strengthened by the result that the more skilled one is, the less happy one is with the received support. However, besides having difficulty finding someone to help out at the level that they need, they might also be more aware of the issues that accompany the support that they receive. Those individuals who sought help from more formal sources argued they needed less help in similar future problems. This raises questions about the quality and effectiveness of the help of family and friends. Although not using these informal sources is clearly less effective, when support is received from these sources it does not necessarily turn people into self-sufficient users. This was also apparent amongst older users who rated the (informal) support they received lower than younger people did.

Overall our findings suggest that access to support is another level at which the digital divide manifests and strengthens itself. Those who experience most problems online also seem to have the most difficulty obtaining high-quality support even when it is available, creating an even larger 'gap' between those who do and do not need support. This would suggest that the most natural solutions for help should be supplemented with more formal help. For example, public access centers or libraries can play a role in providing skills support but regular home visits by people with more experience or support in places that people frequent outside the home is likely to be more effective. Relying on family members or occasional support that people need to actively seek out is unlikely to result in higher levels of inclusion. We argue that solving a lack of available support of high quality is the responsibility of many actors in society, among others governments, ICT industry, ICT training, labor organizations, schools and universities, libraries, public access centers, and user support groups.

Limitations and future research

Limitations of the study presented here are the constraints of using cross-sectional survey data. For example, it is not clear whether the differences found in this study will change over time whether older people's access to and use of support sources is due to coming from a different generation or whether it is because of life stage events and that these differences will continue when younger people grow older. Similarly, we do not know whether people who are in a relationship or live with others are different from those who do not and whether this explains their differences in access to and use of support sources or whether living with others leads to a different life and therefore more access to support sources.

Other improvements in further research would be to make a distinction between different types of employment and access to and use of support sources. It is likely that those in administrative and managerial positions will have access to a more expert and wider range of sources. Another issue that could be improved upon has to do with the way in which the availability of support question was asked. It might have been the case that those who did not think they needed help indicated not having access to help sources if they needed one.

To understand in more depth why people feel they have access to and chose to ask different sources (or why they do not) and what the differences are between support

through informal and formal sources in the support provided, a detailed mixed method study is needed that combines the quantitative evaluative research done in this paper and with research into people's evaluations of support. A strong qualitative component would enable a better understanding of the underlying processes.

Disclosure statement

No potential conflict of interest was reported by the authors.

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