THE EFFECTS OF INTERNET USE BY PEOPLE WITH AND WITHOUT INTELLECTUAL DISABILITY: STUDENT TEACHERS' PERSPECTIVES

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Abstract

The Internet is a tool that has multiple benefits for individuals and for the society as a whole, while some dangers can also be identified. The perceptions that we have about the Internet may be modulating our use of this technology and especially that of some groups that have been traditionally excluded from the digital arena, such as people with intellectual disability (ID). In order to promote the digital inclusion of people with ID, we need to explore the point of view of the general population about the advantages and disadvantages of Internet use by this group. Special attention should be paid to those professionals that will be providing support soon to people with ID in different settings (e.g. schools, sheltered workshops). The purpose of this study was to explore the perceptions that student teachers have about the benefits and risks of Internet use. The study also aimed to determine whether these perceptions differ when rating them for people with or without ID. A cross-sectional study was conducted using an online questionnaire to collect data. A convenience sample of 182 undergraduate students of Education was recruited into the study. Students had an average age of 21.42 ($SD = 4.34$) and the majority of the participants were female (84.1%). Only 17.6% of the students had regular contact with people with ID. Results show that student teachers perceive more risks than benefits of going online for both people with and without ID. Moreover, dangers of using the Internet are perceived significantly greater for people with ID than for the general population ($p < .001$). Female participants were more likely to report greater online risks when compared with male participants ($p < .05$). No significant differences on student teachers' perceptions were found with regard the frequency of contact with people with ID. Findings from this study reveal that despite the possibilities that the Internet can offer to the individuals, there are still some worries about its use. This perception is even greater when referring to people with ID who are usually seen as more vulnerable to abuse. We must be aware of and address these perceptions since they may be hindering the participation of people with ID in the digital arena and, therefore, limiting their opportunities of social and personal development. In addition, positive risk management approaches that avoid digital overprotection of people with ID should be provided to student teachers.

Keywords: Intellectual disability, Internet, benefits, risks, student teachers.

1. Introduction

In recent years, the digital divide has been a focus of attention given the importance in our society of the Internet and the use of technology. The digital divide has been defined as 'the gap between individuals, households, businesses and geographic areas at different socio-economic levels with respect to their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities' (Organization for Economic Co-operation and Development, 2001, p. 5). In this regard, the *Convention on the Rights of Persons with Disabilities* (UNESCO, 2006) indicates the need to 'promote the access of persons with disabilities to new information and communication systems and technologies, including the Internet' (p. 10). In like manner, the *World Report on Disability* (WHO, 2011) noted the need to eliminate the barriers that limit the use and access to information and technology, favoring universal design. Likewise, the United Nations highlighted in the *Agenda 2030 for Sustainable Development* (United Nations, 2015) the importance of 'significantly increasing access to information and communication technology and striving to provide universal and affordable access to the Internet [...]' (p. 24). Finally, the *European Disability Strategy 2010-2020* remarked the objective of achieving 'accessibility to goods, services including public services and assistive devices for people with disabilities', which include ICTs (European Commission, 2010).

The inclusion of people with disabilities in various areas of society (e.g. education, employment) is a key objective in Western countries. However, there are still barriers that limit such inclusion, especially for people with intellectual disabilities (ID) (e.g. educational segregation, low employment rate, use of technology). These barriers may have their origin in sources such as legislation, accessibility, quality of education, or prejudices (Abbott and Mcconkey, 2006). Prejudices are the ideas that people in the environment have about the capabilities and characteristics of, in this case, individuals with ID (e.g. not being able to do so, getting into trouble, being abused). Prejudices become psychological barriers that can hinder the development of their potential, especially when it is considered that the benefits are significantly lower than the risks. This can favor attitudes of infantilization and overprotection towards these people. In this sense, it is key to identify such prejudices, especially those of people that are closer to the individual with ID (Chadwick and Wesson, 2016; Seale and Chadwick, 2017), in order to implement strategies (e.g. training, information) that limit or eliminate these prejudices (Morin, Rivard, Crocker, Boursier, and Caron, 2013; Scior, 2011).

Research has shown that access to the Internet entails both benefits and potential risks for people with ID. The benefits include the promotion of self-determination, social identity and participation (Bannon, McGlynn, McKenzie, and Quayle, 2015, Molin, Sorbring, and Löfgren-Martenson, 2015), social interaction (Darragh, Reynolds, Ellison , and Bellon, 2017), participating in recreational activities (Chiner, Gómez-Puerta, and Cardona-Moltó, 2017b; Jenaro, Flores, Cruz, et al., 2018), and developing digital literacy skills (Salmerón, Gómez, and Fajardo, 2016). Some of the risks identified, especially in minors with ID, are excessive Internet use (Jenaro, Flores, Cruz, et al., 2018), exposure to inappropriate content (e.g. violence, pornography) (Chiner, Gómez-Puerta, and Cardona-Moltó, 2017a; Löfgren-Mårtenson, Sorbring, and Molin, 2015), online sexual solicitation (Buijs, Boot, Shugar, Fung, and Bassett, 2017; Wells and Mitchell, 2014), or cyberbullying (Didden et al., 2009; Jenaro, Flores, Vega, et al., 2018), among others.

Despite the potential benefits, available studies show that people in the environment (e.g. family, teachers) tend to modulate the Internet access if they perceive that people with ID will encounter online risks that they will not be able to manage (Seale, 2014). This control occurs in two ways. First, caregivers tend to limit or reduce access to the Internet (Chadwick and Wesson, 2016). Second, caregivers exert greater control, and even censorship, on the online content that people with ID can access (Seale and Chadwick, 2017). This trend is relevant because people without disabilities tend to think, on the one hand, that the benefits and risks of Internet access are greater for people with ID than without ID and, on the other hand, that the Internet is an unsafe environment for children and young people with ID (Chiner et al., 2017a, 2017b).

2. Objectives

The purpose of this study was to explore the perspectives of student teachers about the use of the Internet. Specifically, the study aimed (1) to know student teachers' perceptions about the online benefits and risks for people with and without ID; and (2) to compare student teachers' perceptions with regard (a) the population (individuals with and without ID), (b) the frequency of contact with people with ID, and (c) the gender.

3. Methods

3.1. Participants

A convenience sample of 182 student teachers of a university in southeastern Spain participated in the study. The majority of the participants were female (84.1%) and their mean age was 21.42 (SD = 4.34, range = 18 – 44). Only 17.6% of the students had regular contact with people with ID (n = 32), 8.8% had contact monthly (n = 16), and the majority never had contact with individuals with ID (73.6%, n = 134).

3.2. Instruments

An online questionnaire was designed for this study and included a list of 29 benefits and 30 risks relating to the use of the Internet and some sociodemographic items (e.g. age, gender, frequency of contact with people with ID). The list of benefits comprised items such as 'keeping in contact with friends and family', 'developing social skills', 'dating online' or 'giving opportunities to participate in advocacy groups'. The online risks included statements such as 'being bullied or harassed', 'being exposed to inappropriate or offensive adult pornographic content', 'becoming involved in bullying others' or 'becoming addicted to using social networking sites'. Students had to rate each benefit and risk twice, once for each group (individuals with and without ID). Ratings were based on a five-point Likert-type

scale ranging from 1 = No benefit / risk to 5 = Very high benefit / risk. The scales showed good internal consistency. The Cronbach's alphas for the benefit scales were .93 for the perceptions of people without ID and .96 for the perceptions of people with ID. The Cronbach's alphas for the risk scales were .95 for the perceptions of people without ID and .96 for the perceptions of individuals without ID.

3.3. Procedures

The study counted with the approval of the Ethics Committee of the researchers' university (procedure UA-2017-11-15). A cross-sectional survey was conducted. Participants were asked to respond during class time to the online questionnaire, which had been previously shared with students via the university online portal. Participants could use any electronic device to complete the questionnaire (e.g. cell phone, laptop) and the time taken to respond it was 10 – 15 minutes.

Paired-sample t-tests were conducted to compare student teachers' ratings of the benefits and risks of the Internet for people with and without ID. To compare participants' perceptions with the frequency of contact with people with ID, a series of one-way between-groups analysis of variance were used. Finally, differences between male and female student teachers' perceptions were explored using independent samples t-tests.

4. Results

Overall, findings show greater concerns than benefits of Internet use for both the general population and for people with ID (Table 1). Among the highest benefits of gaining online access, we find keeping in contact with friends and family, developing technological skills, learning about other cultures, and learning about work and further educational opportunities.

Table 1. Differences of student teachers' perceptions of the Internet for people with and without intellectual disability.

Scale	People with ID		People without ID				
	M	*SD*	*M*	*SD*	*t*(181)	*p*	*Cohen's d*
Benefits	3.66	0.79	3.68	0.58	-0.364	.716	0.036
Risks	4.35	0.54	4.08	0.58	7.874	.000*	0.592

*Significant difference at $p < .001$ level

Concerning online risks, ratings were very high in all instances. However, the greatest perceived risks of being online were being bullied or harassed, communicating with strangers, being exposed to inappropriate or offensive adult pornographic content, being threatened, being susceptible to marketing scams and having difficulty to differentiate the trustworthiness of online information.

The paired-sample t-tests showed significant differences between student teachers' perceptions of online risks for people with ID ($M = 4.35$, $SD = 0.54$) when compared to individuals without ID ($M = 4.08$, $SD = 0.58$, $t(181) = 7.874$, $p < .001$). These significant differences were also found in 25 out of the 30 online risks.

Student teachers' perceptions of the benefits and risks of the Internet for people with ID did not differ depending on the frequency of contact with this group ($p > .05$). Neither did the perceptions of male and female participants with regard to the online benefits. However, significant differences were found concerning the gender and online risks. Female student teachers perceive greater online risks for people with ID ($M = 4.39$, $SD = 0.53$) when compared to male students ($M = 4.16$, $SD = 0.54$, $t(180) = 2.023$, $p < .05$).

5. Discussion and conclusions

This study aimed to analyze and to compare student teachers' perceptions on the benefits and risks of the Internet for people with and without ID. Results show, first, that student teachers believe that accessing the Internet involves more risks than benefits for both people with and without ID. However,

they tend to think that it is an even more dangerous environment for people with ID. These data are convergent with previous studies carried out by Chiner, Gómez-Puerta and Cardona (2017a, 2017b). Second, the frequency of contact of student teachers with people with ID is not a variable that affects their perceptions. Therefore, it can be deduced that the prejudices of the student teachers are resistant to knowledge and contact with people with ID, since their perceptions do not vary. Third, the results confirm that women show a greater perception of online risks for people with ID. The tendency in women to a greater perception of risk compared to men is a fact widely established in the scientific literature (Hitchcock, 2001) and it seems to be also confirmed regarding the risks of Internet use.

We can conclude that student teachers perceive the Internet as a dangerous environment, where risks prevail to benefits, especially in the case of people with ID. Likewise, the presence of prejudices towards people with ID is confirmed. Finally, the need to develop strategies for training based on scientific evidence for student teachers is highlighted. These training programs should address prejudice modification in both men and women, but taking into consideration the differences shown by women.

This research presents several limitations. In the first place, the cross-sectional nature of this study, as well as the size of the sample, do not allow causal inferences or generalization of the results to the population of student teachers, not even in our country. This study only reflects the perceptions of a group of student teachers and may not coincide with those of other populations. Future studies in various faculties and universities to broaden the knowledge of this phenomenon are advisable. Secondly, the responses of the participants may not reflect their beliefs fully, since they may have indicated biased or socially desirable responses.

References

Abbott, S., and Mcconkey, R. (2006). The barriers to social inclusion as perceived by people with intellectual disabilities. *Journal of Intellectual Disabilities*, *10*(3), 275–287. https://doi.org/10.1177/1744629506067618

Bannon, S., McGlynn, T., McKenzie, K., and Quayle, E. (2015). The internet and young people with Additional Support Needs (ASN): Risk and safety. *Computers in Human Behavior*, *53*, 495–503. https://doi.org///doi.org/10.1016/j.chb.2014.12.057

Buijs, P. C. M., Boot, E., Shugar, A., Fung, W. L. A., and Bassett, A. S. (2017). Internet Safety Issues for Adolescents and Adults with Intellectual Disabilities. *Journal of Applied Research in Intellectual Disabilities*, *30*(2), 416–418. https://doi.org/10.1111/jar.12250

Chadwick, D. D., and Wesson, C. (2016). Digital inclusion and disability. In A. Atrill and C. Fullwood (Eds.), *Applied Cyberpsychology* (pp. 1–23). Houndmills, UK: Palgrave Macmillan. https://doi.org/10.1057/9781137517036_1

Chiner, E., Gómez-Puerta, M., and Cardona-Moltó, M. C. (2017a). Internet and people with intellectual disability: An approach to caregivers' concerns, prevention strategies and training needs. *Journal of New Approaches in Educational Research*, *6*(2), 153-158. https://doi.org/10.7821/naer.2017.7.243

Chiner, E., Gómez-Puerta, M., and Cardona-Moltó, M. C. (2017b). Internet use, risks and online behaviour: The view of internet users with intellectual disabilities and their caregivers. *British Journal of Learning Disabilities*, *45*(3), 190-197. https://doi.org/10.1111/bld.12192

Darragh, J., Reynolds, L., Ellison, C., and Bellon, M. (2017). Let's talk about sex: How people with intellectual disability in Australia engage with online social media and intimate relationships. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, *11*(1), article 9. https://doi.org///doi.org/10.5817/CP2017-1-9

Didden, R., Scholte, R. H. J., Korzilius, H., De Moor, J. M. H., Vermeulen, A., O'Reilly, M., … Lancioni, G. E. (2009). Cyberbullying among students with intellectual and developmental disability in special education settings. *Developmental Neurorehabilitation*, *12*(3), 146–151. https://doi.org/10.1080/17518420902971356

European Commission. (2010). *European Disability Strategy 2010-2020: A Renewed Commitment to a Barrier-Free Europe*. Brussels.

Hitchcock, J. L. (2001). Gender Differences in Risk Perception: Broadening the Contexts. *RISK: Health, Safety & Environment*, *12*(3), 179–204.

Jenaro, C., Flores, N., Cruz, M., Pérez, M. C., Vega, V., and Torres, V. A. (2018). Internet and cell phone usage patterns among young adults with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, *31*(2), 259–272. https://doi.org/10.1111/jar.12388

Jenaro, C., Flores, N., Vega, V., Cruz, M., Pérez, M. C., and Torres, V. A. (2018). Cyberbullying among adults with intellectual disabilities: Some preliminary data. *Research in Developmental Disabilities*, *72*, 265–274. https://doi.org/10.1016/j.ridd.2017.12.006

Kydland, F., Molka-Danielsen, J., and Balandin, S. (2012). Examining the use of social media tool 'Flickr' for impact on loneliness for people with intellectual disability. In T. Fallmyr (Ed.), *NOKOBIT 2012: Proceedings of the 2012 Norsk Konferanse for Organisasjoners Bruk Av Informasjonsteknologi*. Trondheim, Norway: Akademika forlag. Retrieved from http://dro.deakin.edu.au/view/DU:30062177

Löfgren-Mårtenson, L., Sorbring, E., and Molin, M. (2015). "T@ngled Up in Blue": Views of Parents and Professionals on Internet Use for Sexual Purposes Among Young People with Intellectual Disabilities. *Sexuality and Disability*, *33*(4), 533–544. https://doi.org/10.1007/s11195-015-9415-7

Molin, M., Sorbring, E., and Löfgren-Martenson, L. (2015). Teachers' and parents' views on the Internet and social media usage by pupils with intellectual disabilities. *Journal of Intellectual Disabilities*, *19*(1), 22–33. https://doi.org/10.1177/1744629514563558

Morin, D., Rivard, M., Crocker, A. G., Boursier, C. P., and Caron, J. (2013). Public attitudes towards intellectual disability: a multidimensional perspective. *Journal of Intellectual Disability Research*, *57*(3), 279–292. https://doi.org/10.1111/jir.12008

Näslund, R., and Gardelli, Å. (2013). 'I know, I can, I will try': youths and adults with intellectual disabilities in Sweden using information and communication technology in their everyday life. *Disability & Society*, *28*(1), 28–40. https://doi.org/10.1080/09687599.2012.695528

Organisation for Economic Co-operation and Development (OECD). (2001). *Understanding the digital divide*. Paris: OECD.

Salmerón, L., Gómez, M., and Fajardo, I. (2016). How students with intellectual disabilities evaluate recommendations from internet forums. *Reading and Writing*, *29*(8), 1653–1675. https://doi.org/10.1007/s11145-016-9621-4

Scior, K. (2011). Public awareness, attitudes and beliefs regarding intellectual disability: A systematic review. *Research in Developmental Disabilities*, *32*(6), 2164–2182. https://doi.org/10.1016/J.RIDD.2011.07.005

Seale, J. (2014). The role of supporters in facilitating the use of technologies by adolescents and adults with learning disabilities: a place for positive risk-taking. *European Journal of Special Needs Education*, *29*(2), 220–236. https://doi.org///dx.doi.org/10.1080/08856257.2014.906980

Seale, J., and Chadwick, D. (2017). How does risk mediate the ability of adolescents and adults with intellectual and developmental disabilities to live a normal life by using the Internet? *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, *11*(1), article 2. https://doi.org///doi.org/10.5817/CP2017-1-2

UNESCO. (2006). *Convention on the Rights of Persons with Disabilities and Optional Protocol UNITED NATIONS*. Paris.

United Nations (UN). Transforming our world: the 2030 Agenda for sustainable development, Pub. L. No. A/RES/70/1, 1 (2015). General Assembly. Retrieved from https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf

Wells, M., and Mitchell, K. J. (2014). Patterns of Internet Use and Risk of Online Victimization for Youth with and Without Disabilities. *The Journal of Special Education*, *48*(3), 204–213. https://doi.org/10.1177/0022466913479141