Scandinavian Journal of Occupational Therapy

ISSN: 1103-8128 (Print) 1651-2014 (Online) Journal homepage: https://www.tandfonline.com/loi/iocc20

Internet opportunities and risks for adolescents with intellectual disabilities: a comparative study of parents' perceptions

Kristin Alfredsson Ågren, Anette Kjellberg & Helena Hemmingsson

To cite this article: Kristin Alfredsson Ågren, Anette Kjellberg & Helena Hemmingsson (2020): Internet opportunities and risks for adolescents with intellectual disabilities: a comparative study of parents' perceptions, Scandinavian Journal of Occupational Therapy, DOI: 10.1080/11038128.2020.1770330

To link to this article: https://doi.org/10.1080/11038128.2020.1770330

© 2020 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

Published online: 13 Jun 2020.

Submit your article to this journal

Article views: 358

View related articles

View Crossmark data

Full Terms & Conditions of access and use can be found at
https://www.tandfonline.com/action/journalInformation?journalCode=iocc20

SCANDINAVIAN JOURNAL OF OCCUPATIONAL THERAPY
https://doi.org/10.1080/11038128.2020.1770330

Taylor & Francis
Taylor & Francis Group

ORIGINAL ARTICLE

OPEN ACCESS Check for updates

Internet opportunities and risks for adolescents with intellectual disabilities: a comparative study of parents' perceptions

Kristin Alfredsson Ågren[a], Anette Kjellberg[a] and Helena Hemmingsson[a,b]

[a]Department of Health, Medicine and Caring Sciences, Linköping University, Linköping, Sweden; [b]Department of Special Education, Stockholm University, Stockholm, Sweden

ABSTRACT

Background: In contemporary society internet and digital competencies are used to perform activities.

Aim: The aim of this study is to investigate opportunities and risks of internet use as perceived by the parents of adolescents with intellectual disabilities (ID) in comparison with a national reference group of parents of adolescents.

Methods: This was a cross-sectional study with group comparisons using a national survey. Analyses were carried out using Fisher's exact test and logistic regression to control for confounding factors.

Results: A significantly higher proportion of parents of adolescents with ID perceive opportunities associated with internet use and playing games, and a lower proportion perceive risks with negative consequences, compared with the reference group. Significantly more parents of adolescents with ID perceive their adolescent never use smartphones and social media compared with the reference group. Fewer parents of adolescents with ID have concerns about online risks for their adolescents compared with the reference group.

Conclusion and Significance: The results provide new knowledge for occupational therapists to support positive risk-taking in internet-use for adolescents with ID, in collaboration with their parents, to enable the development of digital competencies and digital participation in everyday life in a digitalised society.

ARTICLE HISTORY
Received 26 February 2020
Revised 13 May 2020
Accepted 13 May 2020

KEYWORDS
Digitalisation; digital competence; digital participation; intellectual disability; internet use; online risks; parents; participation; positive risk-taking; youths

Introduction

The internet is increasingly used to perform everyday activities as a result of the high-speed digitalization of society [1]. This influences how people engage in occupations and the things people do [2,3]. The use of the internet leads to activities being performed in new ways, which in turn may make everyday life more or less complicated, especially for people with disabilities [3]. Using the internet can be more complicated when it comes to people with intellectual disabilities (ID), one reason being that the required digital skills involve cognitive elements [4]. The skills needed are often summarised according to five digital competencies: (i) information and data literacy; (ii) communicating and collaborating with others using the internet; (iii) creating digital content; (iv) internet safety and (v) problem-solving [1]. The need to experience and gain digital competencies by using the internet may be especially crucial for young people with ID as this group is already excluded from many aspects of everyday life to a high extent, for example in access to leisure activities, higher education and the labour market [5]. Therefore digital competencies should be considered as important by occupational therapists to increase participation in everyday activities [3]. Intellectual disabilities include deficits in both intellectual and adaptive functioning in everyday life domains: conceptual, social and practical [6,7]. The severity of ID ranging from mild, moderate to severe is based on both the intellectual functioning, e.g. in problem-solving or communication skills, and in the ability to function adaptively in the practical life domain, as well as in the conceptual and social domains [7]. Despite the challenges, strategies used by

CONTACT Kristin Alfredsson Ågren kristin.alfredsson.agren@liu.se Department of Health, Medicine and Caring Sciences, Linköping University, Linköping, Sweden

This article has been republished with minor changes. These changes do not impact the academic content of the article.

© 2020 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (http://creativecommons.org/licenses/by-nc-nd/4.0/), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

young people with both mild and moderate ID to take part in internet activities have been identified, for example personalising internet-enabling devices and also getting support from others [8]. A literature review by Seale and Chadwick [9] on aspects of internet use and young people with ID highlights the support that is needed when using the internet with its opportunities and risks and the complex relationships between adolescents with ID and others giving support. The complexity lies in who is providing the support, how it is given and if their attitudes towards people with ID using internet enables internet use or the opposite [9]. Research has identified support persons as a number of different people close to the person with ID: family members [10], both family members and staff, i.e. immediate support staff or school teachers [11,12], both parents or legal guardians and staff [13], and only staff [14,15], but the research has rarely focussed only on parents or legal guardians as support persons for internet use. To our knowledge, one qualitative study investigated parents' perceptions [16] and it included 22 interviews with parents on their perceptions and actions in relation to their adolescents' internet use. The parents perceived the internet as offering some opportunities, with risks as adolescents with ID face challenges in digital competencies due to their IDs. They expressed that the internet is an arena for participation in social life for their adolescent, although they perceived their adolescent as being more sensitive than other adolescents when interacting on the internet, and parents needed to provide support on an everyday basis to enable safe digital participation [16]. Differences in perceptions of internet use have been revealed in research when support persons are parents or staff, with staff being more concerned about the online risks, and parents seeing more possibilities with the internet [11,13]. Adolescents with ID have been identified as more vulnerable to online risks compared with adolescents in general [11,13] and are perceived as a group that takes more risks when using the internet [17]. Staff and parents of adolescents with ID using the internet have been found to worry about risks of inappropriate online content, such as pornography [17], cyberbullying and sexual abuse [18]. However experiencing risk-taking is important even for adolescents with ID [9]. A focus on both the opportunities and risks of internet use being intertwined has identified the concept of 'positive risk-taking' in research which is considered important when involving adolescents with ID using the internet, and further when enabling internet use for the target group [17,19]. Positive risk-taking is defined as managing risks and not avoiding them, when the benefits are greater than the potential costs of the risk, which should be considered mild and socially acceptable [19]. Aspects included are shared decision-making, creative thinking to solve problems and promote resilience, or coping if the outcome of the risk is higher than expected [19]. It is seen as important to implement positive risk-taking by those giving support, and the need for further research has been identified to focus on, e.g. perception of risks for the target group and their support persons and what positive risk-taking could be for this target group [9,20].

There are a limited number of studies on internet use for young people with ID, and especially limited with regards to surveying parents' perceptions of both opportunities and risks of internet use [9,20]. Perceptions of risks and concerns among parents of their adolescent with ID's internet use has not been investigated on a survey basis to our knowledge, despite that it has been considered important to survey parents of adolescents nationally and internationally for more than two decades [21–23]. Research on internet use among young people in general in Europe has identified parents as important in regard to the adolescents' internet use and about 70% of parents give advice on internet safety to their adolescents [23,24]. The hypotheses for this study, based on earlier research presented in this introduction, were threefold; (i) that the opportunities associated with internet use perceived by parents of adolescents with ID would be similar to the ones perceived by a reference group of parents, but that (ii) a higher proportion of parents of adolescents with ID would perceive that the internet involves risks for their adolescents compared with the reference group, and (iii) that a higher proportion of parents of adolescents with ID would have concerns and perceive that incidents have occurred in relation to the online risks for their adolescents compared to a reference group. Based on this, the aim of this study is to investigate opportunities and risks of internet use as perceived by the parents of adolescents with IDs in comparison with a national reference group of parents of adolescents.

Methods

The design of this study is cross-sectional with group comparison [25]. A national survey from the government agency the Swedish Media Council on parents' perceptions of their adolescents' internet and media use was distributed to parents with adolescents with ID [26]. Comparative data from a reference group of

parents were obtained from the Swedish Media Council. Ethical approval for the study was granted by the Regional Ethics Board (141201; Dnr. 2014/370-31) and ethical rules on information, consent, use of data and confidentiality were followed and informed on in an information letter added to the survey.

Participants and recruitment

Participants were parents or legal guardians, hereafter referred to as parents, to adolescents with ID, aged 13–20 years, in special schools from four stratified sampled municipalities in two provinces in Sweden. In the provinces, the two municipalities selected in this study represented variations in rural and urban densities and in number of special schools [27]; the special schools served as recruitment bases for parents of adolescents with ID. All eligible special schools accepted to be included in the study. The sample of parents is derived from a total selection of pupils in the municipalities' special schools based on the inclusion criteria of being a parent of an adolescent with ID, in the compulsory and upper-secondary special schools, aged 13–20 years. The special schools included adolescents with mild, moderate, or severe ID and no exclusion criteria were used. The adolescents' level of ID was determined based on school enrolment, as adolescents with mild ID are enrolled in one type of school and adolescents with moderate or severe ID are enrolled in another type of school in Sweden, giving a total sample of $n = 318$ with 58% ($n = 185$) with mild ID and 42% ($n = 133$) with a moderate or severe ID attending five compulsory and six upper-secondary special schools.

Survey

The national survey, named 'Parents and Media' [26], which was used for the parents with adolescents with ID was the same as for the reference group and consisted of 25 questions on internet and media use, where 14 of the 25 questions had between 3 and 17 sub questions. The questions have been controlled for measurement technology from Statistics Sweden, who is responsible for collating the statistics produced by the authorities in Sweden, e.g. the Swedish Media Council. In the present study, 15 questions were used, chosen in accordance with the aim of this study, of which 6 had several sub questions. Questions encompass: (i) internet activities and other leisure activities; (ii) opportunities with internet use and iii) risks with internet use. Responses to the questions were given on a Likert scale with between 3 and 5 response alternatives. The alternative 'I don't know' was provided as an option on all questions and 'The adolescent never does it' was an option on the questions regarding time spent on internet activities and other leisure activities. The survey to parents with adolescents with ID had four additional questions on the parents' demographics and a question on the adolescents' difficulties/disabilities and was piloted with a parent of an adolescent with moderate ID.

Procedure

The survey was available in a paper-version and sent out continuously to parents of adolescents with ID when the first author received address lists of pupils meeting the inclusion criteria ($n = 318$) from the special schools' principals or their administrative staff. The surveys were distributed from November 2016 to September 2017 together with an information letter and a return-to-sender envelope. Two reminders were sent out at intervals of 2–4 weeks to those who had not responded to the survey. The survey was addressed to caregiver/parent of [pupils name] and one survey, with an information letter, was included enabling for one parent/pupil to participate. Informed consent was assumed if the survey was responded to. The total response rate for the parents with adolescents with ID was 31% ($n = 99$). Comparative data were received from the national survey distributed in autumn 2016 to 4000 randomly selected parents of adolescents aged 9–18 years old in Sweden [26] and the response rate was 39% ($n = 1561$). The surveys used in this present study were the ones from parents of 13–18-year olds, $n = 922$, stating that their adolescent did not have a disability, ending up with a total of $n = 828$.

Data analysis

SPSS 25 [28] was used for statistical analysis. The data from both groups were merged into one spreadsheet for comparative analysis and controlled for regarding the variables indicating internet use in accordance with the aim of this study. Parents who answered 'never do' on all questions on internet-activities performed in the survey ($n = 5$) were excluded in the study giving a total of $n = 94$ parents of adolescents with ID. Internal missing data among parents of adolescents with ID were no more than 9 in any variable, apart from the variables on *Opportunities* and *Risks*

Table 1. Demographics of the parents and their adolescents.

Parents ($n = 922$)	Parents of adolescents with ID ($n = 94$) *n* (%)	Reference group of parents ($n = 828$) *n* (%)	*p* Value
Male/female	21/72 (23/77)	341/484 (41/59)	**<0.001**
Age in years (m ± SD) ($n = 900$: $m = 47.5$, SD = 6)	48 ± 6	47.5 ± 6	0.309
Living with adolescents' other parent			0.265
Yes/no	71/20 (78/22)	593/228 (72/28)	
Siblings to their adolescent			0.372
Yes/no	84/8 (91/9)	776/52 (94/6)	
Highest educational level			**0.021**
Elementary school	9 (9)	55 (7)	
Upper secondary school	45 (49)	474 (62)	
University level	39 (42)	222 (27)	
PhD level	0 (0)	17 (2)	
Country or continent of birth			**0.042**
Sweden	66 (73)	677 (83)	
Europe	9 (10)	59 (7)	
Outside Europe	16 (17)	81 (10)	
Adolescents of the parents ($n = 922$)	***n* (%)**	***n* (%)**	
Boy/girl	51/42 (55/45)	389/426 (48/52)	0.228
Age in years (m ± SD) (n = 902; m = 15.5; SD = 2)	16.5 ± 2	15 ± 2	**0.022**
Level of ID			
Adolescents with mild ID	54 (57)	–	
Adolescents with moderate ID	40 (43)	–	

No variable had more than three internal missing data from parents of adolescents with ID and no more than 19 in the reference group. Bold indicates significant difference.

with *Playing games* where the internal missing data were 17 and 19, respectively.

The variables on *Internet activities and other leisure activities* compared parents' responses regarding perception of time spent by their adolescent on different leisure activities, $n = 9$ in total, including internet activities ($n = 4$). *Opportunities* included four variables relating to parents' perceptions of their adolescents' internet use and playing of games. The response categories were trichotomized, into 'Agree', which comprised of 'Totally agree' and 'Agree to a great extent', while 'Partly agree' were kept, as was 'Disagree'. 'Dont know' responses were categorised as missing, as this response was not found in the 95 percentiles for any variable for the whole sample [29]. *Risks* were investigated and compared by examining; (i) the perceptions of the negative consequences of internet use and playing games (6 variables) with the categories trichotomized in accordance with Opportunities, as described above, and (ii) concerns regarding online risks and incidents that have occurred in relation to the concerns (9 variables). Further, risks included responsibilities parents perceive regarding internet risks (2 variables).

For all the comparative analyses of the groups of parents' perceptions, contingency tables were used. Most questions had at least one response alternative that had less than five expected responses, therefore Fisher's exact test was used [25]. The statistical significance was set at $p < 0.05$. Adjusted standardized residuals were used to interpret the significant differences when there were multiple response categories in the variables [25]. Logistic regression was used to control for confounding for parents' sex, education level for the parents and the adolescents' age. Odds ratios and adjusted odds ratios with 95% confidence intervals and $p < 0.05$ were used. The *p*-values for the adjusted odds ratio were corrected for multiple comparison using the Bonferroni correction [25].

Results

Demographics of the parents and their own internet use

The demographics of the parents and their adolescents are displayed in Table 1. A significantly higher proportion of the parents of adolescents with ID were female (77 vs. 59%, $p < 0.001$), had a university education (42 vs. 27%, $p = 0.021$) and were born outside Europe (17%) compared with the reference group (10%) ($p = 0.042$).

Table 2. Time spent performing internet activities and other leisure activities, as perceived by parents for their adolescents.

Adolescents' time spent on internet activities[a] and other leisure activities	Parents of adolescents with ID % Too much/Reasonable/ Too little	Never do	Reference group % Too much/Reasonable/ Too little	Never do	*p* Value
Use the internet[a]	*30/65/1*	*3*	*42/56/1*	*1*	***p* < 0.018**
Play online games[a]	*30/56/4*	*10*	*42/45/2*	*11*	*p* = 0.057
Use the smartphone[a]	*20/49/5*	*26*	*59/39/2*	*0*	***p* < 0.001**
Use social media[a]	*11/38/1*	*50*	*42/51/2*	*5*	***p* < 0.001**
Watch movies/TV	*13/77/8*	*2*	*15/77/6*	*2*	*p* = 0.846
Be with family	*10/73/15*	*2*	*3/72/25*	*0*	***p* < 0.001**
Do sports/exercise	*4/42/44*	*10*	*5/59/33*	*3*	***p* = 0.001**
Read books/newspapers	2/36/52	*10*	*1/26/66*	*7*	***p* = 0.049**
Meet friends	2/31/47	*20*	*4/67/29*	*0*	***p* < 0.001**

No variable had more than six internal missing data from parents with adolescents with ID and no more than 11 missing in the reference group. Bold indicates significant difference.
[a]Indicates internet activities.

The time the parents themselves spent using the internet showed no significant difference between the groups of parents, with e.g. 84% of parents in both groups considering they spend a reasonable amount of time on internet use.

Demographics of the adolescents

For the adolescents, Table 1 shows that a significantly higher proportion of adolescents with ID were older with a mean age of 16.5 years, compared with the reference group mean of 15 years ($p = 0.022$). Just over half of the responding parents had adolescents with mild ID, 57 and 43% had adolescents with moderate or severe ID. An analysis of response bias based on the available demographic information of school enrolment and level of ID for the total sample ($n = 318$) showed no differences between the participants and the non-responders regarding those demographics.

Internet activities and other leisure activities

Table 2 displays significant differences in the parents' perceptions of time spent by the adolescents in all leisure activities except 'Play games' and 'Watching TV/movies'. Overall, a higher proportion of parents with adolescents with ID perceive that their adolescents never perform the surveyed leisure activities (range 2–50%) compared with the reference group (range 0–11%), in particular the use of social media (50%) and smartphones (26%). However, a significantly higher proportion of parents in the reference group perceive that their adolescents spend too much time in the internet activities: 'Use the smartphone', 'Use social media', Internet use' and 'Play games'.

Opportunities using internet

Table 3 shows that a higher proportion of parents with adolescents with ID compared with the reference group consider that internet and playing games are 'Is fun and relaxing for their adolescent' ($p = 0.003$) and that the internet 'Stimulates their adolescent's imagination' ($p = 0.006$). However, the statement that internet 'Makes the adolescent learn good things' shows significant differences in the other direction ($p = 0.011$), with a higher percentage in the reference group agreeing to this, 70%, compared with 55% among parents of adolescents with ID.

Risks using internet

Overall, Table 4 shows that a lower proportion of parents of adolescents with ID perceive risks with negative consequences when using the internet or playing games compared with the reference group in nearly all variables. Furthermore, parents with adolescents with ID are more positive about Playing games for their adolescent than the reference group, as a significantly higher proportion disagree that Playing games 'Is addictive' ($p = 0.036$), 'Steals time away from other activities' ($p < 0.001$), 'Leads to bad health' ($p = 0.003$), 'Makes the adolescent learn bad things' ($p = 0.010$) or 'Makes the adolescent passive' ($p = 0.016$) compared with the reference group.

Table 5 displays significant differences between the groups of parents regarding both concerns and incidents related to online risks. Compared with the reference group a significantly lower proportion of parents of adolescents with ID have concerns that their adolescent will be 'Bullied or threatened on the internet/by mobile phone' ($p = 0.003$); 'Approached by adults seeking sexual contact' ($p = 0.002$), 'Coming across someone else who publish inappropriate photos of themselves' ($p = 0.001$) and 'Bullying someone else or behaving in a mean way on the internet' ($p = 0.003$). Further, Table 5 demonstrates that a lower proportion of parents in both groups perceive that incidents have occurred. The only significant difference found in incidents is for the adolescent

Table 3. Opportunities associated with the internet and playing games as perceived by parents for their adolescents.

Opportunities with the internet and playing games for their adolescent	Parents with adolescents with ID ($n = 94$) %	Reference Group ($n = 828$) %	*p*-value (Fisher's)	*p*-value and odds ratio (95% CI)	*p*-value[a] and adjusted Odds Ratio (95% CI)
Is fun and relaxing for the adolescent					
Internet			**$p = 0.003$**	**$p = 0$ .005**	**$p = 0$ .003**
Agree	69	52			
Partly agree	26	44		2.3 (1.4–3.9)	2.5 (1.5–4.3)
Disagree	5	4		1.2 (0.4–3.4)	1.1 (0.4–3.3)
Playing games			**$p = 0.005$**	**$p = 0.007$**	**$p = 0.005$**
Agree	71	52			
Partly agree	25	42		2.3 (1.3–3.9)	2.4 (1.4–4.2)
Disagree	4	6		2.2 (0.7–7.3)	2.1 (0.6–7.0)
Makes the adolescent learn good things					
Internet			**$p = 0.011$**	**$p = 0.013$**	**$p = 0.006$**
Agree	55	70			
Partly agree	44	29		0.5 (0.3-0.8)	0.5 (0.3–0.7)
Disagree	1	1		0.7 (0.1–5.4)	0.7 (0.1–5.7)
Playing games			$p = 0.090$	$p = 0.098$	$p = 0.101$
Agree	51	39			
Partly agree	39	51		1.7 (1.1–2.8)	1.7 (1.0–2.9)
Disagree	10	10		1.2 (0.6–2.8)	1.2 (1.5–2.8)
Stimulates the adolescent's imagination					
Internet			**$p = 0.006$**	**$p = 0.006$**	**$p = 0.005$**
Agree	54	36			
Partly agree	37	53		2.2 (1.3–3.5)	2.2 (1.4–3.7)
Disagree	9	11		1.8 (0.8–3.9)	2.1 (0.9-4.8)
Playing games			$p = 0.129$	$p = 0.118$	$p = 0.037$
Agree	47	35			
Partly agree	44	50		1.5 (0.9–2.5)	1.5 (0.9–2.6)
Disagree	9	15		2.1 (0.9–4.8)	3.2 (1.2–8.5)
Is a way to interact with others					
Internet			$p = 0.177$	$p = 0.181$	$p = 0.123$
Agree	33	43			
Partly agree	49	40		0.6 (0.4–1.0)	0.6 (0.3–1.0)
Disagree	18	17		0.4 (0.4–1.5)	0.7 (0.4–1.4)
Playing games			p = 0.499	$p = 0.484$	$p = 0.418$
Agree	35	39			
Partly agree	47	40		0.8 (0.5–1.3)	0.8 (0.4–1.3)
Disagree	18	21		1.1 (0.5–2.2)	0.1 (0.6–2.3)

Internal missing data from parents with adolescents with ID were ranging between 6 and 17 and from the reference group between 12 and 54. Bold indicates significant difference.
[a]Bonferroni corrected *p*-value is $p \leq 0.0125$ for the Adjusted OR.

'Spending so much time on the internet or playing games that they will become socially isolated' which 20% of parents of adolescents with ID perceive has happened compared to 11% in the reference group ($p = 0.023$).

Nearly all parents perceive they have the main responsibility to support safe internet use for adolescents in both groups, followed by the school and the institutional environment. However, significant differences were found, with a lower proportion of parents of adolescents with ID perceiving they get the information and guidance they need regarding internet use (37%) compared with the reference group (51%) ($p = 0.001$).

Controlling for demographics of parents or adolescents on internet use and risks

The result of the logistic regression controlling for confounding for parents' sex, educational level of the parents and the adolescents' age group showed no change in the adjusted odds ratio (OR) in the variables internet activities and other leisure activities, nor in concerns and incidents of online risks. In opportunities and negative consequences with internet use and playing games, minor changes were found, as shown in Tables 3 and 4. This indicates that the demographic variables only modify the results, that there was no confounding, and that the independent variable of having an adolescent with ID presents the significant differences when comparing parents' perceptions.

Discussion

This study investigated opportunities and risks of internet use as perceived by the parents of adolescents with IDs in comparison with a national reference group of parents of adolescents without disabilities. Based on earlier research, it was hypothesised that (i)

Table 4. Negative consequences of using the internet and playing games as perceived by parents for their adolescent.

Negative consequences with the internet and playing games for their adolescent	Parents with adolescents with ID $n = 94$ %	Reference group $n = 828$ %	*p*-value (Fishers)	*p*-value and odds ratio (95% CI)	*p*-value[a] and adjusted Odds Ratio (95% CI)
Is addictive					
Internet			$p = 0.177$	$p = 0.187$	$p = 0.275$
Agree	40	48			
Partly agree	39	38		0.8 (0.5–1.4)	0.8 (0.5–1.3)
Disagree	21	14		0.6 (0.3–1.0)	0.6 (0.3–1.1)
Playing games			**$p = 0.036$**	**$p = 0.044$**	$p = 0.063$
Agree	41	55			
Partly agree	43	32		0.5 (0.3–0.9)	0.5 (0.3–0.9)
Disagree	16	13		0.6 (0.3–1.2)	0.6 (0.3–1.2)
Steals time away from more important activities					
Internet			**$p < 0.003$**	**$p = 0.002$**	**$p = 0.007$**
Agree	30	40			
Partly agree	36	42		0.9 (0.5–1.5)	0.8 (0.5–1.4)
Disagree	34	18		0.4 (0.2–0.7)	0.4 (0.2–0.7)
Playing games			**$p < 0.001$**	**$p < 0.001$**	**$p < 0.001$**
Agree	33	48			
Partly agree	27	36		0.9 (0.5–1.6)	0.9 (0.5–1.6)
Disagree	40	16		0.3 (0.2–0.5)	0.3 (0.2–0.5)
Leads to bad health					
Internet			$p = 0.231$	$p = 0.238$	$p = 0.226$
Agree	17	24			
Partly agree	36	37		0.7 (0.4–1.4)	0.6 (0.3–1.3)
Disagree	47	39		0.6 (0.3–1.1)	0.5 (0.3–1.1)
Playing games			**$p = 0.003$**	**$p = 0.006$**	**$p = 0.003$**
Agree	16	32			
Partly agree	35	36		0.5 (0.3–1.0)	0.4 (0.2–0.9)
Disagree	49	32		0.3 (0.2–0.7)	0.3 (0.1–0.6)
Makes the adolescent learn bad things					
Internet			**$p = 0.001$**	**$p = 0.001$**	**$p = 0.004$**
Agree	16	25			
Partly agree	52	59		0.7 (0.4–1.3)	0.7 (0.3–1.3)
Disagree	32	16		0.3 (0.1-0.6)	0.3 (0.2–0.7)
Playing games			**$p = 0.010$**	**$p = 0.008$**	**$p = 0.008$**
Agree	15	17			
Partly agree	42	56		1.1 (0.6–2.3)	1.4 (0.7–2.9)
Disagree	43	27		0.5 (0.3–1.1)	0.6 (0.3–1.2)
Makes the adolescent passive					
Internet			$p = 0.138$	$p = 0.153$	$p = 0.226$
Agree	15	24			
Partly agree	48	46		0.6 (0.3–1.1)	0.6 (0.3–1.3)
Disagree	37	30		0.5 (0.3–1.0)	0.5 (0.3–1.1)
Playing games			$p = 0.016$	$p = 0.017$	$p = 0.021$
Agree	22	34			
Partly agree	41	42		0.7 (0.4–1.2)	0.6 (0.3–1.1)
Disagree	37	24		0.4 (0.2–0.8)	0.4 (0.2–0.8)
Makes the adolescent aggressive					
Internet			$p = 0.465$	$p = 0.489$	$p = 0.435$
Agree	9	6			
Partly agree	14	17		1.8 (0.7–4.6)	1.9 (0.7–5.2)
Disagree	77	77		1.5 (0.7–3.3)	1.5 (0.7–3.4)
Playing games			$p = 0.285$	$p = 0.297$	$p = 0.337$
Agree	14	9			
Partly agree	18	20		1.8 (0.8–4.3)	1.9 (0.8–4.7)
Disagree	68	71		1.7 (0.8-3.4)	1.6 (0.8–3.5)

Internal missing data from parents with adolescents with ID were ranging between 7 and 19 and from the reference group between 20 and 76. Bold indicates significant difference.

[a]Bonferroni corrected *p*-value is $p \leq 0.0125$ for the Adjusted OR.

the opportunities associated with internet use perceived by parents of adolescents with ID would be similar to the ones perceived by a reference group of parents, but that (ii) a higher proportion of parents of adolescents with ID would perceive that the internet involves risks for their adolescents compared with the reference group, and that (iii) a higher proportion of parents of adolescents with ID would have concerns and perceive that incidents have occurred in relation to online risks for their adolescents compared to the

Table 5. Concerns and incidents regarding online risks among parents in relation to their adolescent.

Concerns and incidents that their adolescent will be (or has been)	Parents of adolescents with ID ($n = 94$) % Yes/No	Reference group ($n = 828$) % Yes/No	p Value
Bullied or threatened on the internet/by mobile phone			
Concerns	46/54	63/37	**$p = 0.003$**
Incidents	12/88	16/84	$p = 0.350$
Exposed to pornography online			
Concerns	42/ 58	38/62	$p = 0.570$
Incidents	21/79	16/84	$p = 0.224$
Approached by adults seeking sexual contact online			
Concerns	39/61	56/44	**$p = 0.002$**
Incidents	2/98	4/96	$p = 0.570$
Exposed to sexual comments or suggestions online			
Concerns	36/64	45/55	$p = 0.117$
Incidents	5/95	6/94	$p = 0.810$
Sharing too much information about themselves on the internet			
Concerns	31/69	42/58	$p = 0.069$
Incidents	5/95	6/94	$p = 0.811$
Spending so much time on the internet or playing games that the adolescent become socially isolated			
Concerns	33/67	32/68	$p = 0.905$
Incidents	20/80	11/89	**$p = 0.023$**
Publishing inappropriate photos of themselves online			
Concerns	24/76	27/73	$p = 0.531$
Incidents	1/99	3/97	$p = 0.716$
Coming across someone else who publish inappropriate photos of themselves online			
Concerns	24/76	41/59	**$p = 0.001$**
Incidents	1/99	3/97	$p = 0.511$
Bullying someone else or behaving in a mean way on the internet			
Concerns	18/82	33/67	**$p = 0.003$**
Incidents	8/92	7/93	$p = 0.664$

No variable had more than eight internal missing data from parents with adolescents with ID and no missing data in the reference group. Bold indicates significant differences.

reference group. The results of this study were not in line with the three hypotheses. Our results show that a higher proportion of parents of adolescents with ID perceive that the internet offers opportunities, and about 70% consider both internet and playing games as *being fun and relaxing for the adolescent* compared to about 50% of the reference group. The finding that fewer parents with adolescents with ID consider that internet *makes their adolescent learn good things* may be an expression of the potential that the internet have in aspects of learning for adolescents with ID. This result seems to be consistent with that of a lower proportion of parents of adolescents with ID, compared with the reference group, disagreeing to the risk of the *internet making their adolescent learn bad things*. Furthermore, on the hypothesis of risks, a lower proportion of parents of adolescents with ID perceived negative consequences of internet use and playing games in comparison with the reference group, in most variables, e.g. that neither the internet nor playing games *steals time away from more important activities*. This indicates that using the internet and playing games are leisure activities considered as important by the participating parents of adolescents with ID. However, the result show that the time spent on smartphones and social media is significantly less for adolescents with ID compared to the reference group, with half of the adolescents with ID never using social media compared to 5% in the reference group. This could indicate that adolescents with ID are not exposed to the negative consequences to the same extent as the reference group of adolescents. This may further affect the contrary result found on the third hypothesis in this study: that a lower proportion of parents of adolescents with ID had concerns about online risks than the reference group. Furthermore, an even lower proportion of parents in both groups stated that incidents had happened, in relation to the online risks. One reason for the higher percentage of parents in the reference group having concerns about online risks may be that a significantly higher proportion also perceive that their adolescents spend too much time using the internet, the smartphone, and social media. An earlier study in Sweden on the general adolescent population and the use of internet, showed that the longer duration of time that parents think their adolescents spend using the internet, the more the parents worry [30]. The perceived online risks identified in research involving adolescents with ID have mainly been for being bullied, threatened or sharing too much information about oneself [11,31], risks that may increase with the

use of social media, an internet activity only half of the adolescents with ID do according to their parents. A literature review on social media use among people with ID from Caton and Chapman [32] showed that barriers to social media use are difficult to overcome for the target group. Main barriers were identified as safeguarding and safety concerns, followed by literacy and communication deficits and the lack of accessible design of devices and websites for the target group [32]. Together, this indicates that the digital competency 'communicating and collaborating with others using the internet' is not yet performed by a high proportion of adolescents with ID. However, the leisure activity of meeting friends is also perceived as spending too little time on (47%) or never done (20%) by parents of adolescents with ID, compared to 29 and 0% in the reference group. This highlights the need for future studies to investigate what factors that influence these differences such as digital competency, inaccessible design of the internet or a limited social network. Literacy is known to be a problem for people with ID in accordance with diagnostic criteria [7] and it has also been shown in previous research that the social connections both on and off the internet are complex and limited for adolescents with ID [32–35]. Future research is needed on how to enable internet use and stay safe online while using social media, especially including persons with different levels of ID [36].

Another explanation of the results could be that the present study only includes parents. A literature review identified that a complexity could be found in who is giving the support [9] and a number of studies have included varied support person, for example only staff [14,15] or both staff and parents [11,13] and those studies' results displayed people with ID as a vulnerable group using the internet, with attitudes of over-protection [11,14]. One reason for this, as indicated by Ramsten et al. [14] is that organisations are not providing enough guidelines or support to staff in the use of ICT, leading to staff using their own personal preferences of the internet when supporting the people they work for. Problems with this could be that staff is not as experienced themselves in using the internet as young people with ID are becoming, and that their own moral dilemmas about the internet are guiding them [14]. Although Chiner et al. [11] found no differences in views between parents and staff with both groups considering internet as not being safe for adolescents with ID, other recent studies have shown ambivalent results with the internet being seen as both negative and positive for adolescents with ID [13,15] and with parents expressing that the internet provides opportunities in everyday life rather than risks, while risks were emphasised more by teachers [13]. A qualitative study by Molin et al. [13] regarding the perceptions of parents being more positive about the internet is in line with the results of this study. Furthermore, one qualitative study by Sorbring et al. [16] with only parents as participants, shows that parents have opinions of the internet that are both positive and negative, especially the opportunity the internet provides for social contact was expressed as positive, but parents also considered that their adolescent with ID can be more sensitive to interactions on the internet than adolescents in general. Furthermore, parents expressed that the internet could present challenges in digital competence due to their adolescents' IDs and that everyday support had to be given [16]. This is in line with parents in this study stating they are the ones having the main responsibility to support safe internet use for their adolescent. However, both parents of adolescents with and without ID expressed that they lack information and guidance. This has also been recognised in the latest biannual survey report on Parents and Media from the Swedish Media Council (2019), that despite information and support offered to parents are widely available at an institutional level, parents perceive a lack thereof. Support from parents or staff have been identified as essential for safe internet use by adolescents with ID, but support has been identified as insufficient in previous research due to, for example, the level of digital knowledge among parents and support staff, and a lack of education in regard to internet use [31] or of how to monitor safe internet use for adolescents in special schools [15].

The result shows new insights in internet use and its opportunities and risks for adolescents with ID, from the perspectives of parents only. A recent literature review from Borgström et al. [20] reported that adolescents with ID should be acknowledged as part of the I-generation, or Igen, having grown up with the internet their whole lives, as the internet has been widely used for nearly 25 years. Contemporary research on internet use for adolescents with ID needs to be more focussed on aspects of risks and vulnerability as well as support as it has been for adolescents in general [23]. Furthermore, studies need to capture the perspectives of the adolescents with ID themselves, as was done in one recent study where adolescents with ID answered a cognitively adapted survey and comparisons were made with a reference group of adolescents [37]. The results of that study

report lower access to and use of the internet by adolescents with ID, in comparison to the general population [37]. These results [20,37] together with the findings in the present study suggest that support on internet use to adolescents with ID should be given using a positive risk-taking approach, by both parents and staff.

Practical implications for occupational therapy

The results of this study show that even if the percentages are not in line with the reference group, using the internet and playing games are performed by adolescents with ID. This strengthens the relevance of providing ICT and internet-based interventions in occupational therapy for adolescents with ID, and through these interventions the digital competencies among adolescents with ID could be developed. This is of importance as digital competencies have been pointed out as needed to participate in contemporary society [1]. As parents in this study were found to be positive towards internet use for their adolescent, interventions should be addressed by occupational therapists in direct communication with adolescents with ID and their parents, preferably through enabling internet use, adopting a positive risk-taking approach [19] and applying it in practice. This can be done focussing on increasing access to internet-enabling devices [37], opportunities and risks related to internet use, and not avoid the risks but managing them through, for example, shared decision making and creative thinking [9]. Support from parents has been identified as one of the most important facilitators of participation in leisure activities by both parents, staff and children and adolescents with disabilities themselves [38].

Parents also requested more information and guidance in this study, which could be provided by occupational therapists. This however puts the occupational therapist in the position of acknowledging the need to keep up with digitalization as suggested by Larsson Lund and Nyman [3], and to advance their own digital knowledge to improve future practice and meet the needs of clients [39] particularly in supporting the development of digital competence in people with intellectual or cognitive disabilities to enable participation [40].

Another finding in this study is that the independent variable of having an adolescent with ID presents the significant differences when comparing the parents' perceptions. This further supports that the challenges that come with the diagnosis of ID must be acknowledged and addressed to avoid hindering everyday digital life, in line with a positive risk-taking approach [19]. With the results from the present study, the likelihood that the adolescents' different levels of ID indicate different prerequisites in internet use is evident, and urgently needs to be investigated to identify the best support for enabling digital participation of all adolescents, including adaptations to make the internet more accessible and to determine the implementation of positive risk-taking accordingly.

Methodological considerations

This cross-sectional study uses a comparative design with data from a reference group of parents of age appropriate adolescents from the general population, and data collected from parents of adolescents with ID. The comparative groups in this study include only parents, which could give the contrary results found in this study compared to earlier studies, where it has been found that not only staff, but even people in general assume people with ID are more vulnerable when using the internet than people in general are [17].

The national survey used has not been tested on measurement properties, which is a limitation, however it has been used biannually since 2010, and after the first time, questions were changed in line with validity and reliability [26]. When designing this comparative study, the use of the survey 'Parents and Media' [26] made it possible to get population-based comparative data.

The sample in this study could be considered representative of the population of parents with ID, although the study was not randomized and therefore caution should be employed in generalising the results. The representativeness was found in the proportions of participating parents having adolescents with mild ID (57%), respectively, moderate ID (43%), that were nearly the exact proportions of the total sample of the 318. Furthermore, the overrepresentation of adolescents with ID being male (55%) are in line with Swedish statistics of about 60% being male [27]. Despite this representativeness, the group of parents of adolescents with ID is small ($n = 94$) and limitations in representativity is prevalent.

The demographics demonstrating that adolescent with ID are older than the reference group depends on the educational programmes being a year longer in upper secondary special schools compared with general upper secondary school [27]. However, the

logistic regression controlled for confounding regarding age, together with sex and education level of the parent with no or minor change in the adjusted OR, indicated that age is not a confounder.

The higher proportion of highly educated parents of adolescent with ID participating may indicate a bias in the study, with an underrepresentation of parents of adolescents with ID with lower education. This may affect the result as research have shown that a risk of not using internet increase with lower education [24]. Based on this an assumption could be made that parents with higher education more often provide internet opportunities to their children. Still 50% of the included adolescents do not use social media, nor does 26% use the smartphone. Further, parameters such as interest in digital technologies among the parents may affect the results, with an unknown overrepresentation of participating parents who are enthusiastic about the internet from both parents of adolescents with ID and the reference group. Altogether this may lead to the opportunities and risks for this group of adolescents with ID being underestimated. Use of Bonferroni corrections on *p*-values for the adjusted odds ratios from the logistic regression [25] made the overinterpretation of the *p*-values less likely and therefore the likelihood of Type I errors decreased, indicating that being a parent of an adolescent with ID showed the significant differences in perceptions of opportunities and risks associated with internet use.

Conclusion

This study provides new knowledge into how opportunities and risks associated with internet use are perceived by parents of adolescents with ID compared with parents in the reference group. The unexpected findings show that a higher proportion of parents of adolescents with ID perceive opportunities associated with internet use and playing games for their adolescent than the parents in the reference group. Furthermore, a lower proportion of parents of adolescents with ID perceive negative consequences and have concerns about online risks, and no confounding factors were found when controlling for demographic variables. The result is contradictory to previous research presenting adolescents with ID as a vulnerable group in their use of the internet, especially considered so by others, e.g. support staff, and may be a result of the actual comparison between parents made in this study. It may further be a result of the lower proportion of adolescents with ID not spending time on social media or use smartphones in comparison with the reference group. Future research should be designed to investigate how digital participation for adolescents with ID could be enabled. Further, comparing the views of adolescents with ID and their parents could be focussed on in future research as Chiner [41] found discrepancies in their views of the online risks of the adolescent with ID. This shows the importance for occupational therapists and other care providers to deepen their own digital knowledge to support positive risk-taking in internet use to enable for adolescents with ID to gain increased digital competencies. By doing so, the interventions needed to support adolescents with ID, and their parents, to become participatory citizens in a digitalised everyday life and society can be developed and provided.

Acknowledgements

The authors thank the Swedish Media Council for the significant cooperation and sharing of comparative data that made this study possible.

Disclosure of interest

The authors report no conflict of interest.

Funding

This work was supported by internal funding from the Faculty of Medicine and Health Sciences, Linköping University, Linköping, Sweden.

ORCID

Kristin Alfredsson Ågren http://orcid.org/0000-0002-6413-584X
Anette Kjellberg http://orcid.org/0000-0003-4740-4494
Helena Hemmingsson http://orcid.org/0000-0003-1281-6392

References

[1] Carretero S Vuorikari R Punie Y. DigComp 2.1: The Digital Competence Framework for Citizens with eight proficiency levels and examples of use Luxembourg: Publications Office of the European Union, 2017.
[2] Larsson-Lund M. The digital society: occupational therapists need to act proactively to meet the growing demands of digital competence. Br J Occup Ther. 2018;81:733–735.
[3] Larsson-Lund M, Nyman A. Occupational challenges in a digital society: a discussion inspiring occupational therapy to cross thresholds and embrace

possibilities. Scand J Occup Ther. 2018. DOI:10.081/11038128.2018.1523457
[4] Lussier-Desrochers D, Normand CL, Romero-Torres A, et al. Bridging the digital divide for people with intellectual disability. Cyberpsychology. 2017;11:53–72.
[5] Arvidsson P. Assessment of participation in people with a mild intellectual disability [dissertation]. Örebro: Örebro Universitet, 2013.
[6] Tassé MJ, Luckasson R, Schalock RL. The relation between intellectual functioning and adaptive behavior in the diagnosis of intellectual disability. Intellec Dev Disabil. 2016;54:381–390.
[7] American Psychiatric Association. Diagnostic and statistical manual of mental disorders (DSM-5®). Arlington (VA): American Psychiatric Pub; 2013.
[8] Alfredsson Ågren K, Kjellberg A, Hemmingsson H. Access to and use of the internet among adolescents and young adults with intellectual disabilities in everyday settings. J Intellect Dev Dis. 2020;45:89–98.
[9] Seale J, Chadwick D. 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. 2017;11:110–126.
[10] Palmer SB, Wehmeyer ML, Davies DK, et al. Family members' reports of the technology use of family members with intellectual and developmental disabilities. J Intellect Disabil Res. 2012;56:402–414.
[11] Chiner E, Gómez-Puerta M, Cardona-Moltó MC. Internet and people with intellectual disability: an approach to caregivers' concerns, prevention strategies and training needs. NApprEdR. 2017;6:153–158.
[12] Shpigelman C-N. Leveraging social capital of persons with intellectual disabilities through facebook participation: the perspectives of family members and direct support staff. Intellec Dev Disabi. 2017;55:407–418.
[13] Molin M, Sorbring E, Löfgren-Mårtenson L. Teachers' and parents' views on the Internet and social media usage by pupils with intellectual disabilities. J Intellect Disabil. 2015;19:22–33.
[14] Ramsten C, Martin L, Dag M. A balance of social inclusion and risks: Staff perceptions of information and communication technology in the daily life of young adults with mild to moderate intellectual disability in a social care context. J Pol Pract Intellect Disabil. 2019;16:171–179.
[15] Löfgren-Mårtenson L, Molin M, Sorbring E. H@ssles and hopes on the internet: what professionals have encounter in dealing with internet use and sexuality among youths with intellectual disabilities. PSP. 2018;8:65–66.
[16] Sorbring E, Molin M, Löfgren-Mårtenson L. I'm a mother, but I'm also a facilitator in her every-day life" parents' voices about barriers and support for internet participation among young people with intellectual disabilities. Cyberpsychology. 2017;11:127–143.
[17] Chadwick DD, Quinn S, Fullwood C. Perceptions of the risks and benefits of internet access and use by people with intellectual disabilities. Br J Learn Disabil. 2017;45:21–31.
[18] Buijs PCM, Boot E, Shugar A, et al. Internet safety issues for adolescents and adults with intellectual disabilities. J Appl Res Intellect Disabil. 2017;30:416–418.
[19] Seale J. The role of supporters in facilitating the use of technologies by adolescents and adults with learning disabilities: a place for positive risk-taking?. Eur J Spec Needs Educ. 2014;29:220–236.
[20] Borgström Å, Daneback K, Molin M. Young people with intellectual disabilities and social media: a literature review and thematic analysis. Scand J Disabil Res. 2019;21:129–140.
[21] Pew RC. Teens, Social media and Technology. 2018. Available from: https://www.pewinternet.org/2018/05/31/teens-social-media-technology-2018/
[22] Livingstone S. Drawing conclusions from new media research: reflections and puzzles regarding children's experience of the internet. Information Society. 2006;22:219–230.
[23] Hasebrink UG, Haddon L, Kalmus V, et al. Patterns of risk and safety online: in-depth analyses from the EU Kids Online survey of 9- to 16-year-olds and their parents in 25 European countries. 2011. Available from: http://eprints.lse.ac.uk/39356/.
[24] Livingstone SB, Byrne J. Parenting in the digital age. The challenges of parental responsibility in comparative perspective. In: Giovanna Mascheroni CPAJe, editor. Digital parenting. The challenges for families in the digital age. Göteborg: Nordicom; 2018. p. 19–30.
[25] Field AP. Discovering statistics using IBM SPSS statistics. 5th ed. London (UK): Sage Publications Ltd; 2018.
[26] Swedish Media Council SM. Stockholm; 2017. Available from: https://statensmedierad.se/publikationer/ungarochmedier/foraldrarmedier2017.2341.html
[27] National Agency for Education. Statistics on schools in Sweden. [In Swedish]. 2016. Available from: https://www.skolverket.se/skolutveckling/statistik/sok-statistik-om-forskola-skola-och-vuxenutbildning
[28] IBM C. IBM SPSS Statistics for Windows. Version 25.0.: Armonk, NY: IBM Corp.; 2017.
[29] Svensson E. Val och Konsekvens: mätnivån avgör den statistiska verktygslådan [In Swedish]: [Choice and Consequences: Measurement levels decides the choice of statistical toolbox]. Läkartidningen. 2005;102:1331–1337.
[30] Sorbring E. Parents' concerns about their teenage children's internet use. J Fam Issues. 2014;35:75–96.
[31] Sallafranque-St-Louis F, Normand CL. From solitude to solicitation: how people with intellectual disability or autism spectrum disorder use the internet. Cyberpsychology. 2017;11:79–96.
[32] Caton S, Chapman M. The use of social media and people with intellectual disability: a systematic review and thematic analysis. J Intellect Dev Disabil. 2016;41:125–139.

[33] Asselt-Goverts AE, Embregts P, Hendriks AHC, et al. Experiences of support staff with expanding and strengthening social networks of people with mild intellectual disabilities. J Commun Appl Soc Psychol. 2014;24:111–124.
[34] McHugh MC, Howard DE. Friendship at any cost: parent perspectives on cyberbullying children with intellectual and developmental disabilities. J Ment Health Res Intellect Disabil. 2017;10:288–308.
[35] Hurd C, Evans C, Renwick R. Having friends is like having marshmallows" perspectives of transition-aged youths with intellectual and developmental disabilities on friendship. J Appl Res Intellect Disabil. 2018;31:1186–1196.
[36] Chadwick D, Fullwood C. An online life like any other: identity, self-determination, and social networking among adults with intellectual disabilities. Cyberpsych Behav Soc Netw. 2018;21:56–64.
[37] Alfredsson Ågren K, Kjellberg A, Hemmingsson H. Digital participation? Internet use among adolescents with and without intellectual disabilities: a comparative study. New Med Soc. 2019. DOI:10.177/1461444819888398
[38] Steinhardt F, Ullenhag A, Jahnsen R, et al. Perceived facilitators and barriers for participation in leisure activities in children with disabilities: perspectives of children, parents and professionals. Scand J Occup Ther. 2019. DOI:10.1080/11038128.2019.1703037
[39] Hills C, Ryan S, Smith DR, et al. Occupational therapy students' technological skills: are 'generation Y' ready for 21st century practice? Aust Occup Ther J. 2016;63:391–398.
[40] Buchholz M, Ferm U, Holmgren K. Support persons' views on remote communication and social media for people with communicative and cognitive disabilities. Disabil Rehabil. 2020; 42:1439–1447.
[41] Chiner E, Gómez-Puerta M, Cardona-Moltó MC. Internet use, risks and online behaviour: the view of internet users with intellectual disabilities and their caregivers. Br J Learn Disabil. 2017;45: 190–197.