REVIEW ARTICLE

Young People with Intellectual Disabilities and Social Media: A Literature Review and Thematic Analysis

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Background: The aim of this review is to identify and analyse the research findings in the field of young people with intellectual disabilities and social media.

Method: Twelve peer-reviewed papers published in well-established and recognized journals between 2001 and 2017 were identified from electronic database searches (Web of Science, Scopus and Google Scholar), the Internet (Facebook) and correspondence with experts.

Results: Six topics were identified through thematic analysis of the texts: opportunities, risk and vulnerability, sexuality, identity, barriers and support.

Conclusion: The latest research on young people with intellectual disabilities is characterized by issues of risk, vulnerability and support. The concept of positive risk-taking is suggested for the development of methodological approaches in practice and research. Furthermore, vulnerability, online and offline activities and identity formation should be examined more closely, and there is a call for new research methods in this area, for example observations and netnography.

Keywords: Internet; social media; intellectual disabilities; young people; literature review; thematic analysis

Introduction

Use of the Internet and social media is a growing phenomenon worldwide, especially in North America and Europe. In Western Europe, 54% (Eastern Europe 44%) of the population uses social media (Statista 2017). This applies in particular to children and young people. Children in Europe are going online more, at a younger age and in more diverse ways. Social networking sites involve opportunities as well as risks, and it is important that policy-makers and practitioners strive to maximize the opportunities to benefit and minimize the harm from the Internet to children (EU Kids Online 2014). These issues concern all children and adolescents today, even, or perhaps particularly, young people with intellectual disabilities. More research focusing on children with special needs and vulnerabilities is needed (EU Kids Online 2014), and this may include the group of young people with intellectual disabilities. The aim of this review is to investigate further the knowledge about this group of young people and social media.

Social media often refers to social activities on the Internet in general, but a more formal definition is 'a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content' (Kaplan and Haenlein 2010: 61). This includes blogs, social networking sites (e.g., Facebook), virtual social worlds (e.g., Second Life), collaborative projects (e.g., Wikipedia), content communities (e.g., YouTube) and virtual game worlds (e.g., World of Warcraft; Kaplan and Haenlein 2010).

Intellectual disabilities and the Internet

Knowledge about people with intellectual disabilities and the Internet is limited, especially young people and social media.

Previous research mainly deals with adults and the Internet and concerns inequalities, barriers (Caton and Chapman 2016; Chadwick, Wesson & Fullwood 2013), risks of cyber victimization (Normand and Sallafranque-St-Louis 2016), support and safety (Seale 2014), and opportunities (Caton and Chapman 2016; Chadwick, Wesson & Fullwood 2013).

A recurrent and important issue is the 'digital divide', which emphasizes a disparity in Internet access between disabled and non-disabled people to varying degrees all over the world. For example, in the EU, disabled people have a 62% lower chance of having Internet access at home (Scholz, Yalcin & Priestley 2017). Different factors affect the potential for access. Functional variations and impairments, education, training and support and political, economic and attitudinal climate may combine in different ways to marginalize people with intellectual disabilities from Internet access (Chadwick, Wesson & Fullwood 2013).

On further examination, barriers and opportunities are two extremes characterizing this research area. Barriers, known as safeguarding concerns, are difficulties caused by literacy and communication skills, cyber language, cyber etiquette and accessibility (including a lack of appropriate equipment), and opportunities are expressed as positive experiences of using social media, like friendships, the development of a social identity and self-esteem, and enjoyment (Caton and Chapman 2016). Although this area includes both barriers and opportunities, it is important to stress that negative attitudes currently hinder people with intellectual disabilities from obtaining digital access. It seems that the Internet has become an integrated part of everyday life around the world, but there is still a group of people that appears to be excluded from this part of life (Chadwick, Wesson & Fullwood 2013).

Before approaching the field of young people with intellectual disabilities and social media, the central terms in the field of disability have to be clarified. The terms used for 'intellectual disability' vary depending on the context and nation, for example, 'developmental disability' in Canada (Schalock 2011) and 'learning disability' in the United Kingdom (Greenspan 1999; Shchalock 2011). 'Intellectual disability is characterized by significant limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social, and practical adaptive skills. This disability originates before age 18' (Schalock et al. 2010: 1). The term 'intellectual disability' is increasingly being used internationally. The increased usage of this term reflects a changed construct of disability that better coheres with present professional practices that focus on functional behaviours and contextual factors (Schalock 2011). In this review, the terms 'intellectual disability' and 'intellectual disabilities' are used, except when referring to studies using the term 'learning disabilities'.

Young people with intellectual disabilities and social media

For most people, especially the young, the Internet is part of everyday life. There are indications that social media use is more widespread among young people with intellectual disabilities than people with intellectual disabilities in general (Caton and Chapman 2016). Young people with disabilities are more exposed to cruel actions, bullying and threats than young people without a disability (Statens medieråd 2017). Nonetheless, little is known about the particular group young people with intellectual disabilities.

The Internet is a constantly progressing field, and activities online and offline are becoming increasingly intertwined. Identity and online representation cannot be switched off, moved away from or otherwise defined from everyday practices of selfhood (Cover 2016). Young people with intellectual disabilities are a vulnerable group in society, and in order to mobilize proper help and support, it is important to gain insight into their situation both online and offline. Hence, the aim of this review is to identify and analyse the research findings in the field of young people with intellectual disabilities and the Internet, with the focus on social media/online social activities. More specifically, what characterizes the latest research on young people with intellectual disabilities and Internet compared with earlier research on adults with intellectual disabilities and the Internet? What implications do the results have for practice, the development of support and future research?

Review Method

This literature review combines an integrative and a systematic approach. An integrative review includes both quantitative and qualitative evidence (Dickson, Cherry & Boland 2014; Sandelowski, Barroso & Voils 2007). In a systematic review, the steps are clearly planned and fully described, all actions are transparent and all key methodological decisions are based on theory and/or pragmatism and set out for the reader to judge (Dickson, Cherry & Boland 2014). All the factors mentioned above were taken into account during the review process.

Search strategy

The starting point of the search strategy was the review question, and the search terms were found in scoping searches. The search strategy and terminology were designed in collaboration with the University of Gothenburg's library and consists of a 'building blocks strategy' and the use of Boolean operators.

In May 2017, the databases Scopus and Web of Science were searched using the following search strategy:

(intellectual disabil*) OR (learning disabil*) OR (mental retard*) OR (developmental disabil*) AND Internet OR (social media) OR (social networking site*) OR Facebook AND (young people) OR (youth) OR (adolescent) OR (teenager*)

The databases were chosen because of their multidisciplinary character, and 70 results were identified in Scopus and 39 in Web of Science. In addition to this, a supplementary search was performed in Google Scholar. This used a different type of search system, and the phrases used were 'young people', 'intellectual disability' and 'social networking sites', and 343 results were identified. Five additional and peer-reviewed papers were identified through other sources: the Internet (Facebook) and correspondence with experts. These papers were Holmes and O'Loughlin (2012), Jahoda and Pownall (2014), Löfgren-Mårtenson (2008), Seale (2001) and Sorbring, Molin, and Löfgren-Mårtenson (2017). Two of these papers presented early research in the field, and the article from 2017 was included in the final step of the searches. All the results were imported into EndNote.

Selection of studies and screening process

Papers were included if they described a primary research study exploring young people with intellectual disabilities, 'developmental disability' in Canada (Schalock 2011), 'learning disability' in Britain (Greenspan 1999; Schalock 2011) and social media/online social activities and if they were published in an English-language peer-reviewed journal. No study design restrictions were applied, and both qualitative and quantitative studies were included. The searching was completed in June 2017, and no limits were set back in time. The age was a central criterion of inclusion and exclusion, and initially only papers on adolescents and young adults in emerging adulthood aged 18–25 (Arnett 2000) were to be included. Due to the small number of papers in this area, this criterion changed during the review process, and articles with a mix of children from age 11, adolescents, young adults and adults aged 26–31 was included.

The screening and selection was a two-step process, with an initial screening of 343 titles carried out by the first author to determine eligibility. The perceived pattern among the excluded studies was one of 'young people', 'social media' or 'intellectual disability'. The composition of the titles consisted to some extent of two of these criteria, but the combination of all three criteria was exceptional. The first author evaluated the full texts of the included articles (n = 35), and the following selection process was vented between the authors. Papers were excluded if they were not primary research (e.g., book chapter, review), were a doctoral dissertation, included an inappropriate population (mostly adults), did not focus on social media/online social activities (e.g., ICT), were about learning disabilities (e.g., additional support needs or special needs, not intellectual disabilities) or the full text could not be found. Twelve papers, eleven articles and one brief report remained after detailed checks. The PRISMA flow diagram gives details of the selection process (**Figure 1**).

Thematic analysis

A qualitative meta-summary can be useful for synthesizing the results of qualitative and quantitative surveys and to produce mixed-research syntheses (Sandelowski, Barroso & Voils 2007). This involves mapping the contents (of qualitative studies; Cherry et al. 2014) and was the starting point for the thematic analysis.

The theoretical approach of the analysis was taken from Braun and Clarke (2006) and inspired by their 'six-phase guide'. The first step was to become familiar with the data, which consisted of 12 papers, through 'active reading' (Kiteley and Stogdon 2014) and using a table (**Table 1**) with six columns: authors, country, Internet issues, participants, methods and key findings.
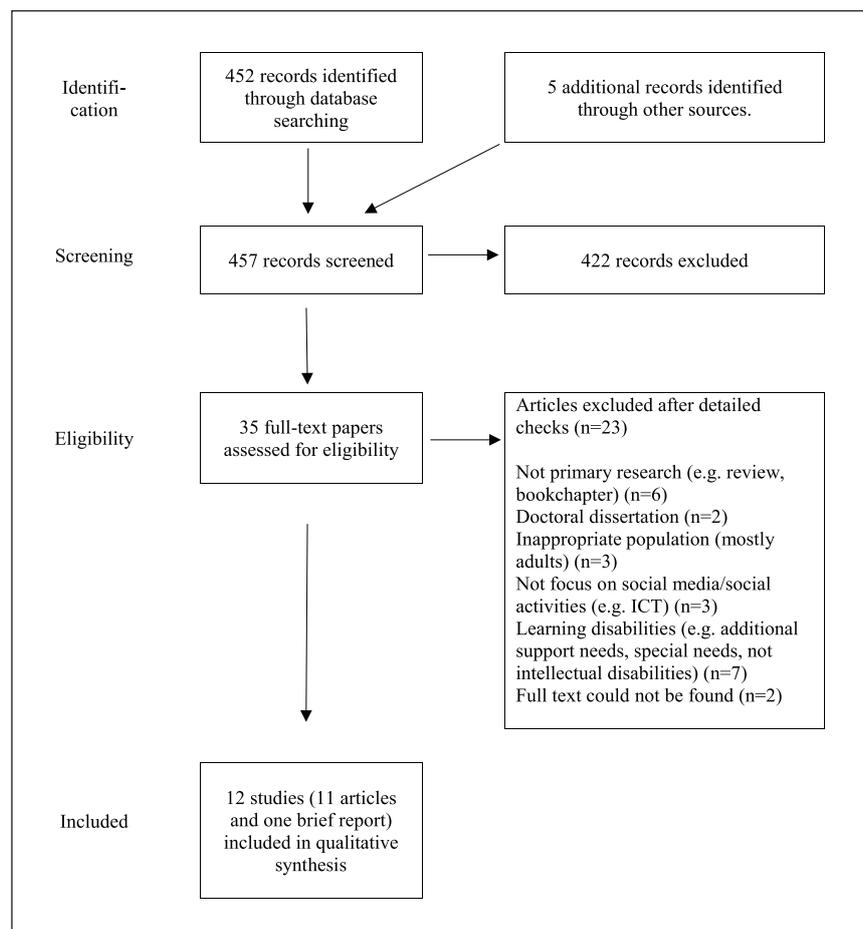

Figure 1: PRISMA flow diagram. Adapted from 'Preferred Reporting Items for Systematic Reviews and Meta-analysis: The PRISMA Statement' (Caton and Chapman 2016; Moher et al. 2009).

Table 1: Details of studies included in the review.

Authors	Country	Internet issues	Participants	Methods	Key findings
Buijs et al. (2016)	Canada	Internet safety	3 adolescents and adults with an intellectual disability (22q11.2 deletion syndrome); 2 in their early twenties (1 male and 1 female) and one 16-year-old (female).	Qualitative method. Case vignettes.	Internet risks may also be indicative for adolescents and adults with intellectual disabilities. Clinicians should discuss Internet safety in their practice.
Didden et al. (2009)	Netherlands	Cyberbullying	114 students with intellectual disabilities and/or developmental disorders. Total IQ level of at least 50. Age 12–19 years (72% boys and 28% girls).	Quantitative method. Questionnaires.	Cyberbullying present among students with an intellectual and/or developmental disability in special education settings. Call for programmes.
Holmes and O'Loughlin (2012)	UK	Online social identity/social networking sites (Facebook)	3 participants: one 25-year-old woman with a mild learning disability and autistic traits, one 30-year-old woman with a mild learning disability and one 28-year-old woman with a learning disability.	Qualitative method. Vignettes.	Important to offer people with intellectual disabilities the same rights and freedom as all others, but empower them to deal with difficulties on the Internet.
Jahoda and Pownall (2014)	UK (Scotland)	Sexual understanding, sources of information and social networks	60 participants (16–21 years). 30 adolescents with a mild intellectual disability (16 men, 14 women) and 30 non-disabled adolescents (15 men and 15 women).	Quantitative method. Structured interviews, self-report measures.	Need to tackle barriers to sexual knowledge for young people with intellectual disabilities, in particular attitudes to the developing sexuality of young women with intellectual disabilities.
Lough, Flynn and Riby (2015)	UK	Online vulnerability	Illustrations from autism spectrum disorder (ASD) and Williams syndrome (WS).	Qualitative method. Hypothetical scenarios based on previous knowledge	There may be risk factors that need to be taken into consideration. Individuals with developmental disorders who are vulnerable offline might encounter risks online.
Löfgren-Mårtenson (2008)	Sweden	Love in Cyberspace	22 participants: 10 young people with an intellectual disability aged 18–31 (6 men, 4 women). Mainly with a very mild form of intellectual disability. 12 adults (teachers, staff members and IT personnel) aged 25–62 (10 men, 2 women).	Qualitative, ethnographic method. Qualitative interviews.	Discrepancy in the views of the Internet between young people with intellectual disabilities and adults. Young people with intellectual disabilities view the Internet as an arena where they can be 'like everybody else', whilst the people around them mainly focus on the risks.
Löfgren-Mårtenson, Sorbring and Molin (2015)	Sweden	Internet use for sexual purposes	8 professionals (7 females and 1 male). 5 parents (3 females and 2 males) of pupils in the same upper secondary special programme class (age 18–20).	Qualitative method. Focus groups, interviews.	In-depth knowledge about parents' and professionals' perspectives on the Internet and sexuality is important when young people with intellectual disabilities live in an independent situation towards their surroundings.

(Contd.)

Authors	Country	Internet issues	Participants	Methods	Key findings
Molin, Sorbring and Löfgren-Mårtenson (2015)	Sweden	Teachers' and parents' views on the Internet and social media use.	Same as above	Same as above	Teachers emphasize the importance of the Internet for interactive purposes, whilst parents highlight the Internet as an opportunity for their children to increase awareness of their own disability and meet peer group pupils.
Salmerón, Gómez and Fajardo (2016)	Spain	Evaluate recommendations from Internet forums	40 students with intellectual disabilities (47.5% female), age 17–23. Verbal and mental age-matched group. 40 students (52.5% female), age 11–12. Chronological age-matched group. 40 students (80% female), age 1–21.	Quantitative method. Experiment.	Students with intellectual disabilities have a limited capability to evaluate recommendations from Internet forums. They do not present a delay in but an atypical development of these skills.
Seale (2001)	UK	Self-presentation	20 personal home pages by adults with Down syndrome. Average age 18. 11 men.	Qualitative method Opportunistic sampling technique.	Personal home pages have the potential to allow adults with Down syndrome to express multiple identities. Further work needs to be done to support adults with Down syndrome to take more control over the construction and presentation process.
Sorbring, Molin and Löfgren-Mårtenson (2017)	Sweden	Barriers and support for Internet participation	22 guardians (19 biological parents, 2 older sisters and 1 stepmother) of people with intellectual disabilities (8 daughters and 9 sons, aged 16–21).	Qualitative method. Individual interviews, pair-interviews, group interview.	Parents see great opportunities for their children on the Internet, but they are also afraid that they are more sensitive to the contents of and interactions on the Internet due to their disability.
Wright (2017)	US	Cyber victimization and depression	131 adolescents (73 % male, age 13–15) with intellectual disabilities and/or developmental disorders. IQ from 56 to 121, most students (84%) have an IQ below 85.	Quantitative method. Self-report questionnaire, completed the questionnaire one year later.	Perceived social support from parents and teachers weakened the relationship between cyber victimization and depression. Call for programmes.

The second step was to look for initial codes. In this phase, **Table 1** was used as a starting point, and a double check was carried out on the primary data. The third step was to search for themes, and an initial thematic map (Braun and Clarke 2006) was created showing eight main themes: positive aspects, negative aspects, risk, vulnerability, sexuality, identity, barriers/source of information and support. The fourth and fifth steps were to review, define and name the themes using the Watson and Webster (2002) concept matrix (**Table 2**). On closer examination, a more descriptive name for 'positive aspects' was 'opportunities'. Negative aspects could be linked to risk and vulnerability, and barriers could include source of information. The themes sexuality, identity and support were intact.

Step six included producing the review, and it involved the final analysis and write-up of the article (Braun and Clarke 2006).

Results

More than half of the papers in the review were published after 2015, indicating a rapidly growing field. Most of the research was conducted in North America and Europe and included different topics: Internet safety (Buijs 2016), online vulnerability (Lough, Flynn & Riby 2015), cyberbullying (Didden et al. 2009), cyber victimization, depression and social support (Wright 2017), self-presentation (Seale 2001), online social identity/social networking sites (Holmes and O'Loughlin 2012), sexual understanding, sources of information and social networks (Jahoda and Pownall 2014), love in cyberspace (Löfgren-Mårtenson 2008), Internet use for sexual purposes (Löfgren-Mårtenson, Sorbring & Molin 2015), teachers' and parents' views on Internet and social media use (Molin, Sorbring & Löfgren-Mårtenson 2015), barriers and support for Internet participation (Sorbring, Molin & Löfgren-Mårtenson 2017) and evaluating recommendations from Internet forums (Salmerón, Gómez & Fajardo 2016).

Study design, methods and participants

Most of the studies had a cross-sectional design. They were quantitative (n = 4) and qualitative (n = 8) and included a wide range of different methods: questionnaires (Didden et al. 2009; Wright 2017), structured interviews (Jahoda and Pownall 2014), experiments (Salmerón, Gómez & Fajardo 2016), qualitative interviews (Löfgren-Mårtenson

Table 2: Concept matrix identifying main themes (Watson and Webster 2002).

Article	Theme					
	Opportunities	**Risk and vulnerability**	**Sexuality**	**Identity**	**Barriers**	**Support**
Buijs et al. (2016)		x				x
Didden et al. (2009)		x				x
Holmes and O'Loughlin (2012)	x	x		x		
Jahoda and Pownall (2014)			x		x	x
Lough, Flynn And Riby (2015)		x				
Löfgren-Mårtenson (2008)	x	x	x			
Löfgren-Mårtenson, Sorbring and Molin (2015)	x	x	x			x
Molin, Sorbring and Löfgren-Mårtenson (2015)	x					x
Salmerón, Gómez and Fajardo (2016)					x	x
Seale (2001)				x		
Sorbring, Molin and Löfgren-Mårtenson (2017)					x	x
Wright (2017)		x				x
Totals	4	7	3	2	3	8

2008; Löfgren-Mårtenson, Sorbring & Molin 2015; Molin, Sorbring & Löfgren-Mårtenson 2015; Sorbring, Molin & Löfgren-Mårtenson 2017), opportunistic sampling technique (Seale 2001), case vignettes (Buijs 2016; Holmes and O'Loughlin 2012) and hypothetical scenarios based on previous knowledge (Lough, Flynn & Riby 2015).

The participants were mainly young people with intellectual disabilities. Three of the studies clarified that the informants had intellectual disabilities and/or developmental disorders (e.g., attention-deficit/hyperactivity disorder, autism spectrum disorder, learning disability; Didden et al. 2009; Lough, Flynn & Riby 2015; Wright 2017). Different terms for intellectual disabilities were used in the articles. The predominant term was 'intellectual disabilities/disability (Buijs 2016; Didden et al. 2009; Jahoda and Pownall 2014; Löfgren-Mårtenson 2008; Löfgren-Mårtenson, Sorbring & Molin 2015; Molin, Sorbring & Löfgren-Mårtenson 2015; Salmerón, Gómez & Fajardo 2016; Sorbring, Molin & Löfgren-Mårtenson 2017; Wright 2017;). In the British context, the term 'learning disabilities' was used (Holmes and O'Loughlin 2012; Seale 2001). In some of the papers, the diagnosis of the participants was specified: 'Down syndrome' (Seale 2001), 'Autism Spectrum Disorder' (ASD) and 'Williams syndrome (WS; Lough, Flynn & Riby 2015).

The age of the participants was 11–31 years. Five of the studies were on children, adolescents and young adults (age 11–23; Didden et al. 2009; Jahoda and Pownall 2014; Salmerón, Gómez & Fajardo 2016; Seale 2001; Wright 2017;) and one was on young adults and adults aged 25–30 (Holmes and O'Loughlin 2012). Some of the studies did not specify the age of the participants (Buijs 2016; Lough, Flynn & Riby 2015). Buijs (2016) referred to one woman and one man in their early twenties and a 16-year-old girl, and Lough, Flynn & Riby (2015) merely to young people. Another study focused on the views of young adults with intellectual disabilities (age 18–31) and the adults around them (teachers, staff members and IT personnel; Löfgren-Mårtenson 2008). Other studies examined exclusively the perspectives of professionals and parents (Löfgren-Mårtenson, Sorbring & Molin 2015; Molin, Sorbring & Löfgren-Mårtenson 2015; Sorbring, Molin & Löfgren-Mårtenson 2017) and their views of young people and young adults aged 18–20 (Löfgren-Mårtenson, Sorbring & Molin 2015; Molin, Sorbring & Löfgren-Mårtenson 2015) and 16–21 (Sorbring, Molin & Löfgren-Mårtenson 2017).

Two of the quantitative studies had an over-representation of male participants: 72% boys and 28% girls (Didden et al. 2009) and 73% male participants, respectively (Wright 2017). Another quantitative study had an over-representation of female participants (Salmerón, Gómez & Fajardo 2016). Half of the qualitative studies had a balanced representation of gender (Buijs 2016; Jahoda and Pownall 2014; Löfgren-Mårtenson 2008; Seale 2001). One qualitative study included just female participants (Holmes and O'Loughlin 2012), while another did not mention gender and instead used the term individuals (Lough, Flynn & Riby 2015). The papers on the perspectives of the surroundings did not mention the gender of the young people to which the study related (Löfgren-Mårtenson, Sorbring & Molin 2015; Molin, Sorbring, and Löfgren-Mårtenson 2015), except one article that stated that the guardians of eight daughters and nine sons were interviewed (Sorbring, Molin & Löfgren-Mårtenson 2017). These papers were all from the same author fraction and research group in Sweden.

The largest studies were quantitative, with 131 (Wright 2017), 120 (Salmerón, Gómez & Fajardo 2016), 114 (Didden et al. 2009) and 60 participants respectively (Jahoda and Pownall 2014). Two of the qualitative studies had 22 participants each (Löfgren-Mårtenson 2008; Sorbring, Molin & Löfgren-Mårtenson 2017), and one qualitative study was based on 20 personal home pages (Seale 2001). The remaining studies were qualitative and relatively small. One had 13 participants (Löfgren-Mårtenson, Sorbring & Molin 2015; Molin, Sorbring & Löfgren-Mårtenson 2015), and two were based on three case vignettes (Buijs 2016; Holmes and O'Loughlin 2012). Another small study used previous knowledge about specific risk factors to illustrate the case of online vulnerability in developmental disorders (Lough, Flynn & Riby 2015). The next section presents the results of the thematic analysis and the themes of the review.

Recurring Themes in the Articles

More instances of a theme does not necessarily mean that the topic itself is more important; the role of a theme is rather to capture something important in relation to the research question (Braun and Clarke 2006). In the thematic analysis, the number of instances of a theme has been indicative, but the results are mainly based on topics that raise important issues in relation to the research question. The concept matrix (Watson and Webster 2002; **Table 2**) shows the main identified themes: opportunities, risk and vulnerability, sexuality, identity, barriers and support.

Opportunities

The Internet provides new opportunities for social interaction. This also applies to young people with intellectual disabilities. In this context, social media offers an alternative to expand the social circle, keep in contact with others and express thoughts and opinions in a setting the person feels he or she has more control over (Holmes and O'Loughlin 2012), a place for greater participation in social life and society in general (Sorbring, Molin, and Löfgren-Mårtenson 2017). Another aspect is that the Internet can be an arena where young people with intellectual disabilities can be 'like everybody else' (Löfgren-Mårtenson 2008: 129) and present themselves without mentioning their intellectual disability (Löfgren-Mårtenson 2008).

Overall, recent research on young people with intellectual disabilities and the Internet indicates a change of perspectives to a more positive attitude by the surroundings (Löfgren-Mårtenson 2008), teachers emphasizing the Internet for interactive purposes and parents highlighting the Internet as a tool for gaining greater awareness of their children's own disability and a way to meet others in the same situation (Molin, Sorbring & Löfgren-Mårtenson 2015).

Risk and vulnerability

Cyberbullying and financial and sexual exploitation are some of the difficulties surrounding young adults with learning disabilities and social networking use (Holmes and O'Loughlin 2012). Victimization and bullying via the Internet and mobile phones are prevalent among young people with an intellectual and/or developmental disability, and there is a correlation between cyberbullying and IQ, self-esteem and depressive feelings and frequency of computer use. It is worth noting that there is a variation within this group of students with intellectual and/or developmental disability, for example, the higher the students' IQ, the more often they are bullied on the Internet (Didden et al. 2009).

The connection between online and offline vulnerability is another area revealed in the analysis. For example there are indications that not all individuals with autism spectrum disorder (ASD) or Williams syndrome (WS) will be exploited or will be vulnerable online, but there may be risk factors that need to be taken into consideration, risk factors that are relevant not only to this group, but also to other individuals with developmental disorders who are vulnerable offline (Lough, Flynn & Riby 2015). The Internet carries significant risks for individuals with poor insight and social judgment, and clinicians should discuss online use and its potential benefits and risks on a regular basis with this population (Buijs 2016).

Sexuality

Young women appear to be a vulnerable group on the Internet when it comes to sexuality. Non-disabled young women have better knowledge about sexual matters than men, but the opposite applies to young people with intellectual disabilities (Jahoda and Pownall 2014). In addition, these young women are looked upon as more contact-seeking than young men, and dating unknown persons on the Internet is associated with young women's behaviour and viewed as risky (Löfgren-Mårtenson, Sorbring & Molin 2015).

An early study emphasized that the use of computers and the Internet was more controlled for young women and men with intellectual disabilities than for other teenagers and young adults of the same age (Löfgren-Mårtenson 2008). Changing domains of Internet use, including increased use of social media, over the last ten years and the fact that many young people with intellectual disabilities have mobile phones have probably led to changes in practice in this area.

Attitudes concerning sexuality and the Internet have also changed over time. Previous research emphasizes a disparity between the views of staff members and young people with intellectual disabilities. Staff members tended to worry about them coming into contact with pornography and meeting strangers on the Internet; the youth were instead more concerned about the risk of not finding a partner on the Internet (Löfgren-Mårtenson 2008). Today, professionals and parents perceive the Internet as an arena of opportunities as well as sexual risks. However, there are differences in attitudes within this group. The professionals seem to be more concerned about the risks than the parents are. For the parents, the real risks are loneliness and social isolation (Löfgren-Mårtenson, Sorbring & Molin 2015).

Identity

The Internet is a new arena for identity formation. In addition to face-to-face interactions, today, social identity is formed online on social networking sites (e.g., Facebook; Holmes and O'Loughlin 2012). The label 'learning disability' is a powerful form of identity, overshadowing all other aspects of the 'self' (Burns 2000), but Facebook gives people with a learning disability (intellectual) an opportunity to remain anonymous from this label and allows them to emphasize other aspects of their identity (Holmes and O'Loughlin 2012).

An early study highlighted that personal home pages have the potential to allow persons with Down syndrome to express multiple identities that are both the same and different from those of other people with Down syndrome. Several of the home pages were written in third person, indicating that further work needed to be done to investigate how people with Down syndrome can take more control over their presentation and construction of the self (Seale 2001). These results have to be seen in relation to the changing area of Internet use in recent years. The fact that most people have mobile phones probably affects the possibility of taking control of self-presentations.

Further theory development concerning alternative identities and intellectual disabilities is required (Molin, Sorbring & Löfgren-Mårtenson 2015).

Barriers

Young people with intellectual disabilities may face different forms of barriers online. One barrier is the ability to read and understand texts on the Internet, for example, to evaluate recommendations from Internet forums. According to one study, young people with intellectual disabilities did not present a delay but rather atypical development of this ability. They recommend, for example, forum advice to a higher degree regardless of authorship or evidence used, and they included in their recommendations a higher number of opinions and information sources not mentioned in the forum (Salmerón, Gómez & Fajardo 2016).

Another barrier is the attitudes towards young people with an intellectual disability and sexuality. The development of positive attitudes towards sexuality and sexual pleasure in general has received little attention when it comes to young people with intellectual disabilities (Jahoda and Pownall 2014).

Parents of young people with intellectual disabilities may play an important role in taking down barriers. With regard to social interaction, the Internet might be the only or close to the only social arena for young people with intellectual disabilities, besides those social contacts they have with family and relatives. Parent support could be one way to lower the barriers for safe participation on the Internet (Sorbring, Molin & Löfgren-Mårtenson 2017).

Support

Young people with intellectual disabilities are often dependent on their surroundings (Löfgren-Mårtenson, Sorbring & Molin 2015), and the attitudes of parents and professionals play an important role in their use of the Internet (Molin, Sorbring & Löfgren-Mårtenson 2015). For example, it is important to support families in bringing up topics about sexuality (Jahoda and Pownall 2014), and one suggestion is that support for parents as facilitators of children's daily life on the Internet should be developed and evaluated from the perspective of positive risk-taking (Seale 2014; Sorbring, Molin & Löfgren-Mårtenson 2017).

There are calls for programmes to prevent risks on the Internet, especially concerning cyberbullying. Teachers should be more aware of online bullying of students with developmental disabilities, and programmes should be developed for identification, remediation and prevention of cyberbullying in special education schools (Didden et al. 2009). Teachers and parents should be more aware that adolescents with disabilities experience cyberbullying, and intervention and prevention programmes should be developed that include this group of young people (Wright 2017). Overall, it is important to implement and evaluate Internet safety programmes for adolescents and adults with intellectual disabilities (Buijs 2016).

Looking forward, students with intellectual disabilities can be supported by special training in self-determination (Salmerón, Gómez, and Fajardo 2016), and there are indications that high levels of perceived social support from parents and teachers can weaken the relationship between cyber victimization and depression (Wright 2017).

Discussion

The Internet seems to provide an opportunity for both adults and young people with intellectual disabilities (Caton and Chapman 2016; Chadwick, Wesson & Fullwood 2013; Holmes and O'Loughlin 2012; Löfgren-Mårtenson 2008; Molin, Sorbring & Löfgren-Mårtenson 2015; Sorbring, Molin & Löfgren-Mårtenson 2017), but there are differences between these groups, especially concerning barriers to Internet access, also called the 'digital divide' (Chadwick, Wesson & Fullwood 2013). This is an important issue when it comes to adults, but it is not that salient regarding young people with intellectual disabilities.

The younger generation of today is sometimes called iGen, referring to young people born in 1995 and later. The oldest members of iGen were early adolescents when the iPhone came in 2007 and secondary school students when the iPad was introduced in 2010 (Twenge 2017). This generation, including young people with intellectual disabilities, has grown up with the Internet. This also applies to young people with intellectual disabilities, who are more active on social media than people with intellectual disabilities in general (Caton and Chapman 2016).

The age range of the informants in the papers included in this review is 11–31. The fact that most of them were born in 1995 and belong to a younger generation generates specific questions. Risk and vulnerability (Buijs 2016; Didden et al. 2009; Holmes and O'Loughlin 2012; Lough, Flynn & Riby 2015), and support (Buijs 2016; Didden et al. 2009; Jahoda and Pownall 2014; Löfgren-Mårtenson, Sorbring & Molin 2015; Molin, Sorbring & Löfgren-Mårtenson 2015; Salmerón, Gómez & Fajardo 2016; Sorbring, Molin & Löfgren-Mårtenson 2017; Wright 2017) are central topics in this review. These topics are urgent not only for young people with intellectual disabilities, but also for young people in general (EU Kids Online 2014).

One problem is that young people rarely articulate issues about risk, vulnerability and support by themselves, while parents, professionals and researchers do. There is a tendency to look at young people with intellectual disabilities as vulnerable and needing guardianship and guidance, but is this approach always helpful or could this protective attitude lead to barriers that hinder young people with intellectual disabilities from growing up and developing?

One of the studies in the review refers to Seale (2014) and suggests the theory of positive risk-taking as a framework for providing support (Sorbring, Molin & Löfgren-Mårtenson 2017). Positive risk-taking is understood as enabling people with intellectual disabilities (and others) to have greater control over how they live their lives, which may lead to independence and well-being but entails risks either in terms of health and safety or potential failure to achieve intended goals (Alaszewski and Alaszewski 2002; Manthorpe et al. 1997; Morgan 2004; Seale 2014). Several studies in this review highlighted issues of risk (Buijs 2016; Holmes and O'Loughlin 2012; Lough, Flynn & Riby 2015;), but the perspective of risk as an opportunity is missing.

Risks are frequently initiated in all aspects of life in order to develop and make changes for oneself (Morgan 2004). This applies to young people with intellectual disabilities, as well as other young people and people in general. In the context of the Internet, it is important to highlight the issue of positive risk-taking, when technologies often are thought-out and talked about as new tools capable of changing the lives of people with intellectual disabilities (Seale 2014). This should be especially urgent regarding young people in a phase of life characterized by opportunities for change and development.

The fact that young people with intellectual disabilities belong to a generation for which the Internet is a natural part of life generates new issues and indicates new methodological approaches in which the theoretical concept of positive risk-taking could be indicative.

Implications for Practice and Research

Several studies in the review requested programmes for support, but there were few ideas of how they should be designed. Two key components in positive risk-taking are *shared decision-making* and *risk management*. Shared decision-making means that people with intellectual disabilities and professionals together consider negative and positive outcomes of technology use, and risk management is about strategies that could cushion the risks (Seale 2014). Thus, positive risk-taking is not about avoiding but handling risks. Arguing that this concept includes a dialogic approach (Löfgren-Mårtenson, Molin & Sorbring 2018) could be a new way forward when supporting young people with intellectual disabilities in social arenas on the Internet.

More research on the interaction between online and offline vulnerability is required (Lough, Flynn & Riby 2015). Even if general issues regarding young people and the Internet also concern young people with intellectual disabilities, there seem to be urgent issues for this particular group. Today, online and offline activities are becoming increasingly intertwined, and it seems that young people with intellectual disabilities are caught in an area of tension between being 'like everybody else' (Löfgren-Mårtenson 2008: 129) and belonging to a certain group. This particular area of vulnerability, online and offline activities and identity formation needs further investigation, focusing on both risks and opportunities.

The Internet is a relatively novel area of research, and in order to capture online action patterns, there is a need for new and explorative methods. In a Swedish context, there has been focus on the narratives of the surroundings (Löfgren-Mårtenson 2008; Löfgren-Mårtenson, Sorbring & Molin 2015; Molin, Sorbring & Löfgren-Mårtenson 2015; Sorbring, Molin & Löfgren-Mårtenson 2017). It is important for future research to involve young people with an intellectual disability, not just in order to facilitate them expressing their own views, but also to get close to the phenomenon, for example, through observations and a netnographic approach.

Finally, all the research in this review was conducted in North America and Europe. At the same time, the Internet is a worldwide phenomenon. This implies a knowledge gap in this area outside the Western world.

Conclusions

Some issues seem to affect all people with intellectual disabilities, for example, the Internet as a facilitator, including opportunities for everyday life. In other aspects, there are differences between young people with intellectual disabilities and adults with intellectual disabilities. Previous research on adults emphasizes barriers and the 'digital divide'. The fact that young people with intellectual disabilities belong to a new generation that has grown up with the Internet generates new issues. Central topics in this review are risk, vulnerability and support. These themes are often articulated by others, such as parents, professionals and researchers, sometimes with an over-protective attitude. To get around this attitude when developing new methodological approaches for practice and research, the theoretical concept of risk-taking is proposed. It is also highlighted that the area of vulnerability, online and offline activities and identity formation need further investigation. New research methods in this area are also required, for example observations and netnographic approaches.

Limitations of the Study

The first limitation is the search string. Using three different blocks caused problems as it was hard to find papers with the combination of all the criteria. That led to inconsistency, especially concerning the criteria 'young people'. First 'young people' were pinpointed, but there were very few hits on articles focusing exclusively on young people. A mix of children, adolescents, young adults and adults was therefore included. Looking back, this led to arbitrariness in the search process. An alternative search strategy could have been to remove 'young people' as a criteria from the search string and instead make the identification of young people or mixed groups manually. The actual definition of 'young people' was also problematic. A definition of young adults in emerging adulthood aged 18–25 (Arnett 2000) was used, but because an inconstant search strategy was included in the end papers with a mixed group aged 11–31, this was a limitation.

Another limitation is the additional papers. Some of these papers represented early research in the field (Löfgren-Mårtenson 2008; Seale 2001), and one of the Swedish articles was from our own research group (Sorbring, Molin & Löfgren-Mårtenson 2017). The latter article was included in June 2017, a month after the formal search was concluded in May 2017. It was identified via Facebook, but the fact that this paper and one-third of the articles were from one single context is problematic as it leads to imbalance and unnecessary bias.

Acknowledgements

Competing Interests

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