



Literature Review

Doing online research involving university students with disabilities: Methodological issues



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ABSTRACT

Changes in how disability is understood have determined an increase in the number of people with disabilities who study at university. Several studies have aimed to investigate the experiences of students with disabilities. However, one difficulty in these studies is that very different types of disability (e.g., reading disabilities as compared to motor disability) are grouped together under the broad label of “students with disability”. Recently, the increase in access to computers and technology has made it possible to distribute questionnaires through the Internet and reach a higher number of participants; however, the use of online questionnaires for conducting research on the experiences of students with disabilities poses theoretical, methodological and ethical challenges to the researcher. Some of these issues are common to questionnaires conducted both online and offline; others, however, are typical of online studies. Here we will review these problems and their consequences in terms of research validity, along with some possible solutions that may minimize the risks of harming the privacy of participants, losing responses, and biasing data.

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Contents

1. Introduction	374
2. Bias related to self-image management	376
3. Accessibility of online questionnaires	376
4. Recruitment of participants and data protection	378
5. Conclusions	378
References	379

1. Introduction

In recent years there has been an increase in the number of people with disabilities who access higher education. For instance in the US, this number increased by about four times in the period between 1978 and 1991 (from 2.2% to 8.8%), and by a further 3.73 times between 1991 and 2000, so that people with disabilities made up a total of 17% of all students (American Council on Education, 1995; National Council on Disability, 2000). In the UK, an increase of 1.41 times the number of students with disabilities was observed between 2000 and 2004 (from 4.1% to 5.8%; Higher

Education Statistics Agency, 2006). Finally, in Italy, the percentage of students with disabilities increased by three times from 2000 to 2010 (from 0.3% to 0.9%; Repetto & Trentin, 2012). This is partially due to the shift of the definition of disability from an exclusive focus on physically disabling conditions (a model which is often referred to as medical or biological) to a view that emphasizes the role that society barriers play (Tomas, 2004). This change is also due to the legislative efforts that have been made in most countries to eliminate the barriers that prevent persons with disabilities from taking part in several activities including higher education (e.g., the Americans with Disabilities Act in the US, the Disability Discrimination Act in the UK, the 68/99 law in Italy; Hendriks, 2002; Konur, 2006). As access to higher education increases it becomes more important to investigate the experiences of people with disability who study at universities and

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colleges. This is reflected in a growing corpus of experimental and theoretical papers investigating the experiences of students with disabilities in higher education (De Cesarei, 2015; Fuller, Healey, Bradley, & Hall, 2004; Getzel & Thoma, 2008; Hartman-Hall & Haaga, 2002; Hoehn, 1999; Jacklin, Robinson, O'Meara, & Harris, 2007; Kranke, Jackson, Taylor, Anderson-Fye, & Floersch, 2013; Marshak, Van Wieren, & Ferrell, 2010). The results of these studies may allow researchers to identify transversal issues (e.g., stigma, self-efficacy) which concern university students with disability; an important application for these results is that university student support services may implement and refine support strategies (Jacklin, Robinson, O'Meara, & Harris, 2007).

The identification of the experiences of students with disabilities has clear practical implications for the support of students with disability; however, important methodological issues affect the investigation of this topic. One major problem concerns the composition of the sample of participants. Examples of commonly encountered disabilities in higher education include autism, psychiatric disorders, learning disabilities, sensory deficits, and motor deficits (De Cesarei, 2015; Morris & Turnbull, 2007; Nevill & White, 2011; O'Connor, Kubiak, Espiner, & O'Brien, 2012). Each type of disability poses specific challenges related to the type and severity of the impact on the student's life, the psychological impact of the disability, and the stigma associated with it (Fevre, Robinson, Lewis, & Jones, 2013; Kuruvilla & Joseph, 1999). In studies investigating the experiences of students with disability, usually highly different types of disability (e.g., dyslexia, cerebral palsy, autism) are grouped together, focusing on the issues (need for support, stigma; Hartman-Hall & Haaga, 2002; Hoehn, 1999) which are common to these disabilities. However, different types of disability pose different challenges to the individual; for instance, dyslexia affects reading but does not affect the extent to which a student may reach the experimenter and use a keyboard or a mouse; in the case of cerebral palsy, the opposite pattern may be observed.

The increase in the number of studies which involve students with disabilities, as well as the advances in technological assistive

tools, have made it increasingly popular to conduct research using online questionnaires. An explorative search on the Scopus database (performed on February 19th, 2015) returned 807 papers concerning disability and higher education, 42 of which contained the word "online" in the title or abstract (see Table 1). The relative number of papers concerning online behavior (over the total studies focusing on university students with disabilities) is also increasing, up to 7.4% in the five-year period between 2010 and 2014. This increase reflects both the diffusion of e-learning platforms (e.g., Mikołajewska & Mikołajewski, 2011), of computer-mediated communication (e.g., Eden & Heiman, 2011), and of web-based questionnaires (e.g., Barnard-Brak & Sulak, 2010). Each of these online activities requires students with disabilities to interact with web pages, and possibly to respond to online questionnaires.

Online questionnaires allow researchers to quickly gather large amounts of information from respondents, without the need to arrange a time and place to meet with the student. The fact that online questionnaires do not require participants or experimenter to travel may constitute a great advantage when respondents are a population with disability. When respondents with a disability are impaired in their possibility to travel (as in the case of quadriplegia), or require reading aids that are difficult to bring with them (e.g., a PC with a screen reading software), the possibility of collecting data through the Internet can increase the number of respondents. Moreover, online questionnaires can contain links and information messages, and are flexible in the sense that whole sections of the questionnaires may be hidden if not appropriate for a particular respondent. These possibilities allow researchers to create questionnaires that are better tailored for a particular respondent. However, online questionnaires are often criticized in terms of their vulnerability to common error types such as coverage, non-response, sampling, and measurement errors (Johnson, 2005; Kraut et al., 2004; Lumsden, 2005); moreover, they may present additional problems when they are directed to people with disabilities.

The aim of the present paper is to present a methodological review of some special challenges that online questionnaires present when they are directed toward students with disabilities. More specifically, we will focus on three potential types of problem that may occur in online studies regarding students with disabilities: theoretical issues concerning the possibility that responses to the questionnaire are biased; methodological difficulties concerning the accessibility of the questionnaire, which can bias the sample of participants towards (or away from) a specific disability group; and ethical challenges concerning how students can be contacted while, at the same time, protecting their privacy. A summary of these main themes is reported in Table 2. While the investigation of the experiences of university students with disabilities is challenging, especially due to the broad definition of "disabled student", it has a high value for application. More

Table 1

Total papers concerning disability in higher education published between 1970 and 2014, and number of papers containing the word "online" in the title or abstract.

Year	Papers referencing "online"	Total papers	Percentage
1970–1974	0	2	0.0
1975–1979	0	2	0.0
1980–1984	0	6	0.0
1985–1989	0	3	0.0
1990–1994	0	9	0.0
1995–1999	0	53	0.0
2000–2004	1	102	1.0
2005–2009	10	209	4.8
2010–2014	31	421	7.4
Total	42	807	5.2

Table 2

Issues concerning online questionnaires for university students with disabilities, consequences in terms of research results, and possible solutions.

Issue	Consequence	Possible solution
Contacting participants	Breach of confidentiality	Contact is mediated by the disability service
Managing data	Breach of confidentiality	Data are stored securely
Informed Consent	Loss of participants	Adequate information is given concerning confidentiality, avoiding excessive confidentiality assurances
Accessibility	Random or careless responding; Sample selection; Loss of participants	Guidelines for accessibility are followed; Pilot testing is performed; Individual results are checked for consistency (e.g., psychometric antonyms or individual reliability); Disability prevalence in the respondent sample is checked against prevalence in the population
Excessive length	Random or careless responding; Sample selection; Loss of participants	Brief versions of questionnaires are preferred (where applicable); Individual results are checked for consistency (e.g., psychometric antonyms or individual reliability); Disability prevalence in the respondent sample is checked against prevalence in the population
Self-image management	Responses are biased	Social desirability is controlled through dedicated instruments

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