

Attitudes towards Disability in Education through the SSCI (2000-2011): A Topical and Bibliometric Analysis

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Abstract

Introduction. The purpose of this study is to describe and characterize the international scientific output relating to “attitudes towards disability in education”, using a battery of bibliometric indicators that make it possible to analyze and monitor international scientific activity.

Method. This *ex post facto* retrospective study analyzed 925 papers published in the *Social Sciences Citation Index* (SSCI) database during the period 2000-2011.

Results. The number of publications increased steadily between 2006 and 2010. The results reported here include the most productive authors, the journals that deal with this topic, and the articles cited most often. An analysis of research types showed a tendency toward empirical studies. A total of 18 categories were identified when considering article content, and the distribution of the research studies across stages of education was found to be uneven.

Discussion and Conclusion. The results reveal a topic that is highly current in today’s scientific community, and offer us a view of the traits that have characterized research on "attitudes towards disability in education" for the last eleven years.

Keywords: Attitude, disability, education, bibliometric analysis.

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Actitudes hacia la Discapacidad en el Ámbito Educativo a través del SSCI (2000-2011). Análisis Temático y Bibliométrico

Resumen

Introducción. El objetivo de este estudio es describir y caracterizar la producción científica a nivel internacional en relación al tópico “actitudes hacia la discapacidad en el ámbito educativo”, a partir del uso de una batería de indicadores bibliométricos que permiten realizar un análisis y seguimiento de la actividad científica internacional.

Método. En este estudio *ex post facto* retrospectivo, se analizaron 925 documentos publicados en la base de datos *Social Sciences Citation Index* (SSCI) durante el periodo 2000-2011.

Resultados. El número de publicaciones creció desde 2006 a 2010 de forma progresiva. En el trabajo se indican los autores más productivos, las revistas especializadas en dicho tema y los artículos más citados, entre otros aspectos. El análisis según la tipología de la investigación mostró una tendencia a efectuar estudios empíricos. Al examinar el contenido de los artículos se identificaron 18 categorías temáticas así como un desequilibrio en la clasificación de las investigaciones según el nivel educativo en el que se llevan a cabo.

Discusión y conclusiones. Los resultados obtenidos muestran la relevancia actual del tópico para la comunidad científica y nos ofrecen una visión sobre los rasgos que han caracterizado la investigación en materia de “actitudes hacia la discapacidad en el ámbito educativo” en los últimos once años.

Palabras Clave: Actitudes, discapacidad, educación, análisis bibliométrico.

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Introduction

According to the latest World Report on Disability, published by the WHO in 2011, it is estimated that more than one billion persons around the world are living with some kind of disability, that is, about 15% of the world population. The report warns that this social problem is of great importance, and increasing in prevalence. Despite the many efforts and advances in matters of integration and improved quality of life, there are still a large number of obstacles faced by persons with disability. Negative attitudes constitute one of the main barriers to integration of disabled persons in various sectors, even when legal measures have been taken to favor their integration (López-González & López-González, 1997).

These attitudes have been defined from the psychological point of view by different authors such as Ovejero (1998), Verdugo, Jenaro and Arias (1995) and, later, by García-Fernández, Good and Condés (2002). For the latter, “an attitude is a subject’s complex, stable response, and it involves the evaluation of an object, person, group or abstract entity, incorporating cognitive, affective and behavioral aspects” (p.135).

Within the framework of inclusive education, the study and analysis of attitudes toward disability takes on particular importance, since many studies (Aguado, Flórez, & Alcedo, 2003, 2004; Almazán, 2003; González, 2008; Hughes et al., 2001; Krahé & Altwasser, 2006; Manetti, Schneider, & Siperstein, 2001; Piercy, Wilton, & Townsend, 2002; Shelvin & O’Moore, 2000) warn of the persistence of certain prejudices and negative beliefs in the educational sphere, giving rise to attitudes of rejection toward students with disability. Such rejection may be able to explain the fact that educational inclusion of persons with disabilities is not producing the positive results that were expected, as several authors indicate (Hogan, McLellan, & Bauman, 2000); Llewellyn, 2000; Piel, 2007). The success of such inclusion depends largely on the attitudes of teachers and peers, even when the curriculum is properly adapted (Bueno, 2010; Garaigordobil & García de Galdeano, 2006; Jarvis & French, 1990; Larrivee & Cook, 1979; Navas, Torregrosa, & Mula, 2004; Rillota & Nettelbeck, 2007; Verdugo, Arias, & Jenaro, 1994).

Attitudes of Education professionals

The importance of attitudes adopted by teachers is manifest in a large number of recent studies that focus on analysis of teacher attitudes toward integration and inclusion of persons with disabilities in mainstream schools (Boer, Pijl, & Minnaert, 2011; Cagran & Schmidt, 2011; Cook & Cameron, 2010; Cook, Tankersley, Cook, & Landrum, 2000; Finke, McNaughton, & Drager, 2009; Jordan, Glenn, & McGhie-Richmond, 2010; Kim, 2011; López, Echeita, & Martin, 2009; Moberg, 2003; Ocloo & Subbey, 2008; Parasuram, 2006) as well as towards students with special educational needs (Busch, Pederson, Espin, & Weissenburger, 2001; Kozub & Lienert, 2003; Murray, Lombardi, Wren, & Keys, 2009; Stephens, Stephens, & Von Eisenhart-Rothe, 2000; Woolfson & Brady, 2009). This two-fold line of research is justified by the fact that attitudes adopted toward school integration reflect to a large extent the attitudes toward disabled persons in general (Cochran, 1997).

Among the variables that relate to teacher attitudes towards disabled students in general, a number of studies concur that teachers in earlier stages of education tend to show more favorable attitudes (Cochran, 1997; García & Alonso, 1985; Rogers, 1987). On the other hand, it has been shown that teachers are more accepting of students with physical disabilities than with mental disabilities (Cagran & Schmidt, 2011; Huang & Diamond, 2009; Soodak, Podell, & Lehman, 1998). In this sense, Aguilera et al. (1990) note that what affects attitudes is not so much the type of deficit as the intellectual level associated with the deficit. Similarly, harmful or provocative personal characteristics and behaviors in the disabled person have an important influence in the adoption of negative attitudes (Verdugo et al., 1995).

As for the teachers' opinion about integration of persons with disability, Alemany and Villuendas (2004) summarize the conclusions from studies by Mula et al. (2002), where most teachers feel that training in special educational needs concerns all teachers, and that school integration helps prepare students to live in an integrated society. However, an ample sector of teachers perceives that the integration process has been imposed rather than consulted. On the other hand, most teachers agree that integration is a desirable educational practice even if it takes additional time to attend to students with special educational needs, at the expense of time given to the rest of the class. In studies carried out by Blecker and Boakes (2010), teachers generally feel that students benefit from the interaction with their disabled classmates.

As for teacher training, it is indisputable that proper training that provides teachers with the necessary information and tools, and equips them to teach students with disabilities, will lead to adoption of positive attitudes both toward the inclusion of such students and towards disabled persons in general. Along these lines, Martín-Domínguez and Soto-Rosales (2001) stress the importance of a feeling of professional competence in working with children with special educational needs, more than the importance of the training itself, as a determining factor in attitudes. In any case, there is a need for both teacher development programs and for university training to incorporate proper preparation in the personal-cultural aspects as well as the academic-professional (Luque-Parra & Luque-Rojas, 2011).

Attitudes in the peer group

As Flórez, Aguado and Alcedo (2009, p.85) indicate, “the attitudes of disabled persons’ classmates and peers have an important effect not only on the disabled person’s developing self-concept, but also on his or her socialization process”. Regarding factors associated with more or less favorable attitudes from the peer group, students’ attitudes parallel those of the teachers, in that they are usually more positive toward students with mild rather than severe disabilities (Rizzo & Vispoel, 1991) and with physical disabilities rather than mental (Brown, Ouellette-Kuntz, Lysaght & Burge, 2011). In addition, several studies note that female students tend to have more tolerant behaviors toward persons with disabilities than do their male counterparts (Litvack, Ritchie, & Shore, 2011; Slininger, Sherrill, & Jankowski, 2000; Vignes et al., 2009). Moreover, it is generally considered that peer attitudes may be influenced by factors such as age, educational level and stage of education. However, contradictory results have been found for the age variable, in that studies carried out with university students found that students in the later years of their degree program showed more positive attitudes toward diversity (Alonso, Navarro, & Vicente, 2008; Infante & Gómez, 2004), while other studies carried out in secondary education found more negative attitudes in the higher grades than in the lower grades (Suriá, 2011). On this matter, Livneh (1991) defends that attitudes toward persons with disability gradually improve from one educational stage to the next; this is confirmed by research results from Gughwan and Chow (2001), where the attitudes of university students are more favorable than those of pre-university students. Another characteristic that seems to have some influence on the type of attitude adopted is the disabled person’s socio-economic level: as this level rises, so does acceptance toward their disability

(García-Fernández et al., 2002). Similarly, the disabled person's manifestation of a good quality of life is one of the factors associated with positive attitudes (Vignes et al., 2009).

Another factor that seems to influence the attitudes adopted toward disability is whether the students have had experiences in direct contact with disabled persons (Suriá, 2011; Vignes et al., 2009). These results concur with research carried out by Flórez et al. (2009); after analyzing attitude change programs that were implemented in Education between 1997 and 2009, they concluded that the best results were obtained from providing direct contact with disabled persons, as long as this contact involved greater knowledge of the disability.

Given the current importance of the phenomenon of attitudes toward disability, and the research interest that has been generated, we have taken on a topical and bibliometric analysis of the scientific documentation published in the SSCI between the years 2000 and 2011, with the objective of understanding the evolution and current state of research in "attitudes toward disability in Education". For this purpose we examine the evolution of research output, productivity by journal, productivity by author and the degree of collaboration among authors, coverage of topics identified, research typology and the number of citations that each document receives.

Method

Sample

We analyzed 925 documents that were published in the *Social Sciences Citation Index* between the years 2000 and 2011.

Materials

The material used for this investigation was the *Social Sciences Citation Index* (SSCI) of the *ISI Web of Knowledge*. The *ISI Web of Knowledge* is a platform that makes it possible to search all the content of the multidisciplinary databases of the *Institute of Scientific Information*: journal articles, patents, conference proceedings, assessment tools and tools for analyzing the information published, such as impact factor, immediacy index, bibliography management resources and Web resources.

The SSCI is a database of journals that have been catalogued as having the greatest impact factor in the field of Social Sciences; it is available only through the *Web of Knowledge*.

Procedure

First, we sought to determine the units of analysis. After selecting the key words for our search, and after trials with different combinations of these, we entered our definitive search terms (attitude* and disabled or disabilit* and education) in the SSCI database, and limited our results to the period from 2000 to 2011, inclusive. Applying this strategy yielded a total of 6150 results. As for exclusion criteria, all documents that did not present an abstract or did not provide access to full text were excluded, since the information given by a title and key words is often too limited to precisely understand the content of an article. Once these documents were eliminated, we went on to read all the abstracts in order to verify that their content matched our research topic. If the abstract was too skeletal or did not give a clear idea of the document content, we proceeded to read the entire document. After this rigorous screening procedure, only 925 documents were finally selected to make up our sample.

Once the documents were physically located, the next step was to read them and select the necessary data for an analysis using bibliometric indicators provided by the SSCI database itself. The data was then entered into the SPSS 18 software program for a statistical analysis with respect to the following variables: “publication year”, referring to the year when the selected articles were published; “journal”, indicating the name of the journal where each article was published; “authors”, referring to the name of the authors and the number of undersigned authors for each article; and “topic category”, which subclassifies the documents into topic areas falling under the main topic of our study. The categorization process was determined after a high-level reading of the documents, from which 18 categories were configured. All the documents were then read a second time and classified one by one into the categories established: *Attitudes of the teaching personnel* (perceptions, opinions, prejudices and attitudes of education professionals in the different stages of education); *Attitudes of non-teaching personnel* (perceptions, opinions, prejudices and attitudes of psychologists, caregivers, civil servants, administrators, school principals and therapists); *Peer attitudes* (perceptions, opinions, prejudices and attitudes of non-disabled students); *Societal attitudes toward education* (perceptions, opinions, prejudices and attitudes of society toward the education of disabled persons); *Transition practices* (barriers/difficulties and assistance received by disabled students

during their transition from one educational stage to the next); *Family and school* (attitudes as a consequence of the barriers/difficulties and the assistance and collaboration found in the educational sphere, as well as the perceptions of disabled students' family members with respect to such actions); *Educational Level* indicates whether the investigation was carried out in the context of *Post Compulsory Education* (University Education, *Bachillerato* and Vocational Training), *Compulsory Education* (the different levels that make up compulsory education) or *Early Childhood Education* (day care, kindergarten and preschool). The category *Post Compulsory Education*, in turn, is subclassified into *Healthcare Professions* (Speech Therapy, Nursing, Medicine, etc.), *Professions in Education* and *Other Professions* (Tourism, Psychology, Social Sciences, Occupational Therapy, etc.); *Physical Education* (possibilities for social interaction and inclusion/segregation); *Inclusion Practices* (attitude change programs and practices for improving inclusion and social interaction of disabled students with their peers); *SN Students' Social Relations with Peers* (friendship, participation, interaction, etc.); *Educational Policies* (state policies, international policies and policies of the schools themselves with regard to education of the disabled); *Conceptual Evolution* (analysis of attitudes implicit in the definitions and concepts referring to disability in the educational context); *ICT and SN students* (the digital divide and possibilities for participation/exclusion in disabled students' use of new technologies); *Attitudes of persons with disabilities* (their own perceptions and opinions about their education), *Teachers' In-Service Training* (implications for training teachers in the area of attitudes and care of students with special educational needs); the *Inclusive School* (advantages and disadvantages, dilemmas and controversies); *Validation of Questionnaires* on attitudes toward disability and *Sex Education and Disability* (social attitudes towards the sexuality of persons with disability and implications for education).

As for "research typology", documents were classified as to whether they were empirical or theoretical research reports. "Any work that does not contribute the authors' original empirical data" was considered to be theoretical work, "in other words, all review work that does not report on an empirical investigation" (Montero & León, 2005, p.118). Another parameter considered was the "number of citations", referring to the number of times that each document had been cited, as of year-end 2011, according to the *Web of Science*.

Design and Statistical Analyses

This bibliometric historiography study of the selected documents was performed using an *ex post facto* retrospective design (Montero & León, 2005). Descriptive and frequency analyses were used to analyze the different variables. All the statistical calculations were performed using SPSS 18.

Results

Publication Year

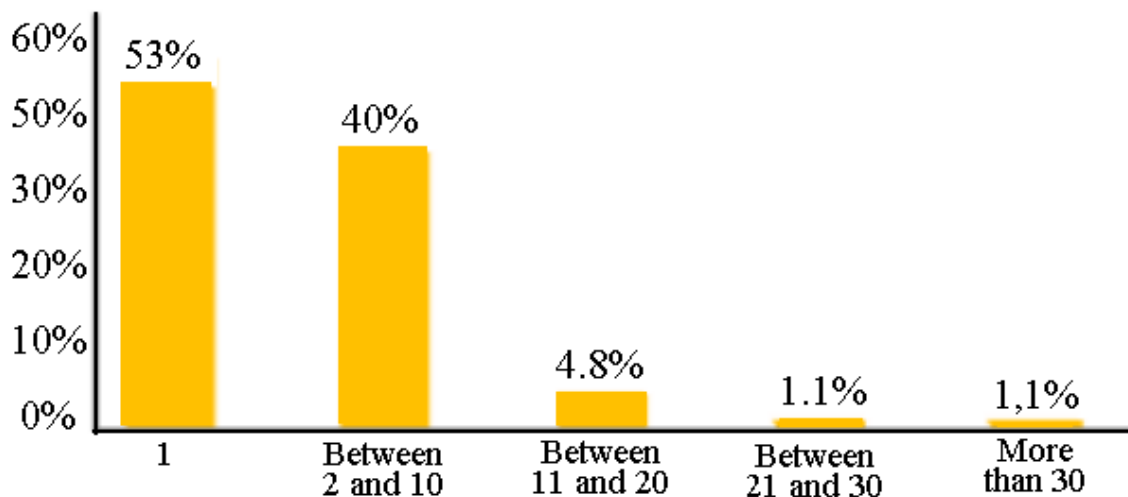
As for the chronological distribution of the 925 documents in our topic of study, that were published in the SSCI during the last eleven years (see Table 1), the number of publications per year ranges from 46 (5%) to 152 (16.4%) documents, with an average of 84.09 (9.09%) documents per year. The largest quantity was found for the year 2010, while the least number of publications corresponds to the years 2003 and 2004. Beginning in the year 2000, one can observe a substantial number of publications, slightly increasing the following year, followed by a slight decline and a four-year period where the number of publications seems to remain stable. After this period of stability, a slight increase is found in the year 2007, followed by a large increase in publications the next year, practically double the output of the preceding year. The maximum number of publications is found in the year 2010, followed by a marked drop in 2011, probably due to delays in incorporating the documents published that year into the database.

Table 1. Evolution of productivity over time

Year	n	(%)
2000	48	5.2
2001	64	6.9
2002	53	5.7
2003	46	5.0
2004	46	5.0
2005	47	5.1
2006	47	5.1
2007	68	7.4
2008	124	13.4
2009	150	16.2
2010	152	16.4
2011	80	8.6
Total	925	100

Journal

The selected documents were published in a total of 270 journals. Figure 1 shows a classification of journals according to the number of documents published on our topic of study.

**Figure 1. Journals classified by the number of documents published.**

As seen above, more than half the journals in our sample have published only one article on this research topic, followed by those that contain between two and ten articles, with only 7% of the total number of journals having published more than ten articles during the period referenced. The latter group, therefore, can be considered journals specializing in this area. Table 2 includes all the journals that have published more than ten articles on our research topic in the past eleven years; this output represents 40.5% of the total. *Remedial and Special Education* is the journal with the greatest number of publications on this topic of study, with a total of 52 articles, followed by *Disability & Society* with 43, and the *International Journal of Inclusive Education* with 33.

Table 2. Journals and their output

Journal	n	(%)
<i>Remedial and Special Education</i>	52	5.6
<i>Disability & Society</i>	43	4.6
<i>International Journal of Inclusive Education</i>	33	3.6
<i>Exceptional Children</i>	30	3.2
<i>Academic Medicine</i>	29	3.1
<i>Research and Practice for Persons with Severe Disabilities</i>	26	2.8
<i>Journal of Special Education</i>	18	1.9
<i>Intervention in School and Clinic</i>	16	1.7
<i>Topics in Early Childhood Special Education</i>	16	1.7
<i>Education and Training in Developmental Disabilities</i>	15	1.6
<i>Learning Disability Quarterly</i>	15	1.6
<i>International Journal of Disability Development and Education</i>	14	1.5
<i>Teaching and Teacher Education</i>	13	1.4
<i>Journal of Intellectual Disability Research</i>	13	1.4
<i>Journal of Applied Research in Intellectual Disabilities</i>	11	1.2
<i>Journal of Developmental and Physical Disabilities</i>	11	1.2
<i>Journal of Policy and Practice in Intellectual Disabilities</i>	11	1.2
<i>Research Quarterly for Exercise and Sport</i>	11	1.2
TOTAL	387	40.5

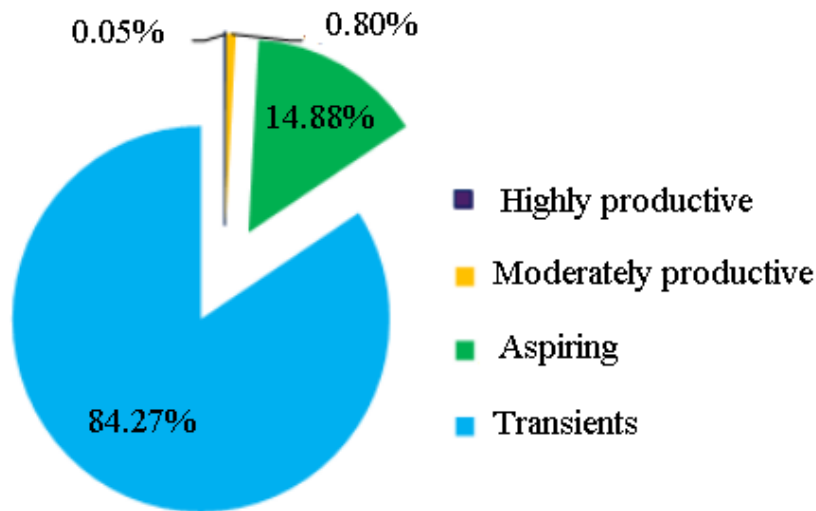


Figure 2. Authors classified by their productivity.

Table 3. Most productive authors for the period 2000-2011

Author	n	Author	n
Carter, E.	10	Copeland, S.R.	7
Hughes, C.	9	Kauffman, J.M.	7
Wehmeyer, M.	9	Obrusnikova, I.	7
Chan, F.	8	Agram, M.	6
Forlin, C.	8	Downing, J.	5
Hodge, S.	8	Pijl, S.J.	5
Turnbull, A.	8	Sharma, U.	5
Bolck, M.	7	Van Hove, G.	5

Authors

Using Crane's proposed classification (Crane, 1969), we can establish four categories of authors by their productivity: highly productive authors (10 or more papers), moderately productive authors (5-9 papers), aspiring (2-4 papers) and transients (1 paper). A total of 1882 authors were identified, of which only one author was considered to be highly productive, thus representing 0.05% of the sample. There were 15 authors classified as moderately

productive, representing 0.80% of the sample; 280 were aspiring authors, representing 14.88%; while 1586 authors are considered transients, representing the remaining 84.27% (see Figure 2). Table 3 shows the list of highly productive and moderately productive authors. Authors from Spain are represented by Alcedo-Rodríguez, M.A., Aguado-Díaz, A. and Echeita, G., each with two publications on our study topic.

The number of undersigned authors per article ranges from one to eleven. The coauthorship index, or average number of authors, is 2.55 per article. A total of 668 documents were written by two or more authors (see Table 4), such that 72.2% of the total sample are collaborations, the most common example being articles undersigned by two authors (30.1%).

Table 4. Collaboration among authors

Nº of collaborators	n	(%)
1	257	27.8
2	278	30.1
3	187	20.2
4	103	11.1
5	49	5.3
6	30	3.2
7	16	1.7
8	2	0.2
11	2	0.2
Unspecified	1	0.1
Total	925	100

Topic Category

After a close analysis of the content of the 925 articles in the sample, 18 topical categories were identified in relation to our study topic. These topic areas are not mutually exclusive, so the same article can be classified under more than one topical category. As seen in Table 5, this categorization reveals that the most frequently addressed topic area is *Attitudes of teaching personnel* with a 12.2% presence in the total sample, followed by the topic of *Inclusion practices*, representing 9.9% of the documents, and in third place, the topic of *Family and school*, representing 9.6%.

Table 5. Productivity by topical category

Topical Category	n	(%)	Topical Category	n	(%)
Attitudes of teaching personnel	113	12.2	Social attitudes	32	3.5
Inclusion practices	92	9.9	Inclusive school	30	3.2
Family and school	89	9.6	Attitudes of non-teaching personnel	26	2.8
Educational policies	76	8.2	Questionnaire validation	24	2.6
Physical Education	63	6.8	Transition practices	21	2.3
Teacher In-Service Training	56	6.1	ICT and SN students	20	2.2
Social relations between SN students and their peers	47	5.1	Sexual education and disability	17	1.8
Attitudes of peers	41	4.4	Conceptual evolution	15	1.6
Attitudes of persons with disability	36	3.9			

Only 329 articles identified the educational stage which the research had focused on. As shown in Table 6, research in the stage of compulsory education is predominant, while studies from early childhood make up a much smaller proportion than the later stages.

Table 6. Classification of research studies by stage of education

Stage of Education	n	(%)
Post-compulsory Education	132	14.3
Compulsory Education	148	16
Early Childhood Education	49	5.3
Total	329	35.6

The stage of Post-compulsory Education was subclassified according to the professional area which the research study focused on, with healthcare professions being predominant (see Figure 3).

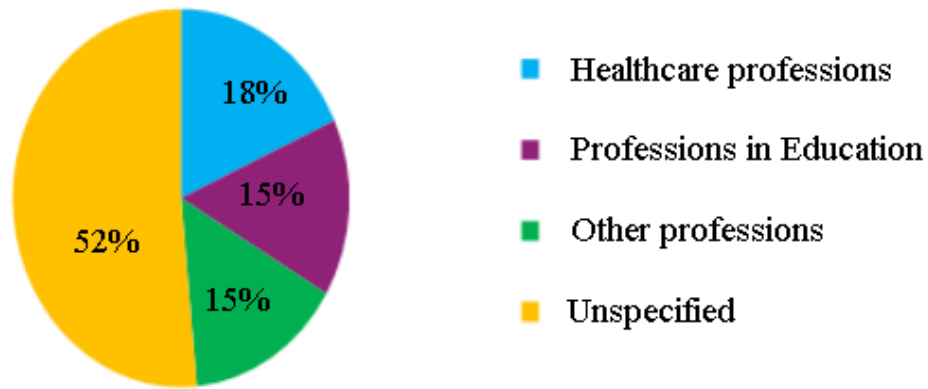


Figure 3. Classification of subcategories belonging to the Post-compulsory Education stage.

Research Type

As for the type of investigation, 773 documents were identified as empirical, making up the majority of the output (83.6%). The remaining 16.4% of the sample was identified as theoretical papers.

Number of Citations

As of year end 2011, the total number of citations received by the 925 documents, according to the *Web of Science*, was 4216 citations, ranging from 0 to 85 per article, with an average of 4.56. Most of the selected documents (55.2%) receive between one and fifteen citations. Papers receiving more than 45 citations represent 0.6% of the total sample. At the other end, 37% of the sample were papers that had not been cited to date (see Figure 4).

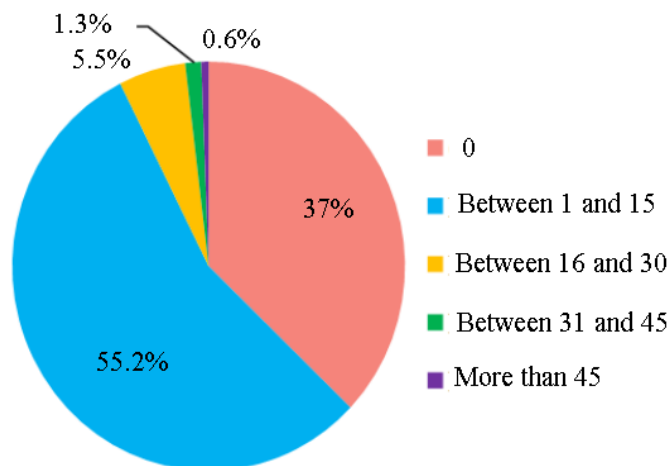


Figure 4. Number of citations per article.

Table 7 contains all the articles that show more than 30 citations according to the *Web of Science*. Most of the authors of these most-cited articles were not previously classified among the moderately or highly productive authors, with the exception of Wehmeyer, M. and Downing, J.E. Similarly, of the 14 articles included in Table 7, only five belong to the journals that were previously classified as specialized in our area of interest.

Table 7. Articles most frequently cited

Article	N° of citations
Pinfold, V., Toulmin, H., Thornicroft, G., Huxley, P., Farmer, P., & Graham, T. (2003). Reducing psychiatric stigma and discrimination: evaluation of educational interventions in UK secondary schools. <i>British Journal of Psychiatry</i> , 182, 342-346.	85
Benz, M.R., Lindstrom, L., & Yovanoff, P. (2000). Improving graduation and employment outcomes of students with disabilities: Predictive factors and student perspectives. <i>Exceptional Children</i> , 66(4), 509-529.	60
Kavale, K.A., & Forness, S.R. (2000). What definitions of learning disability say and don't say - A critical analysis. <i>Journal of Learning Disabilities</i> , 33(3), 239-256.	56
Park, J.H., Faulkner, J., & Schaller, M. (2003). Evolved disease-avoidance processes and contemporary anti-social behavior: Prejudicial attitudes and avoidance of people with physical disabilities. <i>Journal of Nonverbal Behavior</i> , 27(2), 65-87.	55

Antonak, R.F., & Livneh, H. (2000). Measurement of attitudes towards persons with disabilities. <i>Disability and Rehabilitation</i> , 22(5), 211-224.	50
Corrigan, P., Thompson, V., Lambert, D., Sangster, Y., Noel, J.G., & Campbell, J. (2003). Perceptions of discrimination among persons with serious mental illness. <i>Psychiatric Services</i> , 54(8), 1105-1110.	49
Kavale, K.A., & Forness, S.R. (2000). History, rhetoric, and reality - Analysis of the inclusion debate. <i>Remedial and Special Education</i> , 21(5), 279-296.	45
Artiles, A.J. (2003). Special education's changing identity: Paradoxes and dilemmas in views of culture and space. <i>Harvard Educational Review</i> , 73(2), 164-202.	43
Odom, S.L. (2000). Preschool inclusion: What we know and where we go from here. <i>Topics in Early Childhood Special Education</i> , 20(1), 20-27.	42
Agran, M., Alper, S., & Wehmeyer, M. (2002). Access to the general curriculum for students with significant disabilities: what it means to teachers. <i>Education and Training in Mental Retardation and Developmental Disabilities</i> , 37(2), 123-133.	40
Ricci, L.A., & Hodapp, R.M. (2003). Fathers of children with Down's syndrome versus other types of intellectual disability: perceptions, stress and involvement. <i>Journal of Intellectual Disability Research</i> , 47, 273-284.	36
Goodwin, D.L., & Watkinson, E.J. (2000). Inclusive physical education from the perspective of students with physical disabilities. <i>Adapted Physical Activity Quarterly</i> , 17(2), 144-160.	35
Downing, J.E., Ryndak, D.L., & Clark, D. (2000). Paraeducators in inclusive classrooms - Their own perceptions. <i>Remedial and Special Education</i> , 21(3), 171-181.	33
Gostin, L.O. (2000). Human rights of persons with mental disabilities - The European Convention of Human Rights. <i>International Journal of Law And Psychiatry</i> , 23(2), 125-159.	31

Discussion and Conclusions

The present bibliometric study provides a view of the evolution and perspectives of studies on attitudes toward disability in the sphere of Education. During the years 2000-2011, scientific output on attitudes toward disability in Education may be considered moderate, with a mean of 84.09 articles per year. However, the increase in the number of publications from 2006 onward indicates that this is a highly current topic. As mentioned earlier, the year 2011

reflects a drop in the number of publications on this topic; however, this fact is probably due to the delay in indexing the most recent published articles in the SSCI. This growing interest from the scientific community might be motivated by an increasing number of educational policies towards inclusion, and the interest of governments in guaranteeing integration of disabled persons in Education, since attitudes seem to influence the success of inclusive education (Bueno, 2010; Garaigordobil & García de Galdeano, 2006; Jarvis & French, 1990; Navas et al., 2004; Rillota & Nettelbeck, 2007; Verdugo et al., 1994).

The concentration of 40.5% of the articles in a limited number of journals presents a picture of specialized, preferred journals for publishing in this area and for finding specific information about it. Most notable are *Remedial and Special Education*, *Disability & Society* and the *International Journal of Inclusive Education* – the three most productive journals, respectively, with regard to our topic of study.

The findings on author productivity indicate a predominance of transient authors, a common result in bibliometric studies (Quiles, Ortigosa, Pedroche, & Méndez, 2000). Likewise, a single highly-productive author (Carter, E.) was identified, with ten articles undersigned in our sample. Regarding collaboration among researchers, this trend has increased in the past years, although some authors claim that the trend has been slower in the sphere of Social Sciences (Aguado-López et al., 2009; Anta, 2008; De Filippo, Sanz-Casado & Gómez, 2007; Frame & Carpenter, 1979). Nonetheless, our study of the author collaboration index indicates a trend to produce work in collaboration, with a coauthorship index of 2.55 authors per paper. This result concurs with several recent bibliometric studies in the field of Psychology, where collaboration indices indicate an inclination to produce papers in teams of 2 to 3 authors (Agudelo, Bretón-López, & Buela-Casal, 2003; Alcain & Carpintero, 2001; Gómez, Hidalgo, Guilera, & Moreno, 2005; Guilera, Gómez, & Hidalgo, 2006; Moreno-Rodríguez & Sánchez-Moreno, 1998; Osca-Lluch, Civera, & Tortosa, 2012). Recent policies that encourage researcher mobility, both nationally and internationally, have probably helped strengthen ties between the personnel of different institutions, thus encouraging creation of work teams (Carayol & Matt, 2004; Kliegl & Bates, 2011).

As for the analysis of document content, the results would characterize research in the field of attitudes toward disability in Education as eminently practical. The predominance of practical investigations over theoretical studies is also common to other topics in the field of

Psychology (Cantón-Chirivella & Domingo-Tarín, 2008). The analysis of topical categories shows great diversity in lines of research, with a predominant interest in attitudes adopted by Education professionals themselves, as well as practices that can help improve the inclusion of disabled students and relationships of collaboration and assistance that are established between disabled students' families and the school. If we look at stage of Education, the research is predominantly carried out in the different phases of Compulsory Education, followed by studies in Post-Compulsory Education, which also has a relatively acceptable amount of output. However, attitudes toward disability do not seem to draw much interest from researchers in Early Childhood Education, something that Flórez, et al. (2009) has already pointed out, after doing an analysis of attitude change programs regarding disability. Moreover, this fact is not only true of our area of interest, but is also reflected in similar results from other bibliometric studies on educational research in general (Anta, 2008).

The review presented in this paper has several limitations. Variables of potential interest, such as authors' geographic and professional origins and gender, were not analyzed, nor were funding sources of the published work taken into account. Another possible limitation is that no other bibliometric study on our research topic was found, for the sake of comparing and contrasting our results. Furthermore, our study focuses only on attitudes adopted within the educational arena; a possible line of research could be to carry out a broader study that encompasses different social spheres that are also of interest.

The educational field seems to be fertile ground for the study of attitudes toward persons with disability, as demonstrated by the large quantity of scientific output published in recent years. The present bibliometric study informs us of the state of the art of our study topic (Agudelo, Bretón-López, & Buela-Casal, 2004; García-Silberman, Arana, Martínez, Infante, & Jiménez, 2004; Quevedo & López-López, 2010) since it provides a representative picture of how the topic has been investigated in the last eleven years, the communication processes, the paths followed as well as trends that should be reinforced or corrected. Similarly, this study can facilitate the work of researchers who are interested in investigating attitudes toward disability in the Educational sphere, since it contains information about the most productive authors, the specialized journals, the most cited articles and other references that can be useful for future research. Likewise, we hope that our work stimulates the realization of new research on attitudes toward disability in Education, a topic of vital importance if we wish to effectively carry out such a far-reaching project as inclusive education.

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