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Attitudes towards disability in higher education

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Abstract

In this article, we present data concerning the attitudes towards disability of students in higher education (HE) at a Spanish university. This research is part of a wider project designed to understand these attitudes at other Spanish universities and Brazilian and Portuguese universities. The total sample was composed of 609 students (mean age: 24.41; standard deviation, SD: 9.84), including undergraduates (85.7%) and postgraduates (14.3%) from different faculties at the University of Barcelona. Seventy-seven percent of the sample were women, and 6.1% had some disability. The first part of the instrument used collects sociodemographic information. The second part contains 43 statements grouped in three blocks: 17 relating to the biological model of disability, 15 to the social model, and 11 to the metaphysical perspective. The results showed the predominance of agreement with the social and biological conceptions of disability. Moreover, significant differences were found among the students' attitudes related to their year of study, age, faculty, and absence of disability. The results obtained represent a first step regarding the need to give a voice to students with a disability in the processes required for their social inclusion.

Keywords

Attitudes towards disability, higher education, educational inclusion, models of disability.

Actituds envers la discapacitat en educació superior

Resum

En aquest article presentem dades sobre les actituds envers la discapacitat dels estudiants d'educació superior (ES) d'una universitat espanyola. Aquesta investigació és part d'un projecte més ampli dissenyat per entendre aquestes actituds en altres universitats espanyoles i universitats brasileres i portugueses. La mostra total estava composta per 609 estudiants (mitjana d'edat: 24,41 anys; desviació estàndard (DE): 9,84), entre estudiants de grau (85,7 %) i postgraduats (14,3 %) de diferents facultats de la Universitat de Barcelona. El 77 % de la mostra eren dones i el 6,1 % tenien alguna discapacitat. La primera part de l'instrument utilitzat recull informació sociodemogràfica i la segona conté 43 enunciats agrupats en tres blocs: 17 de relacionats amb el model biològic de la discapacitat, 15 amb el model social i 11 amb la perspectiva metafísica. Els resultats van mostrar el predomini de la concordança amb les concepcions socials i biològiques de la discapacitat. A més, es van trobar diferències significatives entre les actituds dels estudiants relacionades amb el seu any d'estudi, l'edat, el professorat i l'absència de discapacitat. Els resultats obtinguts representen un primer pas quant a la necessitat de donar veu als estudiants amb discapacitat en els processos requerits per a la seva inclusió social.

Paraules clau

Actituds envers la discapacitat, educació superior, inclusió educativa, models de discapacitat.

Actitudes hacia la discapacidad en Educación Superior

Resumen

En este artículo presentamos datos sobre las actitudes hacia la discapacidad de los estudiantes de educación superior (ES) de una universidad española. Esta investigación es parte de un proyecto más amplio diseñado para comprender estas actitudes en otras universidades españolas y en universidades brasileñas y portuguesas. La muestra total estuvo compuesta por 609 estudiantes (media de edad: 24,41; desviación estándar (DT): 9,84), entre estudiantes de grado (85,7 %) y posgraduados (14,3 %) de diferentes facultades de la Universidad de Barcelona. El 77 % de la muestra eran mujeres y el 6,1 % tenía alguna discapacidad. La primera parte del instrumento utilizado recoge información sociodemográfica y la segunda contiene 43 enunciados agrupados en tres bloques: 17 relacionados con el modelo biológico de la discapacidad, 15 con el modelo social y 11 con la perspectiva metafísica. Los resultados mostraron el predominio de concordancia con las concepciones sociales y biológicas de la discapacidad. Además, se encontraron diferencias significativas entre las actitudes de los estudiantes relacionadas con su año de estudio, edad, profesorado y ausencia de discapacidad. Los resultados obtenidos representan un primer paso en cuanto a la necesidad de dar voz a los estudiantes con discapacidad en los procesos requeridos para su inclusión social.

Palabras clave

Actitudes hacia la discapacidad, educación superior, inclusió educativa, modelos de discapacidad.

INTRODUCTION

In the context of education, significant efforts for the integration of disability students have been made (Martínez & Castrillo, 2020). In this sense, it is of great interest to study attitudes towards disability. Throughout history, moral and ethical principles have guided society to conceive and approach disability from different perspectives, giving rise to socially positive and negative attitudes that are usually linked to three types of models. First, the metaphysical model of disability attempted to transcend human responsibility, overlapping with the idea that a person with a disability is the product of divine design (Pessotti, 1984; Aranha, 2003). Second, the biological model of disability understands the disability as an inherent attribute of the individual, using as a reference the deviation of an organic standard of normality or the presence of a defect or limitation that provokes malfunctioning of the organism (Canguilhem, 2009). Finally, the social conception interprets the disability as an organic and differentiated condition linked to causal factors of a social, emotional, economic, or educational nature that influences the human constitution. The disa-

bility results from a biological dysfunction that provokes limitations and, therefore, social boundaries.

The social model focusses on the distinction between impairment as biological, sensory or cognitive and the experience of disability as social oppression. In other words, political and environmental barriers as well as attitudes and perceptions of society that 'disable' and requires a different type of intervention, such as the independent living movement, local and global legislative change and unifying a global disability movement (Oliver, 2013). We agree with Berghs (2020) that the social model of disability developed much in response to the medical model and the professional control that was felt to be exerted over the lives of people with disabilities.

On the other hand, 'biosocial' identity is important for people who have a medical condition, disease, illness or physical, sensory or cognitive impairment, who may describe themselves in terms of that biomedical identity and focus on impairment. In these cases, their intention is the creation of community, health activism, needs for resources and hopes of cure (Berghs, 2020). The same

author argues that a more 'biosocial' community exists with patients with genetic disorders or diseases having formed self-help groups or umbrella organizations to: 1) lobby politicians for legislative change; 2) get involved in research and impact pharmaceutical innovations; 3) raise funding; 4) advocate for better care, and 5) educate about their conditions (i.e. parents of children with rare genetic conditions, autism, etc.).

Studies related to university students' attitudes towards disability (Baker *et al.*, 2012) indicate that the attitudes of students with and without disabilities are consistent with the social conception of disability, showing sensitivity to educational inclusion. Specifically, analysis of the responses of students with disabilities indicated that they feel included in university life, consistent with Leiva *et al.* (2019), which showed that university students demonstrate a positive attitude towards disability and that their attitudes are compatible with the social conception of disability. Goddard *et al.* (2018) showed that those who start their professional careers as teachers with positive attitudes towards inclusive education are more likely to implement inclusive classroom strategies.

However, other studies, such as that carried out by Moriña *et al.* (2020), show that students' and teachers' attitudes towards disability are mainly linked with the biological model of disability. Various authors have concluded that the degree of agreement with a model of disability determines inclusive attitudes and practices towards people with disabilities (Hockings *et al.*, 2012; Van Jaarsveldt *et al.*, 2015). On the relationship between specific student characteristics and attitudes towards disability, some studies (Polo *et al.*, 2020) have found that attitudes towards disability are linked to gender, educational level, or the individual's relationship with people with disabilities. Overall, female students generally tend to have more positive attitudes toward disability (Li *et al.*, 2012; Schwab, 2017).

In terms of educational level, some researchers found that final-year university students showed greater sensitivity towards their colleagues than first-year students (Hurst *et al.*, 2012; Goddard *et al.*, 2018). This indicates that more years of education, and thus more experience of sharing activities and experiences at university, promote inclusive responses towards disability (Bain *et al.*, 2011). In contrast, some researchers found that younger students had more positive attitudes than older students (Blackman, 2016; Soulis *et al.*, 2016). As Freer (2021) pointed out, each study focused on different grade levels/ages, so more specificity is needed to better understand younger and older students' attitudes toward disability.

Gibbons *et al.* (2015) and Polo *et al.* (2020) showed that university students that have frequent contact with people with disability have a more positive attitude towards disability, consistent with studies that concluded that Initial Teacher Education students that have contact with relatives or friends with disability have more positive

attitudes towards inclusion (Barr *et al.*, 2015; Goddard *et al.*, 2018). In general, the findings suggest that inclusive education is associated with more positive attitudes towards disabilities among students (Adibsereshki and Salehpour, 2014; Cairns and McClatchey, 2013; Georgiadi *et al.*, 2012; Gökbulut and Yeniasır, 2018; Ottoboni *et al.*, 2017). In short, as Polo *et al.* (2020) argued, it seems that previous experience with people with disabilities improves university students' attitudes towards them.

Other determinant factors related to disability are the type of disability, knowledge, parental attitudes towards disability, racial, religious, and socio-economic diversity, among others (Freer, 2021). Other characteristics may also be interacting with the mentioned factors, such as resilience. In this sense, the results of a study by Suriá (2015) revealed that disability can allow the development of differential patterns of resilience. Among these, a high resilience profile is reflected; a second profile with high levels of social competence and acceptance of oneself and of life and low self-discipline. Finally, a third low-resilience profile is identified in the three components of this construct. This profile would be related to deficits in psychological adjustment and quality of life in general and, therefore, with the fact that not all young people living with a disability have good adjustment and adaptation to the experience of living with a disability. Other results of the same study give rise to the idea that the experience of living with a disability, far from sinking the person, seems to set in motion a process of struggle to successfully cope with their experiences.

However, despite progress in institutional approaches (Scientific communications of the 2nd International Congress on University and Inclusion, 2020), universities are still often contexts of exclusion (Vrooman and Coenders, 2020) because aspects such as accessibility and inclusion have not been taken into sufficient consideration (Sandoval *et al.*, 2019). The deficit model of disability is still clearly dominant. To promote student self-determination, it is necessary to introduce significant learning spaces from a perspective that avoids paternalism (Paz-Maldonado, 2020).

Educational inclusion involves transforming the educational system since the necessary changes have to be carried out at the institution level without focusing attention on the student (Moriña, 2016).

It has been demonstrated that the first year in university for students with disabilities determines if they will continue with their studies. Therefore, it is vital to find the appropriate support from lecturers and institutions (Moriña *et al.*, 2019).

Obviously, students learn better and more effectively when university staff interact with them, and a bond is created, which is why it is essential to keep actively listening to the students and that strategies to help them are adjusted to the natural context of each individual (Guisan, 2019; Lautenbach and Heyder, 2019).

The participants of the current study are students at the University of Barcelona. Like all other universities in Spain, which have limited access because of excess demand for places, the University of Barcelona stipulates that a minimum of 3% of places should be made available to those students with a degree of disability equal to or greater than 65% of students with total loss of speech or hearing. This is important information because it highlights a clear sensitivity on the part of higher education institutions towards this group, as well as the awareness that it is necessary to promote that they carry out university studies and feel part of the group of university students. However, these facilities do not always correspond to the support and positive attitudes towards disability from peers or professors. Although in most cases these are issues related to lack of knowledge and training, they have a relatively affordable solution.

In this context, a more comprehensive project to understand these attitudes was designed. The specific objectives of the research presented are: 1) to analyze attitudes towards disability in students at the University of Barcelona, and 2) to determine whether there are differences in attitudes towards disability among students depending on the undergraduate or postgraduate degree they are studying, their age, their year of study and whether or not they have a disability themselves.

MATERIALS AND METHODS

Participants

Six hundred and nine students from the University of Barcelona participated. Almost 50% of them were students at the Faculty of Education. Their age ranged from 18 to 78 years (mean = 24.41; SD = 9.84), and 37 (6.1%) of the sample indicated some type of disability. [Table 1](#) presents the data for all participants in more detail.

Table 1. Sample description

	Variable	N	Percentage
Studies	Undergraduate	522	85.7%
	Postgraduate	87	14.3%
	Total	609	100%
Disability	Sensorial and physical	19	3.1%
	Psychic and mental	14	2.3%
	Not specified	4	0.7%
	Without disability	572	93.9%
	Total	609	100%

	Variable	N	Percentage
Faculty	Education	302	49.6%
	Psychology	78	12.8%
	History	47	7.7%
	Physics and Chemistry	25	4.1%
	Law	32	5.3%
	Others	125	20.5%
	Total	609	100%
Year of study	First	393	64.5%
	Second and above	216	35.5%
	Total	609	100%
Gender	Female	469	77%
	Male	126	20.7%
	Other (not specified)	14	2.3%
	Total	609	100%

[Table 2](#) presents the data collected from participants studying in the faculties of Psychology, Education, and other faculties in more detail.

Almost 37% of students were studying for the Initial Teacher Education degree in the Faculty of Education, 10.8% were studying for a degree in Psychology, and postgraduate degrees were being studied by 1.5% of participants in the case of the Faculty of Education and 1.3% in the case of the Faculty of Psychology.

Table 2. Participants from the faculties of Education and Psychology.

Faculty	Degree	N	Percentage
Faculty of Education	Initial Teacher Education degree	225	36.9%
	Pedagogy degree	62	10.2%
	Postgraduate	9	1.5%
	Other	6	0.9%
	Total	302	49.6%
Faculty of Psychology	Undergraduate	66	10.8%
	Postgraduate	8	1.3%
	Other	4	0.6%
	Total	78	12.8%
Other faculties	Faculty of Geography and History	47	7.7%
	Law faculty	32	5.3%
	Faculty of Librarianship and Documentation	22	3.6%
	Other faculties	128	21%
Total		609	100%

Instrument

The instrument used for data collection was the Intercultural Scale of Conceptions of Disability (ISCD) and has demonstrated huge reliability (α Cronbach: 0.,835). The first part of the scale consists of a set of questions about sociodemographic data (gender, nationality, course attended, whether or not you have some type of disability, etc.). The second part is made up of 43 statements that are grouped into three blocks: 17 statements are linked to the biological model of disability (e.g., the disability can be identified by an organic limitation) (α Cronbach: 0.824); 15 statements are related to the social perspective of disability (e.g., the severity of the disability is defined according to society's interpretation of it) (α Cronbach: 0.824); and 11 statements are linked to the metaphysical model of disability (e.g., the man/woman affected by the disability will achieve sanctity and has a place in the kingdom of heaven) (α Cronbach: 0.915). The three blocks also demonstrate an enormous internal consistency. The details on the construction of the ISCD and its psychometric studies are described in Leite *et. al.*, Cardoso and Oliveira (2021).

Each statement has five response options (Likert type), of which only one can be chosen, the values being: totally disagree (1), disagree (2), neither agree nor disagree (3), agree (4), totally agree (5).

Table 3 shows the cut-off points calculated by multiplying the total score by the number of items and dividing by four. These cut-off points were settled in order to achieve a theoretical symmetrical distribution that divides the maximum punctuation between four, to classify each participant with disagree, tendency to disagree, tendency to agree, and agree.

Table 3. Ranges of agreement and disagreement according to the ISCD

Model of disability	Disagree	Tendency to disagree	Tendency to agree	Agree
Biological	17 to 34	35 to 42.4	42.5 to 67	68 to 85
Social	15 to 30	31 to 37.4	37.5 to 59	60 to 75
Metaphysical	11 to 22	23 to 27.4	27.5 to 43	44 to 55

Data collection procedure

Data collection was carried out with the consent and participation of higher education students enrolled in different faculties studying undergraduate and postgraduate degrees and courses at the University of Barcelona. The snowball sampling technique was used to recruit participants. This project was approved by the Research Ethics

Committee, registered on the Brazil Platform, under protocol CAAE 84374018.2.1001.5398.

Data analysis

A descriptive data analysis was performed first in order to understand the distributions. Next, a bivariate analysis was performed with the total score for the different conceptions and sociodemographic data such as age, educational level, faculty, and disability. Parametric tests were used where possible.

RESULTS

Participants' attitudes towards disability

Regarding the students' attitudes, the mean score for the social model was 47.09 ($SD=11.48$), and the average range was 60. The symmetry was -0.114. The mean score for the biological model was 50.36 ($SD=12.47$), and the average range was 65. The coefficient of asymmetry was 3.23. Finally, for the metaphysical model, the mean score was 14.09 ($SD=12.48$), and the average range was 44. The coefficient of asymmetry was -0.229.

Relationships between the characteristics of the participants and attitudes towards disability

In connection with the year of study and the social model of disability, there were significant bilateral differences between first- and second-year students ($t = -4.64$, $df = 607$; $p < .001$). The mean score of first-years (45.52) for this perspective was lower than in second-years and onwards (49.95). Regarding the relationship between the year of study and the biological model of disability, we again found significant differences between the first-years and second-years onwards ($U = 35333.5$; $Z = -3.42$; $p < .001$). In this case, a non-parametric analysis was used since the distributions were not normal. The median score for this model was 52 for the first-years and 48 for the second-years onwards. Spearman's correlation was used to determine the role of age, since there was little variability in this variable. A significant relationship was observed between age and the social model ($r_{xy} = 0.181$, $p < .001$, $r^2 = 0.03$), with very low intensity, such that as age increases, so does the tendency to agree with the social model. However, there was a significant negative relationship between the biological model of disability and age ($r_{xy} = -0.287$, $p < .001$, $r^2 = 0.08$), also of low intensity.

Regarding disability among the students, it should be noted that there was a significant difference between the number of students with and without a disability, and therefore a non-parametric test was used for analysis. Regarding the biological model, we found a significant difference between the scores of the students with a disabili-

lity and those without ($U = 11809$, $Z = -2.204$; $p = .028$), the median being 51 in the group without disability and 46.50 in the group with a disability. There were no significant differences regarding the other perspectives.

Regarding the type of degree (undergraduate or postgraduate), we found significant differences in the score relating to the social model ($t = -4.43$, $df = 607$, $p < .001$), with a lower mean score in the group with a lower degree (46.26) compared with a postgraduate degree (52.07). There was also a significant difference between undergraduates and postgraduates regarding the biological model ($t = 2.64$; $df = 607$, $p = 0.09$), with the score for undergraduates being higher (52.09) than for postgraduates (47.11).

About the relationship between faculties and models, only the Faculty of Psychology and the Faculty of Education data were analyzed, as this had the largest sample size (62.4%). It should be noted that the sample size of each of the two groups was very different, and therefore the analyses were carried out using non-parametric tests.

In connection with the social model, we found significant differences between faculties ($U = 6054$, $Z = -6.621$, $p < .001$), with a much lower median score for students in the Faculty of Education (44) than for those in the Faculty of Psychology (55). The scores for the biological and metaphysical models did not differ significantly between faculties.

DISCUSSION

This study focused, firstly, on analyzing the attitudes towards disability of students at the University of Barcelona and, secondly, on finding out whether there were differences between these students depending on whether they were studying at undergraduate or postgraduate level, their degree subject, their age, their year of study, and whether or not they had a disability.

Regarding the attitudes of our sample towards disability, the results show that they tended to agree with the social model of disability (mean score=47.1). There was also a tendency towards an agreement with the biological model (mean score=50.4). However, the mean score for the metaphysical conception was 14.1, which indicates disagreement.

Although Spanish students tended to agree with statements that interpret disability as a social condition, they likely understand the social condition in different ways, not always based on the idea that difference is constitutive of the human being. That is why singularities have begun to receive protection measures to guarantee common rights to all (Madruaga, 2016).

The results discussed so far seem to indicate that, in general, the students at the University of Barcelona who have participated in the study to date have not detected contradictions between statements that were considered

exclusive during the design and construction of the scale. As Oliveira (2004) pointed out, there is the dimension of disability linked to a person's biology. Still, there is also a psychosocial dimension that affects the adaptation of a person to society. This perspective was intended to be included in the statements related to the social model but not to the biological ones.

In connection with the second aim of the study, there were significant differences in perceptions of disability concerning the type of degree (undergraduate or postgraduate) or faculty, the year of study, age, and whether the student had a disability. These results are consistent with those of some researchers that found that older students had more positive attitudes toward disability than younger students (Hurst *et al.*, 2012).

These results are also consistent with those that found that contact was also associated with more positive attitudes towards disability (Shalev *et al.*, 2016). Al-Kandari (2015) found that knowing a person with a disability and having an immediate family member with a disability were associated with positive attitudes towards disability. She also found that even low frequency and intensity contact with a disability was associated with more positive attitudes towards disability. There were a few exceptions where research teams found contact was not associated with more positive attitudes (Georgiadi *et al.*, 2012). In these cases, researchers found non-significant findings. It is essential to note that there were no studies for which researchers found contact to impact students' attitudes toward disability.

This significant difference indicates that interacting with students with different types of disability (by jointly preparing work, reacting to their interventions, observing the strategies used by professors, sharing activities, etc.) for a more extended period promotes a greater appreciation of the social conception of disability, which in no case excludes the fact that there is a biological basis (Oliveira, 2004).

This interpretation seems to be confirmed by the scores related to the biological perspective, which were significantly higher among first-year than among second-year students. It is also consistent with the conclusions reached by researchers who have focused on secondary education. They have argued that a complete transformation of the educational system and the institution is needed (López *et al.*, 2009; Moriña, 2016), this being a work in progress. Similar results were found in this study in undergraduate and postgraduate students, which we interpret in the same way. However, previous studies demonstrated that younger people tend to express more positive attitudes on inclusion than older people (Ouellette-Kuntz *et al.*, 2010). Other studies showed that contact was not associated with more positive attitudes (Freer, 2021).

Regarding the presence or absence of disability in the participating students, there was a significant tendency for more students without a disability to agree with

statements related to the biological model of disability compared to those with a disability. In this case, the results suggest that students with some type of disability are more sensitive to the need to consider disability as a differentiated organic condition, associated with causal factors of a social, emotional, economic, and/or educational nature that influence the human constitution. These results are coherent with the findings of Vlachou and Papananou (2018), which confirmed that students with disabilities could assert their needs, challenge institutional discrimination issues, and propose more inclusive alternatives. Tindall (2013) pointed out that knowledge of disability has three different levels: exposure, experience, and ownership. According to the author, simply learning about disability only addresses the first level, whereas experiencing disability and advocating for disability rights enhances knowledge.

On the other hand, compared with those who do have a disability, it seems that students who have not experienced a disability (Tindall, 2013) have a perception of disability that is more focused on the deficit, which highlights their attention on the limitations of people with disabilities and establishes that the origin of this is based on an organic dysfunction (Paz-Maldonado, 2020). The encouraging results of our study should not make us lose sight of the role and contribution of social psychology in debates on the understanding of the disability phenomenon and its constitution concerning the processes of social, political, and economic inclusion/exclusion (Gesser *et al.*, 2012).

Finally, the significant differences detected between the students of the Faculty of Psychology and the Faculty of Education, with the former showing a tendency to agree with statements related to the social model of disability, may be related to the fact that there are more compulsory subjects in which content related to disability is taught and learned in the Faculty of Psychology of the University of Barcelona, which may have contributed to making them more sensitive to issues about the inclusion of students with disabilities in the university context. These results are consistent with Kandari (2015), who found that knowledge about disability was associated with more positive attitudes toward disability.

Our results are not consistent with Li *et al.* (2012), where no difference was found between the two groups (Medicine and Education). These results were interpreted as participants were more likely to be involved in educational programs for human service and seek a career in human services.

This study is not exempt of some limitations. Regarding the sample used, as has been mentioned before, the participants were only students from one university. Despite the fact that the University of Barcelona is the largest in Catalonia, other studies should address the question with a sample conformed by different universities from all over the state. Moreover, the sample size of the study

could have been bigger, and also distributed proportionally among all the faculties at the University of Barcelona. The majority of the participants are students at the faculties of Education and Psychology.

CONCLUSIONS

This study provided an overview of attitudes towards disability in a sample of HE students at the University of Barcelona, which should be confirmed through subsequent studies with a larger and more representative sample.

Secondly, the results linked to the comparative analyses seem to highlight that as students have more opportunities to interact with peers with a disability, their attitude towards disability is more inclusive. This is undoubtedly a promising result in the context of attempts to achieve a greater degree of educational and social inclusion of HE students in our society.

Third, the results indicate that students at the Faculty of Psychology, who have had more opportunities to work on and learn about content related to disability, and more knowledge, showed greater agreement with the social model. This is also a promising result since it suggests that the efforts made in this regard may yield results. Therefore, it is necessary to continue working along these lines and extend such measures to other faculties, campuses, universities, regions, and countries.

Finally, the results concerning differences between university students with and without disabilities represent a first step regarding the need to give a voice to students with disabilities in raising the awareness of all students to promote educational inclusion policies in the university environment.

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