

Article

Questionnaire for Adolescents to Evaluate Their Attitudes towards Disability

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Abstract: The purpose of this article is to create and validate a brief instrument to evaluate attitudes towards persons with disabilities among the adolescent population between 12 and 16 years of age. Disability is currently understood from a contextual perspective (ecological model of disability), as the interaction of a person with her/his surroundings. As part of this interaction, the negative attitudes and expectations towards those with disabilities is still a reason for analysis, as it constitutes one of the main barriers to their inclusion in society. The evaluation of these attitudes in different age groups, using new analytical tools and instruments, is essential for the subsequent design and implementation of intervention measures in order to reverse the said attitudes and improve the collective's place in society. In this study, there were 1282 participants, students between 12 and 16 years of age. A random selection was carried out, choosing fourteen educational centers in order to analyze the students' attitudes towards persons with disabilities. The final result was the creation of the CBAD-12A questionnaire, made up of 12 Likert-type items, grouped into three factors: acceptance/rejection, competence/limitation, and equal opportunities. It has been demonstrated that the questionnaire possesses adequate psychometric characteristics, providing research with a new instrument to measure attitudes towards disability. The said questionnaire is useful as a diagnostic and/or predictive measure, allowing us to discover and generate interventions aimed at improving the attitudes of the adolescent population towards those with a disability.

Keywords: evaluation; attitudes; disability; adolescent

1. Introduction

The World Report on Disability published by the WHO (2011) states that more than one billion people in the world live with some form of disability and that of these, almost 200 million experience considerable difficulties in their daily life.

In Spain, the Survey on Disability, Personal Autonomy, and Dependence [1] estimated that there are 4.12 million people with a disability, which is approximately 9% of Spain's resident population, according to the Olivenza Report [2]. Throughout the twentieth century and the beginning of this century, the disability construct has been a complex area of knowledge that includes a great variety of terms related to, among other fields, medicine, psychology, and education [3]. At the present time, disability is understood from a contextual perspective as the interaction between persons and their environment [4]. If the relationship between persons with a disability and their surroundings is vital, the attitudes understood as social constructs of those around them play a fundamental role in their development and their future path. This is because the said attitudes are one of the fundamental elements towards facilitating or hindering the process of the collective's inclusion in society [5,6].

The term attitude has undergone an evolution in meaning since its definition, “a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon an individual’s response to all objects and situations with which it is related” [7]. It is now defined as “an idea charged with emotion that predisposes one to a certain class of actions when faced with a particular stimulus” [8] and as “a learnt predisposition to consistently respond either favorably or unfavorably to objects, persons, or groups of people and situations” [9].

On the other hand, there are numerous models that, over the years, have tried to explain the dimensions of attitudes. Worth noting is the three-dimensional model of attitude, which contemplates a cognitive component, stereotype, a belief concerning the attributes of a social group, an affective component (prejudices), and social constructs that generate exclusion in groups of persons, thus limiting their ability for self-affirmation as human beings [10]; as well as a behavioral component that involves a tendency to express negative, discriminatory behavior patterns that marginalize members of minority groups [11].

Negative behavior and attitudes towards persons with a disability generate equally negative consequences for those people, such as a low self-esteem, isolation, and less participation in their surroundings, creating barriers to the accomplishment of their goals [12–14]. In the opinion of certain authors, it is society itself that “disables” those with a disability, as it imposes material obstacles and cultural stereotypes that encourage the dynamics of exclusion and marginalization [15].

In short, these said attitudes are a determining contextual, environmental, and relational factor that makes life more difficult for those with a disability in all its aspects, shaping prejudices and stereotypes that stigmatize and exclude them, undermining their full integration with society [16,17].

The persons with a disability and the organizations that defend their rights are currently promoting a change in the way the collective should be seen, highlighting the need to increase the efforts being made to bring about changes in society in general [18].

The Present Study

Negative attitudes and expectations towards people with disabilities are still in need of analysis and study, even today [19]. The evaluation of such attitudes in works of research began around the 1930s to 1950s with the first attempts to analyze the influence of the social constructs (attitudes) on the lives of persons with a disability [20], and with the creation of instruments to measure the said constructs towards disability, initially highlighting the contribution of certain works of research that focused on describing the beliefs of people without a disability towards several behavioral characteristics of the disabled collective in general [21–23].

In the 1960s and 1970s, the subject of study widened to include the evaluation of other types of disability such as deafness and mental illness. There were several pioneering works of research in this field [24]; while scales such as the “Attitude Toward Persons with a Disability Scale” (ATDP) were published and widely used, studied, and contrasted [25]. Certain works of research disagreed with the one-dimensional conception, constructing multi-dimensional instruments: worth a particular mention among these, we have the Disability Factor Scales (DFS), which measure attitudes towards individuals with specific disabilities and health conditions [26], and the Disability Social Distance Scale (DSDS), based on the premise that attitudes are different depending on the type of disability a person has [27].

In the 1980s, interest rose in analyzing the two most commonly used scales at that time, the ATDP [25] and the DFS [26]. The said analysis focused on validating the factorial structures in other contexts. Other instruments were created to analyze factors related to attitudes towards disability such as social-contact willingness or prejudices [28]. Studies were also carried out to measure the attitudes towards persons with a disability as a general group through the SADP, the Scale of Attitudes Toward Persons with a Disability [29]. On the other hand, some studies examined the effect that contact with disabled people would have on attitudes, in the sense of generating more positive attitudes towards persons with a disability [30]. On the basis of Allport’s Contact Theory [7], numerous authors have

pointed out the influence of strategies based on social contact and education when generating positive attitudes and reducing the stigmatization of persons with a disability [31].

In the 1990s, the IDP (Interaction with Persons with a Disability Scale) is worth mentioning. This instrument measures the degree of comfort/discomfort a person feels in certain situations with people who have different disabilities [32]. In Spain, the EADP (Escala de Actitudes hacia las Personas con Discapacidad) was built up, one of the most commonly used on both a national and international level due to its high validity and reliability indices [33]. This scale is preferably aimed at professionals who are in more or less frequent contact with persons with a disability.

Later, such instruments as the Medical Condition Regard Scale (MCRS) [34] and the Multidimensional Attitudes Scale for Persons with a Disability (MAS) were developed, concerning the affective, cognitive, and behavioral components of attitudes [35]. More recently, such instruments as the “Chedoke-McMaster Attitudes Towards Children with Handicaps Scale” (CATCH) [36] have been designed. These analyze the attitudes of school children to their companions with a disability.

In recent years, some research works have considered the lack of any updated and validated instruments with representative Spanish samples developed using high standards of scientific quality [37]. On this basis, the need arises to create scales that allow a greater understanding of the attitudes shown towards persons with a disability; scales that can help to identify the factors that encourage a positive or negative attitude in the social context in which this collective is immersed. The educational sphere is considered to be a privileged space to initiate this change in attitudes, essential to breaking down the stereotypes (cognitive component) and prejudices (affective component) that hinder their inclusion (behavioral component) and which would be the first step on the road to promoting positive attitudes towards persons with a disability [38,39].

Furthermore, adolescence is considered to be a crucial stage in human development; a time when attitudes and behavior patterns are changing and are continuously being shaped [40]. Some research works focusing on the evaluation of adolescent students’ attitudes towards their peers with a disability confirm that, at this stage, the negative attitudes are still present, as they were clearly defined at ages prior to adolescence [41]; even that they could become progressively worse upon entering adolescence. Such attitudes, in the passage from adolescence to adulthood, may well become irreversible [42–44].

This paper describes the process used to construct a brief instrument aimed at evaluating the attitudes of students in secondary education (12 to 16 years of age) towards persons with a disability in general, unlike other instruments in a reduced version that evaluate attitudes towards their companions with a disability [45]. We have opted for creating a reduced but versatile instrument that can be applied in Educational Centers, one which does not involve a great cost in time, and which is understandable for adolescent students. The scale is multidimensional, following the proposal of research works that recommend studying and using scales whose responses focus on the person with a disability, and not on the disability itself [12]; one whose methodology is direct, i.e., the subjects of the study know they are being evaluated with respect to their attitudes towards disability.

2. Materials and Methods

2.1. Participants

The number of participants was determined by the number of students registered in obligatory secondary education (ESO) in state and direct grant schools of the region of Extremadura (Spain) during the 2017–2018 academic year, considering a sampling error of 3% and confidence interval of 95.5%.

The sample consists of a total of 1282 students between 12 and 16 years of age. The average age of the sample is 13.25 years, ($ST = 1.354$), while 50.9% are female (653 cases) and 49.1% are male (629 cases). The sample selection was carried out by means of a multistage sampling by clusters and random class selection in the centers with various groups from the first to the fourth year of secondary school. The cluster sampling was carried out by randomly selecting fourteen Public Compulsory Secondary Education centers in the Autonomous Region of Extremadura from a total of 120 centers.

The process consisted in assigning numbers to all the centers and selecting 14 though random numbers generated by a computer. The same process was used to select in each center four classes, one class from among all classes of first course, one class from all the second course, one class from all the third course, and one class from all the fourth course.

2.2. Instruments

Brief Questionnaire for Adolescents on Attitudes towards Persons with a Disability (CBAD-12A)

For the design of the questionnaire, we first created work groups made up of persons with a disability who had previously led workshops concerning information and awareness of disability in the adolescent population. Starting from the stereotypes, prejudices, and attitudes that the monitors detected in the said population, a series of items was designed which was then set down in a document that was later evaluated by a group of experts in disability. Following the planning of the questionnaire, we selected 12 items referring to the most representative attitudes towards persons with a disability. These items were presented to a pilot group between 12 and 16 years of age, to confirm that there were no difficulties in understanding.

The CBAD-12A evaluates the attitudes of adolescents between 12 and 16 years of age towards persons with a disability in general. The format for responses is a Likert-type scale with five options where 1 is “totally disagree” and 5 is “totally agree”.

The questionnaire consists of 12 items grouped into three factors of four items each. A first factor, called “acceptance/rejection”, evaluates the components of the attitude related to prejudice and the behavioral response derived from them. The behavior patterns related to the adolescent student’s predisposition to social interaction with persons with a disability are analyzed, as well as their possible attitudes of rejection and discrimination towards persons with a disability, with respect to the degree of influence of the social constructs on the collective (prejudice). A second factor, called “competence/limitation”, mainly analyzes the stereotypical component of the attitude, which is related to social constructs based on generalizations derived from erroneous or incomplete information and which curtail the possibilities for development of persons with a disability and their knowledge concerning their own capabilities. A third factor, called “equal opportunities”, analyzes the attitudes understood as rights and the stereotypes (beliefs) that exercise an influence on whether or not persons with a disability achieve these rights.

Items 9 and 10 should be interpreted in the opposite sense, as a higher score indicates more positive attitudes. Thus, higher scores in the three factors will indicate more negative attitudes towards persons with a disability, i.e., attitudes that are more heavily loaded with stereotypes, prejudice, and discriminatory behavior towards persons with a disability.

In addition, in order to analyze the nomological validity of the instrument, a “yes”/“no” question was asked concerning habitual contact (at least once a week) with persons with a disability, and without establishing any differences with respect to the diverse types of disability.

2.3. Procedure

For the construction and analysis of the psychometric characteristics of the CBAD-12A, we sent the directors of the different educational centers information concerning the aims of the study, documentation about the research, the methodology, and procedure to carry it out together with the informed consent application. Voluntariness in participation, anonymity, and confidentiality were ensured for all participants. This study was approved by the Bioethics and Biosafety Committee of the University of Extremadura.

2.4. Data Analysis

Initially, the normality, randomization, and homoscedasticity premises were contrasted, with $p > 0.05$ being found in both cases. To construct and analyze the psychometric characteristics of

the CBAD-12A, we first of all carried out an exploratory factorial analysis (EFA). We then confirmed the factorial structure found in the EFA by means of a confirmatory factorial analysis (CFA). The stability, or the factorial loads of the model, was established using the bootstrap method (this allows a great number of samples to be created replacing the same data and calculating the studied statistic for each one of them). In addition, to determine the invariance due to gender of the obtained model, we carried out a multi-group analysis. The reliability of the CBAD-12A and of the three factors was calculated using Cronbach's alpha, the composite reliability coefficients, McDonald's omega, and the mean extracted variance. Later, we carried out comparisons of the means (Student's *t*-test) to establish the nomological validity. The analyses were performed on the SPSS-21 program.

3. Results

The original sample ($n = 1282$) was divided into two subsamples extracted at random ($n_1 = 641$ and $n_2 = 641$). The first (n_1) was used as a sample to carry out the exploratory factorial analysis (EFC) and the second (n_2) for validation in the confirmatory factorial analysis (CFA). The equivalence of both subsamples were contrasted with respect to gender, $\chi^2(1) = 0.096$, $p = 0.757$.

3.1. Exploratory Factorial Analysis and Reliability of the CBAD-12A

The Kaiser-Meyer-Olkin measure of the sample's adequacy showed a value of 0.806. Bartlett's sphericity test was significant ($\chi^2 = 1647,772$; $p < 0.001$). Both values, KMO and Bartlett, were adequate, indicating that it made sense to carry out the factorial analysis. A solution to the three factors was obtained using the extraction model of maximum likelihood factors with Oblimin rotation, which together explain 51% of the variance. Table 1 includes the saturations of the items in each factor. The first factor, "acceptance/rejection", explains 24.5% of the variance; the second factor, "competence/limitation", explains 14.5%; while the third factor, "equal opportunities", explains 12%. The three factors present an acceptable Cronbach's alpha.

Table 1. Factorial analysis of the "Questionnaire to Evaluate Attitudes towards Disability" (CBAD-12A). Analysis of principal components, Oblimin rotation.

	Items	F1	F2	F3
1	I feel uncomfortable when I am beside a person with a disability.	0.738	0.122	0.150
2	I would not go to a place where they knew me with a person with a disability.	0.707	0.028	0.231
3	If I had a close family member with a disability, I would avoid mentioning it to other people.	0.604	0.049	0.227
4	When I am with a person with a disability, I do not know how to treat them.	0.559	0.292	-0.133
5	Disabled people function like children in many aspects.	0.132	0.708	-0.097
6	The most appropriate job for a person with a disability is a simple, repetitive one.	0.065	0.632	0.129
7	Persons with a disability should study in Special Educational Centers.	-0.001	0.606	0.166
8	Persons with a disability have a more closed circle of friends.	0.285	0.450	-0.017
9	Disabled people should have the same opportunities as everyone else.	0.105	-0.001	0.692
10	Disabled people can practice both individual and team sports.	0.119	-0.026	0.666

Table 1. Cont.

	Items	F1	F2	F3
11	Disabled people should live with others who have the same problem.	0.146	0.336	0.488
12	An unemployed person with no disability should be hired before another unemployed person with a disability.	0.118	0.432	0.459

F1 = acceptance/rejection (own value: 2945; Cronbach's alpha = 0.79); F2 = competence (own value: 1290; Cronbach's alpha = 0.73); F3 = opportunity (own value: 1.094; Cronbach's alpha = 0.70).

3.2. Confirmatory Factorial Analysis of the CBAD-12A

Table 2 shows the statistics for the goodness of fit for the CFA considering three models: one of a single factor, another of three independent factors, and the last of three related factors. The three models present a significant value of χ^2 ($p < 0.01$), the model of three related factors being the one that presents a good fit. The other two models are discarded since the goodness of fit indicators CFI and TLI are not close to the desirable values ≥ 0.90 .

Table 2. Indices for the goodness of fit for the models proposed for the confirmatory factorial analysis.

Models	χ^2	p	CMIN/df	CFI	TLI	RMSEA	SRMR
1 single factor	399.300	0.000	6.402	0.820	0.776	0.067	0.052
3 independent factors	563.568	0.000	10.633	0.679	0.600	0.089	0.125
3 related factors	163.125	0.000	3.262	0.929	0.906	0.043	0.037

Note: CMIN = chi-square over degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual.

In addition, the results of the three related factors model indicate that the factors "acceptance" with "opportunity" are correlated ($\beta = 0.68$), "opportunity" with "competence" ($\beta = 0.66$), and "competence" with "acceptance" ($\beta = 0.54$).

Similarly, the indicators of the latent factors show factorial saturations that oscillate between $\lambda = 0.45$ and $\lambda = 0.66$ for the factor "acceptance"; $\lambda = 0.42$, $\lambda = 0.53$ for the factor "competence", and $\lambda = 0.46$ and $\lambda = 0.53$ for the factor "opportunity" (Table 3).

Table 3. Method, 1000 samples with replacement of the original sample (CI 95%), with the "Brief Questionnaire for Adolescents to Evaluate Their Attitudes towards Disability" (CBAD-12A).

Factors	Items	Factorial Saturations	Mean 1000 Samples	Lower Limit	Upper Limit	p
F1: Acceptance Rejection	1	0.657	0.658	0.602	0.711	0.002
	2	0.594	0.595	0.535	0.661	0.002
	3	0.516	0.515	0.446	0.579	0.002
	4	0.450	0.432	0.369	0.492	0.002
F2: Competence	5	0.530	0.530	0.466	0.594	0.002
	6	0.500	0.498	0.436	0.562	0.002
	7	0.440	0.437	0.376	0.497	0.002
	8	0.419	0.418	0.361	0.472	0.002
F3: Opportunity	9	0.489	0.392	0.311	0.475	0.002
	10	0.460	0.362	0.285	0.443	0.002
	11	0.498	0.495	0.438	0.551	0.002
	12	0.534	0.532	0.473	0.587	0.002

On the other hand, using a total of 1000 samples, we obtain mean values of the factorial saturation that are very close to the values found in the CFA, and the values of the factorial saturation are between the upper and lower limits of the CI at 95.0%; thus, all of them are significant (Table 3).

3.3. Invariant Analysis by Gender

To determine whether the model of three related factors was invariant due to gender, we carried out a multi-group analysis. Table 4 shows the results obtained in the different models compared. Although significant differences appear ($p < 0.001$) in the value of χ^2 between model 1 (without restrictions) and model 4 (measurement residuals), the values found in the ΔCFI in the model without restrictions, with differences below 0.01 of the indices CFI and TLI among the four models, indicate that the factorial loads of the questionnaire are equivalent in males and females.

Table 4. Invariance analysis of the three-factor model of the “Questionnaire on Adolescents’ Attitudes towards Disability” (CBAD-12A).

Models	χ^2	gl	χ^2/gl	$\Delta\chi^2$	Δgl	CFI	TLI	SRMR	RMSEA
Model 1	222.675	100	2.227	-	-	0.922	0.901	0.041	0.032
Model 2	226.256	109	2.076	3.581	9	0.925	0.910	0.042	0.030
Model 3	228.845	115	1.990	6.170	15	0.927	0.917	0.043	0.029
Model 4	257.603	128	2.013	34.928	28	0.917	0.915	0.042	0.029

Notes: Model 1 = without restrictions; Model 2 = measurement weights; Model 3 = structural covariance; Model 4 = measurement residues. CFI = comparative fit index; TLI = Tucker-Lewis index; SRMR = standardized root mean square residual; RMSEA = root mean square error of approximation.

3.4. Nomological Validity

The nomological validity refers to the degree to which the association that a construct can have with others that are partially or wholly a part of some theory or theories can be achieved. To do so, a comparison of the means is carried out to see whether differences exist between the scores in the CBAD-12A, with respect to whether or not frequent contact is maintained with persons with a disability.

Table 5 shows that the subjects who have had prior contact with disability obtain significantly lower scores ($p \leq 0.05$) in the three factors—acceptance/rejection, competence/limitations, and equal opportunities—as well as in the total score of the CBAD-12A, i.e., the participants who stated that they had habitual contact with persons with a disability had more positive attitudes to these same persons.

Table 5. Comparison of means in the CBAD-12A, with respect to prior contact, Yes/No.

Variables	Habitual Contact with Persons with a Disability				t	p
	Yes		No			
	M	SD	M	SD		
Total	20.38	4.81	25.33	5.95	−6.910	0.000
Acceptance rejection	6.26	1.99	7.66	2.67	−4.444	0.000
Competence limitations	8.76	2.76	10.82	3.02	−5.446	0.000
Equal opportunities	5.36	1.66	6.85	2.24	−5.651	0.000

4. Discussion

The aim of the CBAD-12A study, faced with the need to have solid evaluation instruments to analyze attitudes towards the said collective, was to create and validate a brief instrument to evaluate the attitudes of a sample of adolescents towards persons with a disability [37]. We came up against the

difficulty of finding specific evaluation instruments for adolescents with sufficient evidence of both validity and reliability and which would, at the same time, permit a fast and simple application.

The analyses carried out in our study confirm that the variables associated to adolescents' attitudes towards persons with a disability can be grouped into three factors (acceptance/rejection, competence/limitation, and equal opportunities) made up of four well-defined items, both solid and relevant, as well as an adequate internal consistency [46,47].

On the other hand, we subjected the CBAD-12A instrument to an CFA, testing three different factor structures. The values that showed the best fit were those of the model with three related factors. The correlations between the three factors indicate that they are clearly related, indicating in turn that as the negative attitudes towards persons with a disability increase in one of the factors, they also increase in the other factors.

In addition, the analysis of the structural equations and the application of the bootstrap method allowed us to verify that the latent variables in the three factors are well-defined and adequately evaluated, reaffirming the good psychometric characteristics of the CBAD-12A.

Similarly, so that the differences between males and females cannot be erroneously interpreted in future research using the CBAD-12A [48], we carried out a multi-group analysis that confirmed the equivalence of the factorial structure of the CBAD-12A with respect to gender [49], a result that coincides with other studies [17,41,50].

Finally, in order to contrast the nomological validity of the questionnaire, and starting from the hypothesis that those subjects who maintain contact with persons with a disability have more positive attitudes towards them [17,47], we carried out comparisons between subjects with and without contact that confirm the said hypothesis. Various works of research have proved that there exist differences in the attitudes towards persons with a disability with respect to the condition of having contact with them or not [19,51,52]. It is with good reason that programs aimed at changing attitudes to disability stress contact with persons with a disability in order to achieve a positive change in the evaluation of terms referring to persons with a disability and, consequently, in attitudes towards them [31,53].

Although the CBAD-12A presents sufficient evidence of both validity and reliability, it is not exempt from limitations, such as those derived from the bias, for instance that of social desirability, of the responses introduced by the subjects themselves. In addition, there is no evidence concerning its convergent validity, so it would be desirable for any future research to establish relationships using instruments that evaluate similar constructs.

5. Conclusions

Throughout this study, we have posed the importance of attitudes towards persons with a disability, since they are still today a key element in their lives that condition, to a great extent, the degree of collective social inclusion or exclusion [54]. The analysis of these said attitudes is a relevant factor in reversing the difficulties that the said collective can find in their day to day lives [50].

Developing up-to-date, validated instruments that make the evaluation and identification of the characteristics that promote positive and/or negative attitudes towards disability takes on a special importance when considering the social inclusion of persons with a disability [37]. The educational sphere is thus considered to be a privileged space in which to initiate this change in attitudes [55].

On the basis of all the points set out in this study, we therefore proposed the creation of a questionnaire, the CBAD-12A, which is an instrument to measure attitudes towards persons with a disability in the adolescent population between 12 and 16 years of age. Such a tool can be of great diagnostic and/or predictive use when analyzing the attitudes of this age group. Learning more about such attitudes may help to encourage the development of interventions whose aim is to reverse the negative attitudes and thus favor the social inclusion of persons with a disability [56].

We believe it is important to continue research in the sphere of attitudes towards this collective [37]. The contribution of the CBAD-12A can be a key element in encouraging the study and understanding of such attitudes.

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