Attitudes towards the inclusion of university students with disabilities: Development and validation of a scale based on the Theory of Planned Behavior

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Abstract

Introduction. The focus of our research converges on the analysis of attitudes and the prediction of the behavior of university students towards the inclusion of students with disabilities in university. The evaluation of attitudes and the prediction of behavior are complex, but it is fundamental because of the decisive impact they have on the participation of students with disabilities in the socio-educational field. Therefore, for this purpose a scale based on the theoretical framework of the *Theory of Planned Behavior (TPB)* model has been developed and validated; one of the models that provides a more complete methodological vision to explain and predict behavior.

Methodology. The sample consisted of 1044 participants, of whom 623 were students from Spanish universities and 421 from Argentine universities, collected with the instrument designed according to the *TPB*. The validity and reliability of this instrument were estimated through the *Confirmatory Factor Analysis*, a procedure framed within *SEM (Structural Equation Modeling)*.

Results. The results obtained in terms of the reliability and validity of the instrument confirms the adequacy of the goodness-of-fit, internal consistency, discriminant validity and criterion validity. On the other hand, it´s observed that, in general terms, the responses of students without disabilities toward the inclusion of students with disabilities in higher education are positive.

Discussion and conclusions. Although there are researches carried out in university field that analyze the attitudes towards people with disabilities, there are few that apply the model of *Theory of Planned Behavior* with sufficient evidence of reliability and validity. In this sense, we present a psychometrically validated scale which objective is to evaluate the attitudes and the intention of university student to the inclusion of students with disabilities in university. In this way, we can develop interventions to improve the inclusion of students with disabilities in university.

Keywords: Attitudes toward inclusion, students with disabilities, higher education, Theory of Planned Behavior.

Introduction

There is a growing number of students with disabilities who wish to be part of the university world (Konur, 2006), but sometimes we find that the university is one of the most exclusive institutions for the entry and permanence of these students (Moreno, Rodríguez, Saldaña, & Aguilera, 2006; Suriá, 2011). *The Convention on the Rights of Persons with Disabilities*, specifically in *Article 2*4 (UN, 2006, p.20), explain that 'States Parties shall ensure that persons with disabilities have general access to Higher Education (...) in equality of conditions with others', so it is a right of people with disabilities to which universities must respond. This same document highlights that disability is '*a concept that evolves and that results from the interaction between people with deficiencies and the barriers due to attitude and environment that prevent their full and effective participation in society, in equality of conditions with others'* (UN, 2006, p.1).

In this way, we understand the *inclusion* of people with disabilities as the process of increasing and maintaining their participation like any other person in the society, school, or community simultaneously, trying to reduce and eliminate all kinds of processes that lead to their exclusion (Booth, 1996). Likewise, the perspective of the *social model of disability* (Barnes, & Mercer, 2004) explains that this is a form of social oppression in which inclusion is advocated as part of the interrelationships in society (Barton, 2009) and exclusion is a problem of social justice and equity. Therefore, inclusion would imply the disappearance of all forms of discrimination, as well as the determination of what needs must be changed and how (Ainscow, 1999). Discrimination is largely due to the degree of knowledge that society has about disability, which is very limited and, in turn, this lack of information is linked to negative attitudes and stigmatizing beliefs (Arias & Morentin, 2003; Hatton, Akram, Robertson, Shah, & Emerson, 2003). Thus, efforts to achieve the integration, independence, and self-determination of people with disabilities find serious resistance through these negative attitudes and stigmatizing beliefs (Ali, Strydom, Hassiotis, Williams, & King, 2008). Therefore, it is essential to detect these negative attitudes in order to carry out interventions aimed at changing them.

Attitudes towards people with disabilities have been measured throughout history with different instruments. This is because the concept is complex and the different definitions about it have determined different explanatory models derived from this lack of consensus in its conceptual delimitation. This theoretical problem that arises on how to define attitudes, is extended to the methodology and, therefore, to the evaluation (Arias, Verdugo, Gómez & Arias, 2013). These methods of evaluation have undergone changes that range from the use of subjective, informal, and usually lacking of psychometric validity, to more objective, carefully planned and developed instruments that provide data susceptible to mathematical treatment, supported by powerful methodological bases and generally subjected to multivariate analysis, as explained by Verdugo, Arias & Jenaro, (1994) and Verdugo, Jenaro & Arias, (1995). Some examples of the most commonly used instruments designed to measure attitudes towards people with disabilities are: *Attitude Toward Disabled Persons Scale (ATDP)* by Yuker and Block, (1986); *Scale of Attitudes Towards Disabled Persons (SADP)* by Antonak, (1982) and *Scale of Attitudes towards Persons with Disabilities, G Form*, Verdugo et al., (1994) in the Latin American context, among others.

Although there are various instruments to measure attitudes towards people with disabilities, these are usually intended for the study of pre-university stages and other agents involved. The importance of the study of attitudes in the university context is because more frequently students with disabilities access this context and we must make it an inclusive environment. For this we need to detect and eliminate the social barriers specifically given through the beliefs and attitudes to peers of students with disabilities. In this sense, there are only some researches that have developed instruments for studying the attitudes of university students without disabilities towards the inclusion of students with disabilities in Higher Education (Alonso, Navarro, & Vicente, 2008; Luque, & Gutiérrez, 2014; Martínez Martín, 2010, Rodríguez Martín, & Álvarez Arregui, 2013, Rodríguez Martín & Álvarez Arregui, 2015, Suriá, Ordoñez, & Martínez, 2015). And they are even less, those who have developed instruments with the same objective based on the *Theory of Planned Behavior* model (i.e., Novo Corti, Muñoz Cantero, & Calvo Porral, 2011), even though this model provides a more complete methodological vision on the study of attitudes than other models (Arias et al., 2013). The problem with these instruments and others constructed 'ad hoc' is that in many cases they suffer from methodological limitations and defects such as the use of biased and too small samples, non-parametric contrast tests, do not include the size of the effect in contrast tests

such as t or ANOVA, among others, which provides scarce properties of reliability and validity in the developed instruments.

Therefore, the main novelty of our research lies in the study of the attitudes and predisposition of university students towards the inclusion of students with disabilities in Higher Education according to the model of the *Theory of Planned Behavior*. Research is scarce in this line (Kudláček, Sherrill, & Válková, 2002, Kudláček, 2007, Novo Corti et al., 2012, Novo Corti, et al, 2011, Novo Corti et al., 2015). This model, that of the Theory of Planned Behavior, is one of those that has the broadest repercussion in the research on attitudes. From this perspective it´s assumed that most of the behavior is under the control of the person and, consequently, that the fundamental factor for predicting the manifest behavior will be the *intention* or deliberate motivation to act (Arias et al., 2013). In turn, this variable, the *intention* of behavior, is influenced directly by the following variables: *attitudes, subjective norms*, and the *perceived behavioral control*. While the *attitudes* are formed by the person's own evaluation of an objective behavior, the *subjective norms* are related to the perception that the person has towards social pressure when performing the behavior. Therefore, this model offers a more complete analysis and vision of the evaluation of attitudes. Furthermore, Novo Corti et al. (2012) adds that this model offers an alternative to the assessment of attitudes through factor analyzes as those of Akrami, Ekehammar, Claesson, & Sonnander, (2006) or Scior & Furnham, (2011). Therefore, we consider relevant to base our research on this model, in which the *intention* highlights as determinant of behavior (Steinmetz, Knappstein, Ajzen, Schmidt, & Kabst, 2016), focusing on university students in terms of the behavior of including colleagues with disabilities in the university.

Objetives

In this way, our work emerges as a proposal to respond to these needs, among which it is important to have objective, reliable and valid instruments to evaluate the attitudes of university students towards their peers with disabilities within the framework of Higher Education, following the model of *Theory of Planned Behavior*. Therefore, the general objective is to develop an instrument with the maximum methodological rigor to provide evidence of validity and reliability, which will allow to evaluate the attitudes of university students regarding the behavior of including students with disabilities.

Method

Participants

In this study a total of 1,044 university students from different careers and levels participated, of which 623 study in Spanish universities and 421 in Argentine universities. The criteria for inclusion were: a) Being a student of a Spanish or Argentine university, and b) Not having a disability. Regarding the distribution according to the gender with which they identify, a higher representation of women was revealed (n = 762, 73%) than of men (n = 275, 26%) and of people with transgender identities (n = 3, 0.29%). The fact that there is a higher percentage of women participants, it may be due to the degrees which we have had access to; in which the female gender usually predominates (e.g., Childhood Education, Nursing, Social Work, etc.). According to the ages, they ranged between 17 and 64 years, with an average of 23.51 years (SD = 6.34). If we analyze the most significant percentages, we observe that 61.5% of the participants are between the ages of 19 and 23 years.

Likewise, the largest percentage of participants in this research, study degrees related to Education (Teaching in Childhood Education, Primary Education and Social Education) with a 24,7% (n = 258), followed by Social Work with a 14,8% (n = 154), Law or Advocacy with a 14.1% (n = 147), students for Teaching degree of different specialties with a 10,3% (n = 108) and Engineering and Architecture with a 10,3% (n = 108), as can be seen on Table 1 below.

Table 1. Degrees grouped according to the knowledge of the participating students of the Spanish and Argentine universities

Degrees grouped	N	%
Educación	258	24,7
Trabajo Social	154	14,8
Derecho - Abogacía	147	14,1
Ciencias de la Salud	146	14
Profesorado	108	10,3
Ingeniería y Arquitectura	108	10,3
Pedagogía y Psicopedagogía	26	2,5
Administración y Economía	25	2,4
Ciencias Políticas	15	1,4
Artes y Humanidades	14	1,3
Ciencias Comunicación	13	1,2
Ciencias Sociales	10	1
Ambientales y Ecología	5	0,5
Perdidos	15	1,4
Total	1044	100

Instrument

The instrument used was the scale developed following the theoretical framework of the *Theory of Planned Behavio*r. The process of construction of this scale was meticulous with which it was tried to verify *content validity* through the application of four criteria: the r*evision of the scientific literature*, the *interjudge agreement*, the *validation and reformulation of the items* according to the results of the pilot test and the discussion group and, finally, the *analysis of the discriminative power of the items (Kruskal-Wallis test and χ2).*

The request to the expert judges took place between September 2013 and March 2014, in which eight professors from the University of Valladolid and the University of Salamanca participated, some of them members of the ' *Institute on Community Integration'* (INICO), experts in Psychology, Pedagogy and Disability. From the evaluation carried out by the judges, was extracted, the pilot scale that was tested in a group of 57 participants to check students' comprehension of the items. From the extracted results, the need to modify the wording of some of the items was evidenced. To do this, a focus group with experts was held who gave us concrete insights for its reformulation. In this way we obtained the version of the scale with which we collected the data of the final sample (N = 1044). This scale consists of

41 *items* (see Table 2) that define observable, concrete, and understandable aspects related to the behavior of including peers with disabilities in university. Enunciated with declarative format in the first person and arranged around *four dimensions* (Attitudes, Subjective Norms, Perceived Behavioral Control, and Intention) that support the theoretical construct of the *Theory of Planned Behavior* and with a response format *Likert scale* of six points (thus avoiding the central tendency) for each of these dimensions:

1) *Intention:* 1. Strongly Disagree (TDS); 2. Disagree quite a lot (BD); 3. Somewhat Disagree (AD); 4. Somewhat agree (AA); 5. Quite agree (BA); and 6. Strongly agree (TA).

2) *Attitudes:* 1. Totally unlikely (IT); 2. Fairly Unlikely (BI); 3. Somewhat unlikely (AI); 4. Somewhat probable (AP); 5. Fairly Probable (BP); 6. Totally probable (TP).

3) *Subjective Norms*: 1. None (N); 2. Almost none (CN); 3. Little (P); 4. Some (A); 5. Fairly (B); 6. A lot (M).

4) *Perceived Behavioral Control*: 1. Strongly Disagree (TDS); 2. Disagree quite a lot (BD); 3. Somewhat Disagree (AD); 4. Somewhat agree (AA); 5. Quite agree (BA); and 6. Strongly agree (TA).

Table 2. *Attitudes Scale towards the inclusion of people with disabilities in Higher Education.*

Intention
I1. Me gustaría que mi universidad realizara programas de sensibilización para mejorar la inclusión de las personas con discapacidad en la universidad.
I2. Quiero participar en programas de apoyo a estudiantes con discapacidad en la universidad.
I3. Me gustaría trabajar con un/a compañero/a con discapacidad durante el periodo de estudios universitarios.
I4. Si tuviera compañeros/as con discapacidad, les ayudaría cuando me lo demandasen.
I5. Si tengo amistad con un/a compañero/a con discapacidad, intento estar con él/ella también fuera del entorno universitario.
I6. Promuevo las ventajas de ayudar a las personas con discapacidad entre mi familia y amigos.
I7. Sabría explicar cinco razones por las que es beneficioso incluir a compañeros/as con discapacidad en mi clase.
I8. No me importaría tener compañeros/as con discapacidad en mi clase.
I9. Asisto a programas de formación para aprender sobre temas relacionados con discapacidad.
I10. Si tuviera un/a compañero/a con discapacidad en mi clase, le propondría formar parte de mi equipo.
I11. Me gusta que las personas con discapacidad puedan estudiar en mi universidad.
I12. Si tuviera un compañero/a con discapacidad en mi clase, me gustaría que se sintiera como uno más de la clase.

Attitudes
A1. A mi familia no le importaría que hiciera trabajos de la carrera con compañeros/as con discapacidad.
A2. La ayuda a las personas con discapacidad es un problema que debe afrontar e intentar resolver la persona y su propia familia.
A3. Si hubiera personas con discapacidad en mi clase, sufrirían discriminación.
A4. Si se incluyera a personas con discapacidad en mi clase, se reduciría la calidad de las clases.
A5. Es una pérdida de tiempo ayudar a las personas con discapacidad.
A6. Estoy a favor de que el alumnado con discapacidad tenga oportunidades de estudiar mi carrera.
A7. La inclusión de un/a compañero/a con discapacidad en mi clase es una oportunidad para entablar una nueva amistad.

A8. Las ventajas de incluir a personas con discapacidad en la universidad superan a las desventajas.
A9. Me preocupa que las personas con discapacidad tengan dificultades para acceder a mi carrera universitaria.
A10. Si un/a compañero/a con discapacidad necesitase ayuda, sería importante que yo le ayudara
A11. Me preocupa no saber cómo incluir a un/a compañero/a con discapacidad en clase.

Subjective Norms

NS1. En la universidad nos enseñan a ayudar a quienes lo necesitan
NS2. Creo que a mis compañeros/as de clase les gustaría que ayudara a otros compañeros/as con discapacidad.
NS3. Mis compañeros sin discapacidad piensan que incluir a un/a compañero/a con discapacidad puede tener inconvenientes.
NS4. Las personas cuyas opiniones valoro, aprobarían que tuviera amigos con discapacidad.
NS5. La mayoría de personas que son importantes para mí están en contra de que ayude a los compañeros/as con discapacidad.
NS6. Se espera de mí que ayude a mis compañeros/as con discapacidad si lo necesitaran.
NS7. Mi vida social se ve perjudicada cuando estoy con personas con discapacidad.
NS8. Las opiniones de los profesionales especialistas en discapacidad son importantes para el desempeño de mi futuro trabajo.
NS9. Me sentiría presionado si tuviera que incluir en actividades comunes de clase a un compañero/a con discapacidad

Perceived Behavioral Control

CCP1. Para mí es fácil incluir a personas con discapacidad en mi clase cuando alguien me explica cómo tengo que hacerlo.
CCP2. Mi universidad tiene los recursos para que haya una inclusión eficaz de estudiantes con discapacidad.
CCP3. Si tuviéramos a un compañero/a con discapacidad, nos informarían sobre su discapacidad.
CCP4. Estoy seguro/a de que si quiero puedo ayudar a mis compañeros/as con discapacidad.
CCP5. La decisión de incluir a personas con discapacidad en mis trabajos de clase dependería de otras personas.
CCP6. Tengo los recursos, los conocimientos y la capacidad para poder incluir a las personas con discapacidad en mi clase.
CCP7. Entiendo lo que es la inclusión de las personas con discapacidad, tanto en la teoría como en la práctica.
CCP8. Es difícil incluir a compañeros con discapacidad en la universidad.
CCP9. Si tuviera un/a compañero/a con discapacidad y necesitara ayuda, me gustaría ayudarle pero no sabría cómo hacerlo

These four dimensions try to explain and predict a behavior, which in this case is to include people with disabilities in university (see Figure 1). According to Ajzen, (2011, 2012) and the *TPB*, human actions are mainly influenced by three factors: A favorable or unfavorable evaluation towards the behavior 'Attitudes' (beliefs towards behavior), the perceived social pressure to perform or not a behavior 'Subjective norms' (beliefs of the individual about social norms or what others think of them) and the perceived ability to perform a behavior or 'Perceived Behavioral Control' (the beliefs that the person has about the difficulty or ease to carry out a certain behavior) (Ajzen, 2006, Ajzen & Fishbein, 2005). The combination of these variables (the attitudes, the subjective norms, and the perceived behavioral control) originates the formation of the intention to perform a behavior and, therefore, the behavior. In this way, we can predict the behaviors related to the inclusion of people with disabilities.
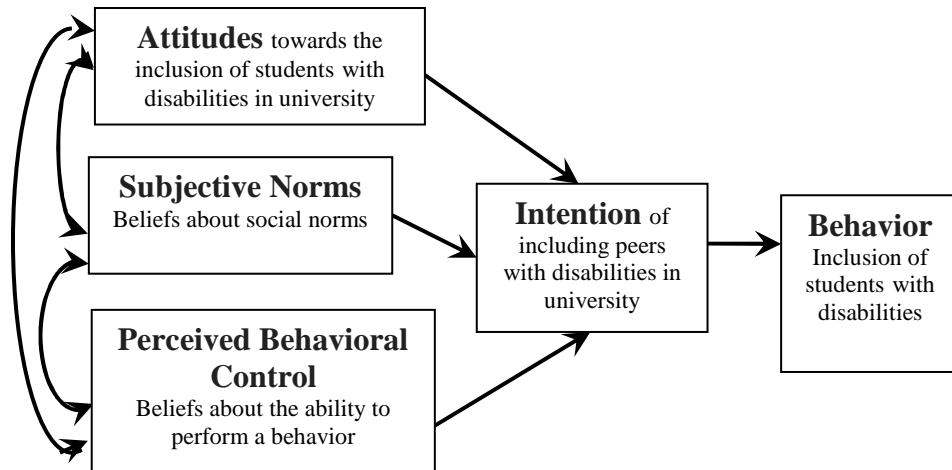
Figure 1. *Model of the Theory of Planned Conduct for the aim of this research (adapted from Ajzen, 2006)*

These items of the scale (shown above in Table 2) are preceded by brief instructions and a section where data is collected, referring to the following variables: *Age, Sex / Gender (1. Male, 2. Female, and 3. Other (transgender identities), currently studying (career and year)*. In addition to collecting this information, we also ask if they know people with disabilities: *Do you have any contact with people with disabilities? (1. Yes, 2. No); If you have contact with people with disabilities, state the reason (1. Familiy2. Study partner, 3. Work, 4. Assistance, 5. Leisure / friendship, 6. Other reasons), the frequency (1. Almost permanent, 2. Usual, 3. Frequent, 4. Sporadic) and the type of the disability of the people with whom in contact (1. Physical, 2. Hearing, 3. Visual, 4. Intellectual, 5. Multiple).*

Procedure

The selection of university students, both in Spain and in Argentina, was carried out through an incidental *non-probabilistic sampling* (*convenience sample*) given the impossibility of random sampling in practice. We contacted the university faculty to whom we had access, and with the people who agreed to collaborate, we applied the scale to their students both in person and *online*. In the cases in which the application was face-to-face, the researcher was present and the necessary copies of the paper scale were provided. On the other hand, in those cases in which the application was online they were provided with a link, to the virtual scale developed, in the *LimeSurvey* program. Subsequently, the *snowball* strategy was used, as some people were encouraged to participate in the research. For this reason, we can-

not affirm that a 'sampling' has been carried out in the strict sense of the word, but rather the criterion taken was the access and availability of the participants (i.e., university students without disabilities of the centers). Also, considering the characteristics of people who we wanted to assess (over 18 years), it has not been necessary to request authorization from the Committee for Bioethics at the University of Valladolid or Bioethics Committees Argentine universities. The confidentiality of the data and the exclusive use of the same for research purposes were guaranteed.

Data Analysis

The analysis of the data was carried out using the statistical package SPSS 15 and LISREL 8.8. The method we used to analyze reliability and construct validity (internal structure of the scale) was the *Confirmatory Factor Analysis* (CFA), which has become one of the most used procedures in social science research (Arias, 2008). The CFA is a procedure of analysis framed in the *Structural Equation Modeling* (*SEM*). We apply these procedures because they allow us to know the degree to which the relationships between the items correspond to the construct we intend to evaluate (Gómez, 2010), that is, to compare to what extent a set of indicators are related to one or more latent variables (observables) or factors and the support these provide to a theoretical model (Arias, 2008).

Results

Analysis of the reliability and validity of the instrument

The *Confirmatory Factor Analysis* procedure has been applied to the data we retrieved from university students (N = 1044) with the Scale. These answers have allowed us to compare whether the instrument is valid and reliable to measure the *intention* of university students to *include people with disabilities in university*. Before starting with the CFA procedure, we verified through *Kaiser-Meyer-Olkin (KMO)* sample adequacy test and the *Bartlett's sphericity test* that all the indices of the items altogether, indicate the suitability for carrying out the *Factorial Analysis*. The results obtained were of a *KMO* index, in the total of the scale of 893, and significance (p) in all the factors of $p \leq, 001$. Likewise, descriptive analysis of the items was carried out (see Table 3) and indices of skewness ('Asi') and kurtosis ('Cu') were obtained close to zero and below the value 2, which indicates similarity to the normal curve

(they were fulfilled in most cases except for the kurtosis of *Intention* = 4.46 and of *Attitudes* = 5.03).

Table 3. *Descriptive statistics of Scale scores*

													P 25	P 50	P 75		
								Descriptive statistics									
DIM	N	M	ETM	Mdn	Mod	Mn	Mx	PMT	Var	DT	Rn	P 25	P 50	P 75	Asi	Cu
INT	988	58,99	0,27	60	62	12	72	36	69,78	8,35	60	55	60	65	-1,51	4,46
ACT	987	44,12	0,15	44	46	11	61	33	21,47	4,63	50	42	44	47	-1,04	5,03
NS	1004	31,14	0,14	31	33	13	44	27	19,11	4,37	31	29	31	34	-0,29	0,64
CCP	1007	36,15	0,15	36	37	14	54	27	22,18	4,71	40	33	36	39	-0,2	0,99
Total	893	170,42	0,48	172	171	100	209	123	205,64	14,34	109	162	172	181	-0,78	1,33

Note: M = Mean, ETM = Typical Measurement Error, Mdn = Median, Mod = Mode, Mn = Minimum, Mx = Maximum, PMT = Theoretical Middle Point, Var = Variance, DT = Typical Deviation, Rn = Range, P = Percentiles, Asi = Skewness, Cu = Kurtosis.

Regarding the *evidences of validity of the instrument based on the content*, we provide the evidence previously presented (*bibliographic review, analysis of interjudge agreement, validation and reformulation according to pilot test, and focus group*) and, on the other hand, the results obtained the *discriminating power of the items* of the *non-parametric Kruskal-Wallis test* and the χ2 (the larger this value is, the more discriminating power the item has) that support the usefulness of the Scale to assess the intention of university students to include people with disabilities in University. Our objective in analyzing the *discriminating power of the items* was to determine if these allowed to discriminate between previously established groups (those derived from taking the C_{25} and C_{75} as cut points) in each of the four dimensions (*Intention, Attitudes, Subjective Norms and Perceived Behavioral Control*) and in the total score of the Scale. From the results obtained, we highlight that all the contrasts were significant (p =, 000) in all the items, in each of the dimensions and in the total of the scale. In this way, we conclude that all the items have discriminating power among the groups of people with *low, medium, and high scores.*

In relation to the *evidence* provided on the *construct validity based on the internal structure of the Scale*, we studied the results obtained from the tests carried out using the *Con-*

firmatory *Factor Analysis* (CFA). On the one hand we study the "Model 1" following the *Theory of Planned Behavior* in which *three latent factors* are shown (*Attitudes, Subjective Norms, Perceived Behavioral Control*) which in turn compose the *Intention factor*, constituting these four variables with a *total* of 41. The results that we found in *Model 1* (see table 4) were that, in some dimensions, the predictive precision was not adequate for the construct seek to measure, nor was there a good-fit to the model. After conducting such evaluation of the model, we determine that modifications were necessary to be made.

Table 4. Factorial loads (λ), coefficients of determination (R²), prediction errors (θ) and values of t, in relation to the items with Subjective Norms and Perceived Behavioral Control of Model 1

Estimation of the parameters of Model 1								
Intention					*Attitudes*			
Item	λ	R²	Θ	T	Item	λ	R²	Θ	t
Int01	0,08	0,01	0,99		*Act01*	0,05	0	1	1,34
Int02	0,01	0	1	0,24	*Act02*	0,02	0	1	0,73
Int03	0,53	0,28	0,72	2,26	*Act03*	0,26	0,07	0,93	7,81
Int04	0,56	0,31	0,69	2,27	*Act04*	0,38	0,15	0,85	11,77
Int05	0,59	0,35	0,65	2,27	*Act05*	0,64	0,41	0,59	21,27
Int06	0,33	0,11	0,89	2,22	*Act06*	0,57	0,33	0,67	18,39
Int07	0,22	0,05	0,95	2,14	*Act07*	0,65	0,43	0,57	21,70
Int08	0,08	0,01	0,99	1,62	*Act08*	0,6	0,36	0,64	19,69
Int09	0,05	0	1	1,19	*Act09*	0,48	0,23	0,77	14,88
int10	0,65	0,43	0,57	2,27	*Act10*	0,55	0,30	0,70	17,59
int11	0,01	0	1	0,39	*Act11*	0,76	0,58	0,42	26,45
int12	0	0	1	0,11					
Subjetive norms					*Perceived Behavioral Control*			
Item	λ	R²	Θ	T	Item	λ	R²	θ	t
Ns01	0,9	0,81	0,19	36,04	*Ccp01*	0,49	0,24	0,76	15,82
Ns02	0,59	0,35	0,65	20,08	*Ccp02*	0,36	0,13	0,87	11,12
Ns03	0,40	0,16	0,84	12,77	*Ccp03*	0,33	0,11	0,89	10,21
Ns04	0,57	0,33	0,67	19,3	*Ccp04*	0,69	0,47	0,53	23,98
Ns05	0,59	0,34	0,66	19,89	*Ccp05*	0,38	0,14	0,86	11,96
Ns06	0,66	0,43	0,57	22,88	*Ccp06*	0,41	0,17	0,83	12,86
Ns07	0,58	0,33	0,67	19,49	*Ccp07*	0,72	0,52	0,48	25,47
Ns08	0,55	0,30	0,70	18,26	*Ccp08*	0,54	0,29	0,71	17,75
Ns09	0,68	0,46	0,54	23,92	*Ccp09*	0,85	0,72	0,28	32,27

In this way, we made modifications on the factorial structure and estimated *Model 2*:

- The dimension 'Intention' is explained by the indicators *int_03, int_04, int_05, int_06, int_07 and int_10.*

- The dimension 'Attitudes' is explained by the indicators *act_04, act_05, act_06, act_07, act_08, act_09, act_10 and act_11.*

- The dimension 'Subjective norms' is explained by the indicators *ns_01, ns_02, ns_03, ns_04, ns_05, ns_06, ns_07, ns_08, ns_09, ccp_01 ("It is easy for me to include people with disabilities in my class, when someone explains to me how I have to do it) and ccp_06 ("I have the resources, knowledge and ability to be able to include people with disabilities in my class").*

- The dimension 'Perceived Behavioral Control' is explained by the indicators *ccp_01, ccp_02, ccp_03, ccp_04, ccp_05, ccp_06, ccp_07, ccp_08 and ccp09.*

- *The intention dimension* is not explained by the variables *Attitudes, Subjective Norms and Perceived Behavioral Control* because factor loads are almost non-existent (βAct = 08, βNS = .09; βCCP =, 03) and, moreover, the values of t are all below 1.96 (tAct = 1.94, tNS = 1.39, and tCCP =, 50). In this way we verify that the hypothesis of that the *intention* variable is explained or depends on the other variables, is not met.

In addition to these variations in the items, the covariance of the error and their correlations in the items ccp_01 and ccp_07; int_04 and int_06; ns_01 and ns_05; and ns_03 and ns_05, were considered, thus improving the adjustment statistics and the reliability of the coefficients.

Regarding the results in the estimation of the parameters and the evaluation of the goodness of fit of the model (see Table 5), we observe that the λ factor loadings (indicate the direction and strength of the relationship between the factor and each indicator) exceeded the value of 50, and all of them were statistically significant with values higher than 2.58 (p <, 01). As for the prediction errors θ, they oscillate between, 17 and, 96 (therefore, their coefficients of determination R^2 are between, 049 and, 83). In this way the results are acceptable and show a better fit with this model. As for the goodness of fit, the results obtained in *NNFI, CFI and IFI* reach values higher than, 90, *RMSEA* of 0.66 and χ2 of 2531.79 with 452 degrees of freedom (p =, 00). Therefore, we conclude that the adjustment of our data to the model is adequate.

Estimation of the parameters of Model 2								
Intention					*Attitudes*			
Item	λ	R²	θ	T	*Item*	λ	R²	θ	t
Int03	0,55	0,30	0,70		*Act04*	0,37	0,14	0,86	11,4
Int04	0,49	0,24	0,76	10,74	*Act05*	0,64	0,41	0,59	21,24
Int05	0,61	0,37	0,63	11,96	*Act06*	0,55	0,33	0,67	18,43
Int06	0,22	0,05	0,96	5,56	*Act07*	0,65	0,43	0,57	21,71
Int07	0,23	0,05	0,95	5,95	*Act08*	0,6	0,36	0,64	19,68
Int10	0,68	0,46	0,54	12,24	*Act09*	0,48	0,23	0,77	14,90
					Act10	0,55	0,30	0,70	17,59
					Act11	0,76	0,58	0,42	26,41
Subjetive norms					*Perceived Behavioral Control*			
Item	λ	R²	θ	T	*Item*	λ	R²	θ	t
Ns01	0,91	0,83	0,17	36,72	*Ccp01*	0,51	0,2	0,8	10,67
Ns02	0,59	0,35	0,65	20,3	*Ccp02*	0,36	0,13	0,87	11,25
Ns03	0,38	0,15	0,85	12,32	*Ccp03*	0,33	0,11	0,89	10,33
Ns04	0,56	0,32	0,68	19,18	*Ccp04*	0,70	0,49	0,51	24,4
Ns05	0,65	0,42	0,58	21,72	*Ccp05*	0,37	0,14	0,86	11,55
Ns06	0,65	0,43	0,57	23,06	*Ccp06*	-0,09	0,31	0,69	-2
Ns07	0,58	0,34	0,66	19,90	*Ccp07*	0,69	0,48	0,52	23,96
Ns08	0,55	0,30	0,70	18,43	*Ccp08*	0,54	0,29	0,71	17,63
Ns09	0,66	0,44	0,56	23,47	*Ccp09*	0,88	0,77	0,23	33,48

In relation to the results in the composite reliability, which allows us to evaluate how rigorously the indicators (manifest variables) measure the latent variable, in the total of the model, indicate that the instrument accurately measures the construct (pc =, 933). In terms of internal consistency, we obtain α of Cronbach =, 72 being adequate as explained by Nunnally, & Bernstein, (1994). On the other hand, analyzing the *correlation coefficients* between the latent variables of 'Model 2' (see Table 6), the results demonstrate that all correlations (r) are adequate because they are comprised between, 09 and, 47 in relation to the content of the pair of latent constructs. This means that each variable measures a different construct and that there is no multicollinearity between them, so these indices give us more evidence about the validity of the scale. It is also important to note that the variables that share the most correlation are *Intention* and *Attitudes* (r =, 47), as would be expected, and those that share least correlation are *Subjective Norms* and *Intention* with an r =, 09.

Table 6. *Correlation coefficients between the latent variables of Model 2*

	ACT	NS	CCP	INT
INT	0,47	0,09	0,21	1,00
ACT	1	0,16	0,15	0,47
NS	0,16	1,00	0,28	0,09
CCP	0,15	0,28	1,00	0,21

Analysis of the scores in the dimensions according to the sociodemographic variables

The scores obtained from the responses of university students without participant disability were analyzed by means of: descriptive statistics, difference of means and Analysis of Variance (ANOVA). The *distribution of the scores* of the participants around the four dimensions of the scale, verify that the results of the university students towards the inclusion of the students with disabilities in the university are *positive* (distributions with negative skewness that lead to reject the normality hypothesis; most medians are between 5 and 6 for positive valence items and 1 and 2 for negative valence items; the means, modes and medians of items are above the theoretical midpoint, etc.). If we analyze the answers according to the "gender", we observe that there are significant differences in favor of women in the scores of almost all the dimensions *(Subjective Norms, Perceived Behavioral Control and Intention)* except in the *Attitudes* dimension (t = - 1.6, p =, 100, d = 978), with results in the group of women of M = 44.2 and SD = 4.7 and in the group of men M = 43.7 and SD = 4.4.

In relation to 'age', the analysis of variance showed that *there were significant differences* between the different *age* groups in all dimensions of the scale, except in *Attitudes*. In contrast, with *Scheffe post hoc test no significant differences* are obtained in the dimensions according to the *age* groups. Regarding 'nationality' (*Spanish or Argentine*), we observe that *there are significant differences in all dimensions*. Students of *Spanish* nationality obtain slightly *higher* scores in *Subjective Norms* and *Perceived Behavioral Control* and students of *Argentine* nationality, in *Attitudes and Intention*.

According to the 'university degree' of the participating students, the results of the *Levene F test* in the dimensions verify that the assumption of homoscedasticity or equality of variances is not fulfilled. In this way we use the *Brown-Forsythe* and *Welch test* with which we observed that there are significant differences in all the dimensions according to the

formed groups. Subsequently, we applied the *Games - Howell post hoc test* with which we can make a more specific study of which groups are according to *degrees* and where these differences occur within each dimension. We found that the *Subjective Norms* dimension (20) is where the most significant differences between the groups are found, followed by the *Intention* dimension (11), *Perceived Behavioral Control* (4) and, finally, *Attitudes* (3). In the *Perceived Behavioral Control* dimension, stands out the fact that there are significant differences between '*Education'* and *'Social Work'* on the one hand, and on the other 'Education' and '*Teaching*', since these areas of knowledge are related *a priori*. The degrees that reached a higher *median* were:

- In the *Attitudes* dimension, '*Arts and Humanities*' (Me = 49; M = 47.8), '*Social Sciences*' (Me = 48; M = 47.3) and '*Communication Sciences*' (Me = 47, 8; M = 46.9).

- In the *Subjective Norms* dimension, '*Pedagogy and Psycho-pedagogy*' (Me = 33; M = 33.3), '*Education*' (Me = 33; M = 33.1), '*Health Sciences*' (Me = 33; M = 32.7) and '*Social Work*' (Me = 33; M = 32.4).

- In the *Perceived Behavioral Control* dimension, '*Arts and Humanities*' (Me = 39; M = 36.4), '*Communication Sciences*' (Me = 38.5, M = 38.3) and '*Education'* (Me = 38; M = 37.4).

- In the *Intention* dimension, '*Pedagogy and Psycho-pedagogy*' (Me = 66, M = 65.1), '*Social Sciences*' (Me = 64, M = 55.8), '*Social Work*' (Me = 63, M = 61.3) and '*Arts and Humanities*' (Me = 62; M = 59.4).

In relation to the variable 'contact with people with disabilities', there are only *significant differences in favor* of the group of students without disabilities who *do have contact with people with disabilities* in the *Intention* dimension. In the other dimensions there are no differences between the two groups.

Discussion and Conclusions

In the recent literature, the measurement of attitudes is a subject of study that has gained relevance in recent years (Araya Cortés, González Arias & Cerpa Reyes, 2014, Rodríguez Martín & Álvarez Arregui, 2015, Salinas, 2014, Suriá, Villegas, & Rosser, 2016). This is because it is considered one of the most influential factors in the educational and social inclusion of people with disabilities. In this way, with our research we contribute to analyze the attitudes of university students, which allows us to become aware of the beliefs concerning the inclusion of students with disabilities and thus to be able to design programs appropriate to work on these specific aspects or evaluate programs that are already being applied to prove its effectiveness.

From the obtained results from the application of the scale to 1044 students without disabilities of Spanish and Argentine universities, and from the Confirmatory Factor Analysis, satisfactory indices in reliability and validity have been obtained. First, evidence has been provided to support the validity of the instrument based on the content (e.g., exhaustive bibliographic review, analysis of interjudge agreement, validation, and formulation of items according to results of discussion groups, etc.). Likewise, the discriminative power of the items was verified by the *nonparametric Kruskal-Wallis test* with results, in which all the contrasts were significant (p =, 000).

In relation to the evidence provided on the validity construct based on the internal structure of the Scale, on the one hand we studied the "Model 1" which did not obtain good adjustments to the model or adequate parameters, so it was modified and the constituted the so-called "Model 2". With this second model adequate adjustment indices are obtained with values higher than 90 in NNFI, CFI and IFI and RMSEA of, 66 and $\chi 2$ of 2531.79 with 452 degrees of freedom (p =, 00). In addition, the analyzes on composite reliability were good (pc =, 933). From these analyzes we also extracted another conclusion, that is, there is very little influence of the latent variables *Attitudes* (β =, 08), *Subjective norms* (β =, 09) and *Perceived Behavioral Control* (β =, 03) on the variable *Intention*, and that therefore, the latter does not depend on the other three. Novocorti et al., (2011) agrees with our results that the variable *attitudes* have little importance as an explanatory variable of the *intention* ($\beta 1$ =, 07) although in its case the rest of the variables do influence $\beta 2$ =, 43 (*Subjective Norms*) and $\beta 3$ =, 23 (*Perceived Behavioral Control*). In a subsequent investigation of Novocorti et al., (2015),

reflected that the influence of the latent variables, on the intention variable is in *Attitude* of β1 = .174, in *Subjective Norms* it is of β3 = .236, and in the variable *Perceived Behavioral Control* is of β2 = .520. Therefore this last variable, the control that a person has over his/her ability to support the inclusion of people with disabilities, is the one that has more influence on the intention, but the rest of the variables do not have much influence.

If we observe the results in comparison with the different sociodemographic variables that we considered in this research, in terms of 'gender' we find that there are no significant differences between men and women in the *Attitudes* as Moreno et al. (2006) found in their research. In the rest of the variables (*Subjective Norms, Perceived Behavioral Control, and Intention*), significant positive differences were found in the group of women as Novocorti et al., (2015) stated. As for 'nationality' (*Spanish or Argentine*), we highlight the fact that there are *significant differences in all dimensions*. In the Spanish sample higher scores are given in beliefs about Social Norms (i.e., Subjective Norms) and in the perception they have about themselves, when carrying out the behavior (i.e., Perceived Behavioral Control), and among the Argentine sample, slightly favorable scores are obtained in beliefs about the inclusion of people with disabilities (i.e., Attitudes) and the predisposition to include these people (i.e., Intention).

On the other hand, we consider relevant the analysis of 'contact with people with disabilities' variable because, according to literature, it is one of the variables that most influences the formation of attitudes (Arias et al., 2013; Suria, 2011). Both direct and indirect experiences lead to the development of beliefs and thoughts about people with disabilities that, in turn, influence behaviors. In this sense, we found that in our study, there are significant differences between people who have had contact obtaining more favorable responses in the intention to include people with disabilities. Therefore, in universities, it is important the existence of more spaces or programs in which knowledge, information, and relationships with people with disabilities are encouraged, and in which the diversity approach is offered as an opportunity. In this way, we will constantly encourage a greater and better inclusion.

Regarding the *limitations* of this work, we consider interesting that the results obtained are contrasted with the opinion of the students with disabilities of the universities that have participated in the research. In this sense, this research is continued with the development of a second phase of qualitative cut, that will allow to complement and understand with greater

depth, the researched subject. Likewise, it is expected that the results presented in this article serve as a guide for future researches, considering fundamental, the application and validation of this instrument in other university contexts.

Acknowledgments

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