

Do Students in Extremadura Have Different Attitudes Towards the Inclusion of Students with Disabilities in Physical Education Classes When Contact with Them Before?

¿Tienen los alumnos extremeños actitudes diferentes hacia la inclusión de alumnos con discapacidad en las clases de Educación Física cuando han tenido contacto con ellos anteriormente?

Serafin Delgado-Gil

Universidad de extremadura, España

serafdel@unex.es

<https://orcid.org/0000-0002-1909-0531>

Carlos Mañanas-Iglesias

Universidad de extremadura, España

cmaanasi@alumnos.unex.es

<https://orcid.org/0000-0002-2499-1473>

Carmen Galán-Arroyo

Universidad de extremadura, España

mamengalana@unex.es

<https://orcid.org/0000-0001-8750-0267>

Jorge Rojo-Ramos

Universidad de extremadura, España

jorgerr@unex.es

<https://orcid.org/0000-0002-6542-7828>

Fecha de Recepción: 12 de Febrero de 2024

Fecha de Aceptación: 23 de Mayo de 2024

Fecha de Publicación: 10 de Julio de 2024

Financiamiento:

La investigación fue autofinanciada por los autores

Conflictos de interés:

Los autores declaran no presentar conflicto de interés.

Correspondencia:

Nombres y Apellidos: Serafin Delgado-Gil

Correo electrónico: serafdel@unex.es
Dirección postal: España

Abstract: Physical Education is a medium to develop an educational model that includes people with disabilities. Despite their suitability, negative attitudes towards the inclusion of students with disabilities are one of the main obstacles that limit their full physical, psychological and social development. Stereotypes and past experiences with people with disabilities can modulate the attitudes of their non-disabled peers. The main aim of this study was to analyze the attitudes of students in Extremadura towards disabilities in the subject of physical education to assess differences in the presence or absence of contact and participation in physical activities with students with disabilities. The sample consisted of 889 students from public schools in Extremadura, from Secondary to Baccalaureate stages, who completed attitudes towards inclusion of students with disabilities in physical education questionnaire (AISDPE). The Mann-Whitney U test was carried out to establish differences in scores according to the presence or absence of contact and participation in physical activities with people with disabilities, as well as the correlation between age and scores on the two dimensions of AISDPE using Spearman's Rho test. The results showed overall good scores for inclusion and only selectively significant differences with lower scores for those students who had no contact or did not participate in physical activities with students with disabilities. Greater awareness of these situations leads to specific strategies being initiated in Extremadura to improve student attitudes and enable the successful inclusion of people with disabilities in the current educational model.

Keywords: inclusion; attitudes; previous experiences; physical education; disabilities

Resumen: *La Educación Física es un medio para desarrollar un modelo educativo que incluya a las personas con discapacidad. A pesar de su idoneidad, las actitudes negativas hacia la inclusión de alumnos con discapacidad son uno de los principales obstáculos que limitan su pleno desarrollo físico, psicológico y social. Los estereotipos y las experiencias pasadas con personas con discapacidad pueden modular las actitudes de sus compañeros no discapacitados. Objetivo: El objetivo principal de este estudio fue analizar las actitudes de los alumnos de Extremadura (España) hacia la discapacidad en la asignatura de educación física para valorar las diferencias en la presencia o ausencia de contacto y participación en actividades físicas con alumnos con discapacidad. Método: La muestra estuvo formada por 889 estudiantes de centros públicos de Extremadura, de las etapas de Secundaria a Bachillerato, que cumplimentaron el cuestionario de actitudes hacia la inclusión de estudiantes con discapacidad en la asignatura de educación física (AISDPE). Se realizó la prueba U de Mann-Whitney para establecer diferencias en las puntuaciones según la presencia o ausencia de contacto y participación en actividades físicas con personas con discapacidad, así como la correlación entre la edad y las puntuaciones en las dos dimensiones del AISDPE mediante la prueba Rho de Spearman. Resultados: Los*

resultados mostraron en general buenas puntuaciones para la inclusión y sólo selectivamente diferencias significativas con puntuaciones más bajas para aquellos alumnos que no tuvieron contacto o no participaron en actividades físicas con alumnos con discapacidad. Conclusiones: El mayor conocimiento de estas situaciones lleva a iniciar estrategias específicas en Extremadura para mejorar las actitudes del alumnado y posibilitar la inclusión exitosa de las personas con discapacidad en el modelo educativo actual.

Palabras clave: *inclusión; actitudes; experiencias previas; educación física; discapacidades.*

1. Introduction

Past experiences affect our level of knowledge about the world around us and can influence present and future behavior. Although today there is a large body of knowledge about people with disabilities, situations of discrimination and segregation continue to manifest themselves. We have evolved from these segregationist models towards a psychosocial model, in which it is determined that disabilities are the result of interaction with the environment establishing the focus on society, its structure and its vision, rather than on the actions that people with disabilities cannot do [1–4]

These beliefs can be changed through an educational model that includes people with disabilities as agents of knowledge for life in society, rather than agents of creating inequality[5]. Understanding disability as a result of the interaction between people who have a health problem and their contextual factors, inclusive education aims to promote the removal of barriers to participation and achievement for all learners, taking into account the diversity of their needs, abilities and characteristics, and eliminates all forms of discrimination in learning, ensuring a quality education for all students[6,7]. In Spain, the institutions follow the educational model that emphasizes the value of inclusion through regional (Decree 228/2014 in Extremadura [8]) and state laws (Organic Law 8/2013, for the Improvement of Educational Quality[9]) according to the principles of the Convention on the Rights of Persons with Disabilities[10].

In addition to an appropriate regulatory framework to support this educational model, one of the key factors for successful inclusion is a favorable social environment, which includes positive attitudes from social actors such as teachers, peers and parents[11,12]. Attitude is viewed as an environmental factor affecting individual functioning and well-being and can be defined as an emotionally charged idea that predisposes a class of actions to a particular class of social situations[13]. From a more psychological perspective, attitudes can be defined as the psychological tendency expressed by an individual when evaluating a specific event, with a positive or negative tendency. This evaluation process includes thoughts, beliefs, emotions, feelings and intentions [14]. As such, attitudes include behavioral intentions as well as cognitive and emotional components[15]. Negative

attitudes are one of the main obstacles that limit the participation and full inclusion of people with disabilities in society, as they are exposed to stereotypes based on prejudice and false beliefs that label this group as dependent, inferior, antisocial or incapable [16,17]. It has been demonstrated that one of the factors that condition the attitude and predisposition towards inclusion are the previous experiences one has had [18]. The absence of these increases the probability of having a worse attitude towards people with disabilities [19]. In addition, age and gender variables are other factors to be taken into account. Previous studies show that concern for inclusion improves with age [20] although, in other studies, the results have been found to be inconsistent, as some studies find no significant correlations or find that attitude does not improve with age [21]; and that the female gender has a significantly more positive attitude than the male gender [22–24]. On the other hand, other research has found that the gender variable is influenced by other factors, such as the environment in which the student with a disability has been educated [21].

These attitudes can affect the social participation of students with disabilities, which is a critical component of inclusive education for all students, and result in lower social participation than their non-disabled classmates[25]. Typically, they talk to their classmates less often, have fewer friends, and feel lonelier[26]. This could aggravate their situation as disabled children find it more difficult to participate in sports, leisure and physical activities, have lower levels of physical fitness and are more likely to be obese than their non-disabled peers, which can lead to health problems and affect their quality of life [27]

Physical Education (PE) is presented as an appropriate environment to address the inclusive model as a promoter of students' social development, providing a sense of being more part of their own class or school community, helping students with disabilities to improve their physical health and motor development and, and to promote improve general well-being[27,28]. Because of the impact on societal participation and the importance of stigma and stereotypes towards students with disabilities in the specific context of PE, it is interesting to learn how previous experiences with people with disabilities influence the behavioral intentions and the cognitive and emotional components of the attitudes of people without disabilities. Inclusion of students with disabilities in PE classrooms not only brings benefits to them; the scientific literature has shown that the introduction of students with special needs improves the perception of inclusion of normotypical students, in addition to benefiting from the climate of diversity created [20].

To the best of our knowledge, this tool has not been applied in the autonomous community of Extremadura, so it is interesting to develop this study to know the current attitudes of schoolchildren. In view of all the above, the main objective of this study is to assess the attitudes of students in Extremadura towards disabilities in the subject of PE and to assess differences in the presence or absence of contact and participation in physical activities with children with disabilities. A secondary objective is to know the relationship between students' attitudes and their age. Improving awareness of this issue allows for better pedagogical tools

and strategies to improve student attitudes and enable the successful inclusion of people with disabilities in the current educational model.

Based on what was stated in the introduction and our objectives, we propose the following hypotheses:

Hypothesis 1 (H1): higher scores will be obtained in students who have had previous contact with people with disabilities.

Hypothesis 2 (H2): there will be a positive correlation between educational stage and attitudes towards disability.

2. Materials and Methods

2.1. Participants

The sample consisted of 889 students attending PE classes in public secondary schools in Extremadura (Spain). The courses selected ranged from Secondary to Baccalaureate stages. In the sample, 47.3% (n = 423) were boys and 52.4% (n = 466) were girls. The median age was 14.58 years. The participants were selected using a non-probability sampling method based on convenience sampling[29]. Table 1 show the sample sociodemographic characterization The inclusion criteria for the selection of participants were: a) Having informed parental consent. b) Attending compulsory secondary education or high school in public schools in Extremadura, Spain. c) Having a minimum of two years of compulsory secondary education or high school in a public school in Extremadura, Spain. We wanted to differentiate secondary educational stages... More than two years in secondary school implies a higher age.

Table 1. Sample characterization (N = 889).

Variables	Categories	N	%
Gender	Boys	423	47.3
	Girls	466	52.4
Center environment	Rural	470	52.9
	Rural: Boys	225	53.2
	Rural: Girls	245	52.6
	Urban	419	47.1
	Urban: Boys	198	46.8
	Urban: Girls	221	47.4
	1º E.S.O. (12-13 years old)	164	18.4
	1º E.S.O. :Boys	82	19.4
	1º E.S.O. : Girls	82	17.6
	2º E.S.O. (13-14 years old)	168	18.9
	2º E.S.O. : Boys	73	17.3
	2º E.S.O. : Girls	95	20.4
	3 E.S.O. (14-15 years old)	239	26.9
	3 E.S.O. : Boys	124	29.3
3 E.S.O. : Girls	115	24.7	
Grade	4 E.S.O.(15-16 years old)	221	24.9
	4 E.S.O.: Boys	97	22.9
	4 E.S.O.: Girls	124	26.6
	1 BACHILLERATO (16-17 years old)	64	7.2
	1 BACHILLERATO : Boys	32	7.6
	1 BACHILLERATO : Girls	32	6.9
	2 BACHILLERATO (17-18 years old)	33	3.7
	2 BACHILLERATO : Boy	15	3.5
	2 BACHILLERATO : Girls	18	3.9
	Variable	M	SD
Age	14.58	1.49	

N: number; %: percentage; M: Mean; SD: standard deviation; E.S.O Obligatory Secondary Education; Bachillerato: baccaulaureate

2.2. Procedure

To obtain the sample, we accessed the database of public schools of the Department of Education and Employment of the Regional Government of Extremadura and selected all the schools that met the following inclusion criteria: provide Secondary education (from 12 to 16 years of age) and Baccaulaureate (from 16 to 18 years of age) and are public schools. In Spain, the education system is divided into different cycles. The sample participating in this study belongs to Compulsory Secondary Education, which is divided into the first and second cycle of ESO, consisting of two grades each. The first cycle comprises 1st (12-13 years) and 2nd (13-14 years) of ESO and the second cycle 3rd (14-15 years) and 4th (15-16 years) of ESO. This stage is compulsory. This stage is followed by Bachillerato, consisting of 1st (16-17 years) and 2nd (17-18 years).

After all schools had been selected and the e-mail addresses of all schools had been collected, an e-mail was sent to the PE teachers at each school. The e-mail informed the purpose of the study and provided informed parental consent. In this way, schools wishing to participate in the study had to obtain the informed consent of the parents of the students belonging to the classes that agreed to participate in the research. An appointment was later made for the research team to visit the center to manage the questionnaires during PE classes in the presence of the PE teacher via tablet to access the form via a URL link. To ensure understanding of the items, the research team read each of the items and resolved any doubts that arose. The average response time was 80 minutes.

It was decided to elaborate the e-questionnaire with Google Forms tool because it saved costs, avoided waste of paper, allowed all the responses to be stored in the same database, facilitated the distribution of the instrument, and provided a higher response rate, avoiding lost data[30,31]. All data were collected and treated anonymously between the months of January 2022 and April 2022.

2.3. Instruments

The questionnaire consisted of four sociodemographic questions to determine the sex, center environment and age of the participants. The questions to determine the presence or absence of contact and participation in physical activities with people with disabilities were asked "Do you have, or have you had contact with any person with a disability (Family, friend, classmate...)" and "Do you participate or, have you participated in any physical activity with people with disabilities?".

To assess students' attitudes towards inclusion of students with disabilities in PE, was used the Attitudes Towards Inclusion Of Students With Disabilities In Physical Education (AISDPE) questionnaire [32]. This instrument is composed of seventeen items grouped in two dimensions. Dimension 1 "Cognitive perception of children with a disability" consists of seven items and dimension 2 "Behavioral readiness to interact with children with disabilities" consists of ten items (Table 2). The questionnaire uses a Likert scale (1-5), being 1 "strongly disagree", 2 "disagree", 3 "indifferent", 4 "agree", 5 "strongly agree". The authors reported a Cronbach's alpha value of 0.82 for the cognitive component and 0.75 for the behavioral component. This scale was inverted (1 "strongly agree", 2 "agree", 3 "indifferent", 4 "disagree", 5 "strongly disagree") in such a way that the higher the score obtained, the higher the level of disagreement with the statement in the questionnaire, thus indicating a better level of attitude towards inclusion.

Table 2. Distribution of the items of the questionnaire in each dimension.

	Dimensions	Description	Items
2.4. Statistical Analysis	1	Cognitive perception of children with a disability	1, 3, 4, 6, 13, 14 and 15
	2	Behavioral readiness to interact with children with disabilities	2, 5, 7, 8, 9, 10, 11, 12, 16 and 17

Kolmogorov-Smirnov test was used to analyse whether the distribution of the data

met the assumption of normality. The result indicated that this assumption was not met, so non-parametric statistical tests were selected.

In accordance with the objectives of the study, the Mann-Whitney U test and Spearman's Rho test were used.

The Mann-Whitney U test was used to analyse differences in participants' scores on the AISDPE instrument according to the presence or absence of contact with people with disabilities and according to participation or not in physical activities with people with disabilities. When making multiple comparisons with each of the items of the instrument (table 3), the Bonferroni correction was applied, so that a significance level of $p < 0.003$ was established.

The Kruskal-Wallis test was used to analyze the differences between the scores for each of the dimensions of the AISDPE according to educational level. The post-hoc test was used to make comparisons between groups and analyze the existence of statistically significant differences. Spearman's Rho test was used to analyse the relationship between each of the two factors of the instrument and the variable age.

Finally, Cronbach's alpha was used to calculate the reliability of the instrument, and the values established by Nunnally and Bernstein [33] were taken as a reference, considering those between 0.70 and 0.90 to be satisfactory. Continuous variables are presented as mean and standard deviation and categorical variables as number and percentage.

3. Results

Table 3 shows the descriptive data for each of the items and differences obtained according to the presence or absence of contact and participation in physical activity with people with disabilities. In general, there are no differences between the conditions, but significant differences were found among people who have not or have not had any contact with people with disabilities, with lower scores for items "I'll highlight if I participate with people with disabilities in physical activity or sport" and "I prefer not to interact with people with disabilities". Regarding people who do not participate or have not participated in physical activities with people with disabilities, significant differences were found with lower scores on items "Students with disabilities should not participate in regular physical education classes because they could disturb the progress of other classmates" and "I would not participate as a volunteer at a camp for people with disabilities, where I had to help them in the shower, at meals, etc."

Table 3. AISDPE questionnaire scores according to the presence or absence of contact and participation in physical activities with people with disabilities.

Item	Contact with people with disabilities			Participation in physical activities with people with disabilities		
	Yes	No	p	Yes	No	p
	(N = 660) M (SD)	(N = 229) M (SD)		(N = 432) M (SD)	(N = 457) M (SD)	

1. I think that people with disabilities have more difficulty than other people in reaching the same personal and/or professional achievements.	3.19 (1.20)	3 (1.30)	0.048	3.17 (1.23)	3.11 (1.13)	0.394
2. People with disabilities cannot adapt to a competitive environment.	4.19 (1.03)	4.10 (1.10)	0.339	4.21 (1.02)	4.13 (1.07)	0.239
3. I'll highlight if I participate with people with disabilities in physical activity or sport.	3.69 (1.20)	3.40 (1.30)	0.003*	3.65 (1.23)	3.59 (1.22)	0.448
4. Blind people must always receive help from a guide.	2.61 (1.21)	2.51 (1.20)	0.327	2.57 (1.22)	2.60 (1.20)	0.714
5. Students with disabilities should not participate in regular physical education classes because they could disturb the progress of other classmates.	4.62 (0.80)	4.42 (1.01)	0.011	4.65 (0.77)	4.49 (0.93)	0.002*
6. I would not like the teacher to tell me that I have to help a person with disabilities.	4.20 (1.09)	4.03 (1.19)	0.053	4.22 (1.08)	4.10 (1.16)	0.125
7. I prefer not to interact with people with disabilities.	4.54 (0.88)	4.32 (1.06)	0.003*	4.55 (0.88)	4.42 (0.98)	0.023
8. If I have a relative with disability, I'll avoid talking about it with others.	4.30 (1.08)	4.17 (1.11)	0.063	4.33 (1.07)	4.21 (1.10)	0.059
9. I would not sit in the classroom close to a peer with disability.	4.67 (0.75)	4.69 (0.70)	0.787	4.68 (0.74)	4.67 (0.75)	0.996
10. I would not elect for my sport team to include a peer with disability.	4.29 (1.01)	4.25 (0.98)	0.431	4.31 (1.01)	4.26 (0.98)	0.231
11. I would not participate as a volunteer at a camp for people with disabilities, where I had to help them in the shower, at meals, etc.	3.91 (1.19)	3.66 (1.26)	0.008	4 (1.15)	3.70 (1.25)	<0.001*
12. Should I have a disability, my lifestyle would totally change.	2.68 (1.21)	2.63 (1.28)	0.560	2.68 (1.26)	2.65 (1.20)	0.851
13. People with disability are usually less intelligent than other people.	4.14 (0.98)	3.92 (1.10)	0.014	4.11 (1.02)	4.07 (1.02)	0.502
14. In general, people with disabilities are less sociable.	3.73 (1.07)	3.83 (1.17)	0.140	3.71 (1.10)	3.81 (1.10)	0.163
15. Most people with disabilities cannot care for themselves.	3.12 (1.18)	3.22 (1.20)	0.320	3.19 (1.17)	3.10 (1.20)	0.265
16. People with disability must practice specific and independent sports.	3.87 (1.13)	3.73 (1.24)	0.220	3.91 (1.14)	3.76 (1.18)	0.045
17. If I become a wheelchair user due to an accident my life will not make sense.	3.97 (1.13)	3.78 (1.25)	0.079	3.97 (1.15)	3.88 (1.18)	0.203

M: mean; SD: Standard deviation; Note: Mann-Whitney U test was significant at * $p < 0.003$. AISDPE scores were based on a Likert scale where 1: "strongly agree"; 2: "agree"; 3: "indifferent"; 4: "disagree"; and 5: "strongly disagree".

Table 4 shows the descriptive analysis and differences for each dimension of the AISDPE questionnaire. Statistically significant differences were found in "cognitive perception of children with a disability" among participants with no contact or participation in physical activities with people with disabilities, who showed lower scores on this dimension.

Table 4. Scores in the two dimensions of the AISDPE questionnaire according to the presence or absence of contact and participation in physical activities with people with disabilities.

Dimensions	Total M (SD)	Contact with people with disabilities			Participation in physical activities with people with disabilities		
		Yes (n = 660)	No (n = 229)	<i>p</i>	Yes (n = 432)	No (n = 457)	<i>p</i>
1. Cognitive perception of children with a disability	4.07 (0.63)	4.10 (0.63)	3.97 (0.63)	0.002*	4.12 (0.63)	3.48 (0.76)	0.002*
2. Behavioral readiness to interact with children with disabilities	3.50 (0.75)	3.52 (0.73)	3.41 (0.80)	0.074	3.51 (0.74)	4.01 (0.63)	0.431

M: mean; SD: Standard deviation; Note: Mann-Whitney U test was significant at * $p < 0.003$. AISDPE scores were based on a Likert scale where 1: "strongly agree"; 2: "agree"; 3: "indifferent"; 4: "disagree"; and 5: "strongly disagree".

Table 5 and Table 6 show the scores obtained in each of the two dimensions of the AISDPE and the statistical differences according to gender, center environment and grade. Statistically significant differences were obtained according to gender in both dimensions with girls scoring higher than boys. With respect to center environment, no statistical differences were found in any dimension. Finally, with respect to grade, statistically significant differences were only found in the second dimension between students who belonged to the 2nd year of E.S.O. and students who studied in the 3rd year of E.S.O.

Table 5. Scores and differences in the two dimensions of the AISDPE questionnaire according to gender and center location.

Dimensions	Total	Sex		p	Center environment		p
	M (SD)	Boys (n=423)	Girls (n = 466)		Rural (n = 470)	Urban (n = 419)	
1. Cognitive perception of children with a disability	4.07 (0.63)	3.84 (0.70)	4.28 (0.48)	<0.001	4.12 (0.63)	4.02 (0.64)	0.011
2. Behavioral readiness to interact with children with disabilities	3.50 (0.75)	3.19 (0.76)	3.78 (0.61)	<0.001	3.52 (0.74)	4.46 (0.75)	0.267

M: mean; SD: Standard deviation; Note: Mann-Whitney U test was significant at * $p < 0.003$. AISDPE scores were based on a Likert scale where 1: “strongly agree”; 2: “agree”; 3: “indifferent”; 4: “disagree”; and 5: “strongly disagree”.

Table 6. Scores in the two dimensions of the AISDPE questionnaire according to the grade

AISDPE SCALE	1º E.S.O.	2º E.S.O.	3º E.S.O.	4º E.S.O.	1º	2º	p
	(A)	(B)	(C)	(D)	Bachillerato (E)	Bachillerato (F)	
1. Cognitive perception of children with a disability	3.99 (0.83)	4.13 (0.64)	4.03 (0.56)	4.10 (0.59)	4.09 (0.53)	4.15 (0.46)	0.316
2. Behavioral readiness to interact with children with disabilities	3.47 (0.87)	3.65 (0.73)	3.41 (0.69)	3.50 (0.73)	3.55 (0.67)	3.29 (0.74)	0.014 $P_{(B-C)} = 0.014$

P is significant at the * $p \leq 0.05$. M = mean value; SD = Standard deviation. Each score obtained is based on a Likert scale (1–4).

When analyzing the correlation coefficients between each of the dimensions of the AISDPE and age according to sex and school environment, no statistically significant differences were found.

Finally, the reliability result calculated from Cronbach's alpha was 0.77 for dimension 1 and 0.80 for dimension 2, which in agreement with Nunnally and Bernstein is considered satisfactory [21].

4. Discussion

Because of the importance of stigma and stereotypes towards students with disabilities in social participation in the specific context of PE, this study attempts to determine the attitudes of non-disabled students in Extremadura who have or have not had contact and participation in physical activities with children with disabilities.

It is very positive to start by describing that most items of the AISDPE questionnaire have high scores and to be able to state that the sample of students from Extremadura has good values for the inclusion of people with disabilities in PE classes.

Based on the answer to the question "Do you have, or have you had contact with any person with a disability (Family, friend, classmate...)", we only found a significant lower value in those who answered no in the items that have to do with cognitive perception and behavioral readiness to interact. It can thus be stated that this group has a perception of their competence in physical activities and sports above those of people with disabilities and has a lower predisposition to interact with them. This is consistent with previous studies [34–36] which have shown that students who have a close friend or family member with a disability are more likely to accept a classmate with a disability in PE class. Close contact with children with disabilities may increase knowledge of their potential and abilities and thus promote a more tolerant attitude. Therefore, this contact is considered relevant for inclusive educational environments and forms the basis for sensitized educational programs to strive for an equitable school culture towards disability [37,38]. Consequently, hypothesis 1 can be accepted, as that prior contact improves attitudes toward people with disabilities.

On the other hand, with respect to the question "Do you participate or, have you participated in any physical activity with people with disabilities?" significant differences were found in several items related to behavioral readiness to interact. It seems that those students who have not participated in physical activities with people with disabilities did not disagree as much with not volunteering at camps for people with disabilities and that these students should not participate in physical education classes with their non-disabled peers. We should be aware that those PE students with no previous experience in physical activities with people with disabilities may have a less positive interaction [39–41] or show a lower predisposition to collaborative learning due to their lack of familiarity with inclusive activities. It is necessary to consider that the beliefs [39,42] about stigma and stereotypes that PE students have about the inclusion of children with disabilities may condition the acceptance of changes in games according to their abilities and needs in order to make inclusion activities feasible to do [34]. Another study supports this idea, as it found that non-disabled peers consider inclusion except when the objective requires athletic skills, preferring a peer with good sports features [42].

Considering the total scores of the two dimensions of the questionnaire, we find that the best values are presented in the dimension related to cognitive perception and in which we also find more differences between people who interacted or not with people with disabilities. We could say in general that the dimension on which future efforts in the Region of Extremadura should be more focused is the attitude towards the behavior to interact with people with disabilities, as this is the one that comes closest to a score related to indifference to negative attitudes. There are different interventions that use contact with people with disabilities to improve children's attitudes towards disability, but it seems to be

necessary to continue to evaluate what factors associated with the widespread application of these interventions[43]. Regarding gender differences, the results show significant differences in both dimensions of the questionnaire. Girls have a higher score in the cognitive and behavioral dimension. In line with our results, other studies report that girls have higher scores on this scale, so that they have better attitudes towards disability [22,44,45].

Finally with respect to the secondary objective of the study focused on assessing the differences in these attitudes according to age, no significant relationship was found between students' attitudes and their age. The educational community throughout all the age must consider this tendency to prevent possible unfavorable attitudes since this tendency has been seen more clearly in previous studies[46]. Therefore, hypothesis 2 is rejected.

4.1. Limitations

First, the use of nonparametric statistical tests did not allow us to adjust the analyses for other variables. The results of the pre-sent study should be interpreted with caution due to its convenience sampling. Because of the numerous environmental factors affecting the maturational development of the studied population, future studies will have to ask more types of sociodemographic questions, such as the academic year they are in. On the other hand, the sociocultural factors (such as religion and self-esteem) of the students were not taken into account and the effects they could have on them were not studied, so the results should be taken with caution since they may condition them [47]. Factors such as religion may affect the results, since from the medical and pathological model of disability there are prejudices about this group that could affect the attitudes of religious people.[47,48]. Finally, despite the advantages described above, online surveys also have limitations such as the possibility of sample bias, lack of knowledge of the characteristics of non-respondents and a lower response rate[49]. And in this sense, the use of self-report measures are not very objective techniques that may be biased by the person's abilities and social context [50]. Also, in the future, it would be interesting to expand the sample to the rest of the Spanish territory, in order to reduce the possible socio-cultural conditioning factors.

5. Conclusions

This study analyzes the attitudes of students in Extremadura towards disability in the subject of PE and shows generally good scores for inclusion and only selectively lower scores were found among those students who had no contact or participation in physical activities with students with disabilities. Greater awareness and knowledge of this issue allows for better pedagogical tools and strategies to bring students with disabilities closer to the social context, to improve the attitudes of their environment and to enable the successful inclusion of people with disabilities in the current educational model.

Author Contributions: All authors have contributed to the manuscript.

Funding: The APC was funded by the Open Access Program of Universidad de Las Américas.

Acknowledgment: We also thank the Universidad de Las Américas for their support of the Open Access initiative.

Institutional Review Board Statement: The study adhered to the criteria of the Declaration of Helsinki and was submitted to the Bioethics Committee of the University of Extremadura for approval (186/2021).

Informed Consent Statement: Informed consent was obtained from all subjects' tutors involved in the study.

Data Availability Statement: The datasets used during the current study are available from the corresponding author on reasonable request.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Rohwerder, B. *Disability Stigma in Developing Countries*; Helpdesk Report, 2018; Vol. 26;.
2. Bogart, K.R.; Logan, S.W.; Hospodar, C.; Woekel, E. Disability Models and Attitudes among College Students with and without Disabilities. *Stigma and Health* **2019**, *4*, 260–263, doi:10.1037/sah0000142.
3. Dukes, C.; Berlingo, L. Fissuring Barriers to Inclusive Education for Students with Severe Disabilities. *Research and Practice for Persons with Severe Disabilities* **2020**, *45*, 14–17, doi:10.1177/1540796919895968.
4. Robbins, C.R.; Huskin, P.R.; Kwon, S. Millennial Attitudes toward Disability in Three Social Contexts. *The Social Science Journal* **2022**, *0*, 1–18, doi:10.1080/03623319.2022.2105592.
5. Naraian, S.; Schlessinger, S. When Theory Meets the “Reality of Reality”: Reviewing the Sufficiency of the Social Model of Disability as a Foundation for Teacher Preparation for Inclusive Education. *Teacher Education Quarterly* **2017**, *44*, 81–100.
6. UNESCO Directrices Sobre Políticas de Inclusión En La Educación 2009.
7. UNESCO Declaración Mundial Sobre Educación Para Todos y Marco de Acción Para Satisfacer Las Necesidades Básicas de Aprendizaje 1990.
8. Consejería de Educación y Cultura *DECRETO 228/2014, de 14 de Octubre, Por El Que Se Regula La Respuesta Educativa a La Diversidad Del Alumnado En La Comunidad Autónoma de Extremadura* <https://doe.juntaex.es/pdfs/doe/2014/2020o/14040257.pdf>;
9. Jefatura de Estado *Ley Orgánica 8/2013, de 9 de Diciembre, Para La Mejora de La Calidad Educativa*; 2013;
10. Barrera Palacios, A. *El modelo social de la discapacidad*; CINCA: Madrid, 2008; Vol. 36; ISBN 978-84-96889-33-0.
11. Reina, R.; López, V.; Jiménez, M.; García-Calvo, T.; Hutzler, Y. Effects of Awareness Interventions on Children's Attitudes toward Peers with a Visual Impairment. *International Journal of Rehabilitation Research* **2011**, *34*, 243, doi:10.1097/MRR.0b013e3283487f49.
12. Booth, Tony.; Ainscow, Mel. *Index for Inclusion: Developing Learning and Participation in Schools.*; Centre for Studies on Inclusive Education (CSIE): England,

- 2002; ISBN 1-872001-18-1.
<https://www.eenet.org.uk/resources/docs/Index%20English.pdf>.
13. Triandis, H.C. *Attitude and Attitude Change*; Wiley, 1971; ISBN 978-0-471-88830-7.
 14. Eagly, A.H.; Chaiken, S. The Advantages of an Inclusive Definition of Attitude. *Social Cognition* **2007**, *25*, 582–602, doi:10.1521/soco.2007.25.5.582.
 15. Vignes, C.; Coley, N.; Grandjean, H.; Godeau, E.; Arnaud, C. Measuring Children's Attitudes towards Peers with Disabilities: A Review of Instruments. *Developmental Medicine & Child Neurology* **2008**, *50*, 182–189, doi:10.1111/j.1469-8749.2008.02032.x.
 16. Sánchez-Díaz, M.N.; Morgado, B. Moving toward the Inclusion of University Students with Disabilities: Barriers, Facilitators, and Recommendations Identified by Inclusive Faculty. *The Journal of Continuing Higher Education* **2022**, *70*, 175–191, doi:10.1080/07377363.2021.1946635.
 17. Hayward, L.; Fragala-Pinkham, M.; Schneider, J.; Coe, M.; Vargas, C.; Wassenar, A.; Emmons, M.; Lizzio, C.; Hayward, J.; Torres, D. Examination of the Short-Term Impact of a Disability Awareness Training on Attitudes toward People with Disabilities: A Community-Based Participatory Evaluation Approach. *Physiotherapy Theory and Practice* **2021**, *37*, 257–270, doi:10.1080/09593985.2019.1630879.
 18. Bidegain, L.A.; Navarrete Antola, I. Actitudes de Los Docentes Acerca de La Educación Inclusiva. *Ciencias Psicológicas* **2017**, *11*, 233–243, doi:<https://doi.org/10.22235/cp.v11i2.1500>
 19. Kalargyrou, V.; Pettinico, W.; Chen, P.-J. Attitudes toward People with Physical Disabilities: An Examination of Social Context, Discipline, Disability Type, and Demographics. *Journal of Vocational Rehabilitation* **2021**, *54*, 117–133, doi:<https://doi.org/10.3233/JVR-201124>.
 20. Navarro-Mateu, D.; Franco-Ochoa, J.; Valero-Moreno, S.; Prado-Gascó, V. Attitudes, Sentiments, and Concerns About Inclusive Education of Teachers and Teaching Students in Spain. *Frontiers in Psychology* **2020**, *11*.
 21. Freer, J.R.R. Students' Attitudes toward Disability: A Systematic Literature Review (2012–2019). *International Journal of Inclusive Education* **2021**, 1–19, doi:<https://doi.org/10.1080/13603116.2020.1866688>.
 22. Abellán, J.; Sáez-Gallego, N.M.; Reina, R. Evaluación de las actitudes hacia la discapacidad en educación física: Efecto diferencial del sexo, contacto previo y la percepción de habilidad y competencia. *Cuadernos de Psicología del Deporte* **2018**, *18*, 133–140.
 23. Bossaert, G.; Colpin, H.; Pijl, S.J.; Petry, K. The Attitudes of Belgian Adolescents towards Peers with Disabilities. *Research in Developmental Disabilities* **2011**, *32*, 504–509, doi:10.1016/j.ridd.2010.12.033.
 24. Di Maggio, I.; Ginevra, M.C.; Santilli, S.; Nota, L. Elementary School Students' Attitudes towards Peers with Disabilities: The Role of Personal and Contextual Factors. *Journal of Intellectual & Developmental Disability* **2022**, *47*, 3–11, doi:<https://doi.org/10.3109/13668250.2021.1920091>.
 25. Bossaert, G.; Colpin, H.; Pijl, S.; Petry, K. Truly Included? A Literature Study Focusing on the Social Dimension of Inclusion in Education. *International Journal of Inclusive Education* **2011**, *2011*, doi:<https://doi.org/10.1080/13603116.2011.580464>.
 26. Schwab, S. Social Dimensions of Inclusion in Education of 4th and 7th Grade Pupils in Inclusive and Regular Classes: Outcomes from Austria. *Research in Developmental Disabilities* **2015**, *43–44*, 72–79, doi:<https://doi.org/10.1016/j.ridd.2015.06.005>.

27. Murphy, N.A.; Carbone, P.S.; American Academy of Pediatrics Council on Children With Disabilities Promoting the Participation of Children with Disabilities in Sports, Recreation, and Physical Activities. *Pediatrics* **2008**, *121*, 1057–1061, doi:<https://doi.org/10.1542/peds.2008-0566>.
28. Sherrill, C. *Adapted Physical Activity, Recreation, and Sport: Crossdisciplinary and Lifespan*; McGraw-Hill, 2004; ISBN 978-0-697-29513-2.
29. Salkind, N.J. *Métodos de Investigación*; Pearson educación: México, 1999; ISBN 978-970-17-0234-5.
30. Díaz de Rada, V. Eficacia de las encuestas por Internet: un estudio preliminar. *Revista Española de Sociología* **2010**.
31. Anderson, T.; Kanuka, H. *E-Research: Methods, Strategies, and Issues*; 1st ed.; Allyn & Bacon: Munich, 2008;
32. Reina Vaillo, R.; Hutzler, Y.; Santiago, M.C.I.; Murcia, J.A.M. Attitudes towards Inclusion of Students with Disabilities in Physical Education Questionnaire (AISDPE): A Two-Component Scale in Spanish. *European Journal of Human Movement* **2016**, *36*, 75–87.
33. Nunnally, J.C.; Bernstein, I.H. *Psychometric Theory*; 3rd ed.; McGraw-Hill: Nueva York, 1994;
34. Campos, M.J.; Ferreira, J.P.; Block, M.E. Influence of an Awareness Program on Portuguese Middle and High School Students' Perceptions of Peers with Disabilities. *Psychol Rep* **2014**, *115*, 897–912, doi:<https://doi.org/10.2466/11.15.PR0.115c26z7>.
35. Reina, R.; Íñiguez-Santiago, M.C.; Ferriz-Morell, R.; Martínez-Galindo, C.; Cebrián-Sánchez, M.; Roldan, A. The Effects of Modifying Contact, Duration, and Teaching Strategies in Awareness Interventions on Attitudes towards Inclusion in Physical Education. *European Journal of Special Needs Education* **2022**, *37*, 57–73, doi:[10.1080/08856257.2020.1842973](https://doi.org/10.1080/08856257.2020.1842973).
36. Alnahdi, G.H. The Interaction between Knowledge and Quality of Contact to Predict Saudi University Students' Attitudes toward People with Intellectual Disability. *International Journal of Developmental Disabilities* **2021**, *67*, 202–208, doi:<https://doi.org/10.1080/20473869.2019.1638582>.
37. McKay, C. The Value of Contact: Unpacking Allport's Contact Theory to Support Inclusive Education. *PALAESTRA* **2018**, *32*, 21–25.
38. Grenier, M.; Bourgoin, B. Examining the Impact of Disability Sports Unit on Students' Perceptions of Disability. *Journal of Research* **2018**, *10*, 21–27.
39. Reina, R.; Hutzler, Y.; Iniguez-Santiago, M.C.; Moreno-Murcia, J.A. Student Attitudes Toward Inclusion in Physical Education: The Impact of Ability Beliefs, Gender, and Previous Experiences. *Adapted Physical Activity Quarterly* **2019**, *36*, 132–149, doi:<https://doi.org/10.1123/apaq.2017-0146>.
40. Cairns, B.; McClatchey, K. Comparing Children's Attitudes towards Disability. *British Journal of Special Education* **2013**, *40*, 124–129, doi:[10.1111/1467-8578.12033](https://doi.org/10.1111/1467-8578.12033).
41. Pilo, M.I.M.; Suárez, M.L.M.; Sánchez, L.E.G.; García, P.S.; Rodríguez, M.Á.A. Actitudes hacia las personas con discapacidad. *Revista Española de Discapacidad* **2022**, *10*, 7–27 <https://www.cedid.es/redis/index.php/redis/article/view/764>.
42. Bebetos, E.; Derri, V.; Zafeiriadis, S.; Kyrgiridis, P. Relationship among Students' Attitudes, Intentions and Behaviors towards the Inclusion of Peers with Disabilities, in Mainstream Physical Education Classes. *International Electronic Journal of Elementary Education* **2013**, *5*, 233–248. Retrieved from <https://www.iejee.com/index.php/IEJEE/article/view/24>

43. Armstrong, M.; Morris, C.; Abraham, C.; Tarrant, M. Interventions Utilising Contact with People with Disabilities to Improve Children's Attitudes towards Disability: A Systematic Review and Meta-Analysis. *Disability and Health Journal* **2017**, *10*, 11–22, doi:<https://doi.org/10.1016/j.dhjo.2016.10.003>.
44. Abellán, J.; Ferriz, R.; Sáez-Gallego, N.M.; Reina, R. Actitudes Hacia El Alumnado Con Discapacidad En Educación Física: Validación de La EAADEF-EP a La Etapa de Educación Primaria.(Attitudes toward Students with Disabilities in Physical Education: Validation of the EAADEF-EP to the Stage of Primary Education). *Cultura, Ciencia y Deporte* **2020**, *15*, 235–243. DOI: <https://doi.org/10.12800/ccd.v15i44.1465>
45. Alahmari, K.A.; Rengaramanujam, K.; Reddy, R.S.; Silvian Samuel, P.; Ahmad, I.; Nagaraj Kakaraparthi, V.; Tedla, J.S. Effect of Disability-Specific Education on Student Attitudes Toward People With Disabilities. *Health Educ Behav* **2021**, *48*, 532–539, doi:<https://doi.org/10.1177/1090198121995774>.
46. Schwab, S. The Impact of Contact on Students' Attitudes towards Peers with Disabilities. *Research in Developmental Disabilities* **2017**, *62*, 160–165, doi:<https://doi.org/10.1016/j.ridd.2017.01.015>.
47. Fioramonti, D.L.; Ebener, D.J.; Arrastia-Chisholm, M.C. Religious/Spiritual Involvement and Beliefs, Frequency of Contact, and Gender as Predictors of Attitudes Toward Persons With Disabilities. *Rehabilitation Counseling Bulletin* **2019**, *62*, 157–169, doi:<https://doi.org/10.1177/0034355217751625>.
48. Barbosa Ardila, S.D.; Villegas Salazar, F.; Beltrán, J. El modelo médico como generador de discapacidad. *Rev. latinoam. bioet* **2020**, *19*, 111–122, doi:<https://doi.org/10.18359/rlbi.4303>.
49. Nayak, M.; Narayan, K.A. Strengths and Weakness of Online Surveys. *IOSR-JHSS* **2019**, *24*, 31–38, doi:<https://doi.org/10.9790/0837-2405053138>.
50. Fernández Berrocal, P.; Extremera Pacheco, N. El uso de las medidas de habilidad en el ámbito de la inteligencia emocional: ventajas e inconvenientes con respecto a las medidas de auto-informe. *Boletín de psicología* **2004**, 59–78.