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Teaching Attitudes and the Participation of Individuals with Physical Motor Disabilities in Higher Education in El Salvador

Carlos Alberto Echeverría Mayorga*

- Universidad Politécnica de El Salvador. ORCID: [0000-0002-4261-7178](https://orcid.org/0000-0002-4261-7178)

EN | Abstract:

The participation of people with physical motor disabilities in higher education has acquired fundamental importance, opening spaces for vulnerable groups that have been historically relegated. This study aims to analyze the attitude of 384 university teachers and its influence on the participation of people with physical motor disabilities in the teaching-learning process of higher education in Salvadoran universities. To do this, a questionnaire was used to measure teachers' perceptions of inclusion that make up the components of the attitude concept. The results show behavior patterns with significant negative attitudes in these analyzed variables that comprise the sociodemographic profile. Related to this, an influence or relationship can be explained by the low participation of people with physical motor disabilities in university higher education. In this sense, the implications are assessed, the results are discussed, and a theoretical model of the influence of attitudes toward participation is proposed in a relationship between factors, questions, competencies, indicators, and criteria.

Keywords: *Inclusive education, Teacher attitude, Student participation, Inclusive higher education, Motor physical disability, Universities in El Salvador, Disability perception, Diversity and education, Theoretical model of inclusion, Barriers in higher education, SDG 4, SDG 10, SDG.*

ES | Abstract:

La participación de personas con discapacidad física motriz en la educación superior ha adquirido una importancia fundamental, en la apertura de espacios para grupos vulnerables que han sido históricamente relegados. Este estudio tiene como objetivo el análisis de la actitud de 384 docentes universitarios y su influencia hacia la participación de personas con discapacidad física motriz en el proceso de enseñanza-aprendizaje de educación superior de las universidades salvadoreñas. Para ello, se utilizó un cuestionario de medición de las percepciones de los docentes sobre la inclusión que integran los componentes del concepto de actitud. Los resultados muestran patrones de comportamiento con actitudes negativas significativas en la totalidad de estas variables analizadas que conforman el perfil sociodemográfico. Relativo a esto se puede explicar una influencia o relación con la baja participación de personas con discapacidad física motriz en la educación superior universitaria. En este sentido, se valoran las implicaciones, discuten los resultados y propone un modelo teórico del funcionamiento de la influencia de las actitudes hacia la participación en una relación entre los factores, preguntas, competencias, indicadores y criterios.

Palabras Clave: *Inclusión educativa, Actitud docente, Participación estudiantil, Educación superior inclusiva, Discapacidad física motriz, Universidades en El Salvador, Percepción de la discapacidad, Diversidad y educación, Modelo teórico de inclusión, Barreras en la educación superior, ODS 4, ODS 10, ODS.*

I. INTRODUCTION

Inclusive higher education in El Salvador is presented as a means to overcome the various obstacles that limit the achievements of university students with physical motor disabilities. This approach not only facilitates their presence and participation but also encompasses formal statements, traditions, and forms of relationships present within the university community. Moreover, it focuses on interactions among stakeholders and the attitudes of teachers, among other aspects (Ainscow & Miles, 2008; Utreras, 2016). This is reflected in the definition of "Education" in the General Law of Education, where it is understood as "a process of permanent, personal, civic, moral, cultural, and social formation based on a comprehensive conception of the human person, their dignity, values, rights, and duties" (MINED, 1996, p.1; UNESCO, 2016). For the present study, definitions of disability and physical motor disability were adopted from the World Health Organization (WHO, 2011).

Thus, this study understands the functioning of the university under Durkheim's conceptualizations, which present it as an instrument for building a national community around a cohesion of common norms and values (Armijo-Cabrera, 2018). In this functioning, the social construction of disability is seen through Durkheim's ideas of social cohesion concerning the degree of integration of individuals into the community and, in this case, into the university (Simbaña et al., 2017); where social exclusion exists as a response to diversity and consequently to university teachers' attitudes towards individuals with physical motor disabilities in the higher education teaching-learning process. Consequently, this principle is used to support the issue of the origin of disability from a "social construction of disability" through Anthony Giddens' structuration theory (Cisternas, 2020).

Therefore, exclusion is presented through an attitudinal barrier of university teachers in higher education (Victoriano, 2017), which influences the dimension of participation understood as access to higher education for people with physical motor disabilities (Cruz, 2016; Victoriano, 2017). The attitude is understood as a concept formed by three components or constructs: emotion, idea, and predisposition to action (Sánchez & Justicia, 2006, p.197). In this aspect, attitudes were analyzed from a model of change in which "attitudes and competencies are conceptualizations viewed as the same process," which is evaluated from its execution or action, where both terms in their conceptual structure address human behavior in its components: affective, cognitive, and behavioral (Sabatés & Capdevila, 2010).

Various authors have examined the phenomenon of disability from the positivist and interpretive paradigms and in a generalist manner (Acosta & Arráez, 2014; Bermúdez & Antola, 2020; Morera, 2018; Muñoz, 2019; Sánchez, 2017; Val et al., 2017), as well as from the attitudes of teachers towards the inclusion of students with disabilities. For example, Bermúdez and Antola (2020) "consider that one of the essential competencies in future teachers is attitudes towards disability since they foster integral development" (p.1). Other studies highlight the relevance of the teacher's role in reflecting on their own performance. For

instance, Romero and Lauretti (2006), whose object of study is teacher commitment, emphasize the importance of peer interaction and affirm: “the committed teacher must always start from a reflection on their task, as this will allow them to turn their intentions into purposes and actions” (p.43).

Furthermore, the importance of changing the attitudes of community members as a key element to favor individuals with disabilities to achieve an equitable society has been highlighted (Romero & Lauretti, 2006). Therefore, Sánchez (2017) conducted a diagnosis to understand attitudes towards individuals with disabilities, obtaining less encouraging results. For example, the influence of the attitudinal barrier on the inequality of rights for people with disabilities was confirmed. In this regard, the statement by Novo-Corti et al. (2015) would be fulfilled, stating that the desire to support the participation of people with disabilities depends on the teacher's commitment, and with this conviction, intervention is made possible.

In conclusion, the literature review has highlighted the limited direct approaches to the topic of physical motor disability in the Salvadoran context, highlighting only the study by Muñoz (2019), which was conducted in El Salvador and is a reflection on educational policies towards inclusive education. Among its conclusions, it is noted not only “the need to seek equality of opportunities to access and remain in the educational system, but also the imperative to provide each student with what they need to participate in their learning” (Muñoz, 2019, p.33). Additionally, it reveals discriminations through established norms prevailing by the dominant social group according to the country's reality, and its considerations show the high number of people with disabilities in the Salvadoran population (CONAIPD, 2015). This presents the possibility of conducting research to determine university teachers' attitudes towards the participation of individuals with physical motor disabilities in the higher education teaching-learning process in El Salvador through quantitative research. Therefore, the study sought to answer the questions: How is the participation of individuals with physical motor disabilities in the higher education teaching-learning process influenced by the attitudes of university teachers?

Consequently, addressing this issue sought to analyze and construct a descriptive conceptual understanding that helps explain how university teachers' attitudes influence the participation of individuals with physical motor disabilities in the higher education teaching-learning process in El Salvador. This allows for visualizing a theory from a structuralist perspective and the social construction of disability in Salvadoran reality. Subsequently, it investigates whether the barriers to inclusion form a set of obstacles to the participation of individuals with physical motor disabilities in the higher education teaching-learning process in El Salvador from the social construction of disability.

II. MATERIALS AND METHODS

The focus of this study is quantitative, descriptive-exploratory, non-experimental, and cross-sectional in nature. Regarding the sampling design, 384 university professors currently in their roles were surveyed using stratified sampling with equal allocation of 64 professors for each university in the three geographical zones of El Salvador: (a) Eastern Zone (San Miguel and Usulután), University of Oriente and Gerardo Barrios University; (b) Central Zone (San Salvador), Don Bosco University and Polytechnic University of El Salvador; and (c) Western Zone (Sonsonate), University of Sonsonate and Open Modular University. The data collection technique used was a globally recognized standardized instrument with a Cronbach's Alpha of 0.801, titled: "Scale for Measuring the Perceptions of In-Service Teachers on Inclusion: Feelings, Attitudes, and Concerns about Inclusive Education Revised" (Fuentes et al., 2019, p. 424). The Likert scale includes the following coding: (a) 1 = Strongly Disagree, (b) 2 = Disagree, (c) 3 = Agree, and (d) 4 = Strongly Agree (Fuentes et al., 2019). This instrument considers three factors with their respective items: (a) Factor I (Attitudes, 5 items), (b) Factor II (Feelings, 3 items), and (c) Factor III (Concerns, 4 items) (Fuentes et al., 2019). The questionnaire was administered via email using standardized Google Forms.

III. ANALYSIS AND RESULTS

Exploratory data analysis

The results of the profile of the respondents in this study are presented in Table 1.

Table 1

Age	Frequency	Percentage
25 to 29 years	43	11.2
30 to 34 years	81	21.1
35 to 39 years	72	18.8
40 to 44 years	57	14.8
45 to 49 years	32	8.3
50 to 54 years	34	8.9
55 to 59 years	34	8.9
60 and more	31	8.1
Total	384	100
Gender		
Woman	168	43.8
Man	216	56.3

Total	384	100
Do you have training in a specialized area of special education?		
Yes	21	5.5
No	363	94.5
Total	384	100
Do you have a relationship with people with physical motor disabilities at the university?		
Yes	83	21.6
No	301	78.4
Total	384	100
How often do you have a relationship with people with physical motor disabilities at the university? (applies to 21.6% of respondents)		
Once a week	52	62.7
Twice a week	16	19.3
Three times a week	4	4.8
More than three times a week	11	13.3
Total	83	100
What is the reason for your relationship with people with physical motor disabilities at the university? (applies to 21.6% of respondents)		
Student	48	57.8
Co-worker	25	30.1
Co-worker and Student	10	12.0
Total	83	100

Profile of Respondents (independent variables)

In Table 1, a general overview of the profile of university professors is first presented, characterized as individuals who are: (a) between 25 and 44 years old, (b) predominantly male, and (c) with limited interaction with people with physical motor disabilities, primarily occurring "Once a week" due to them being a "Student" at the university where they work. Following this, regarding the question: "Do you have training in a specialized area of special education?", it is important to highlight the low percentage of respondents who answered affirmatively, at just 5.5% (21 individuals). This indicates significant gaps in training related to special education areas among university professors at the national level, as well as the insufficient preparedness of the Salvadoran educational system to accommodate individuals with disabilities.

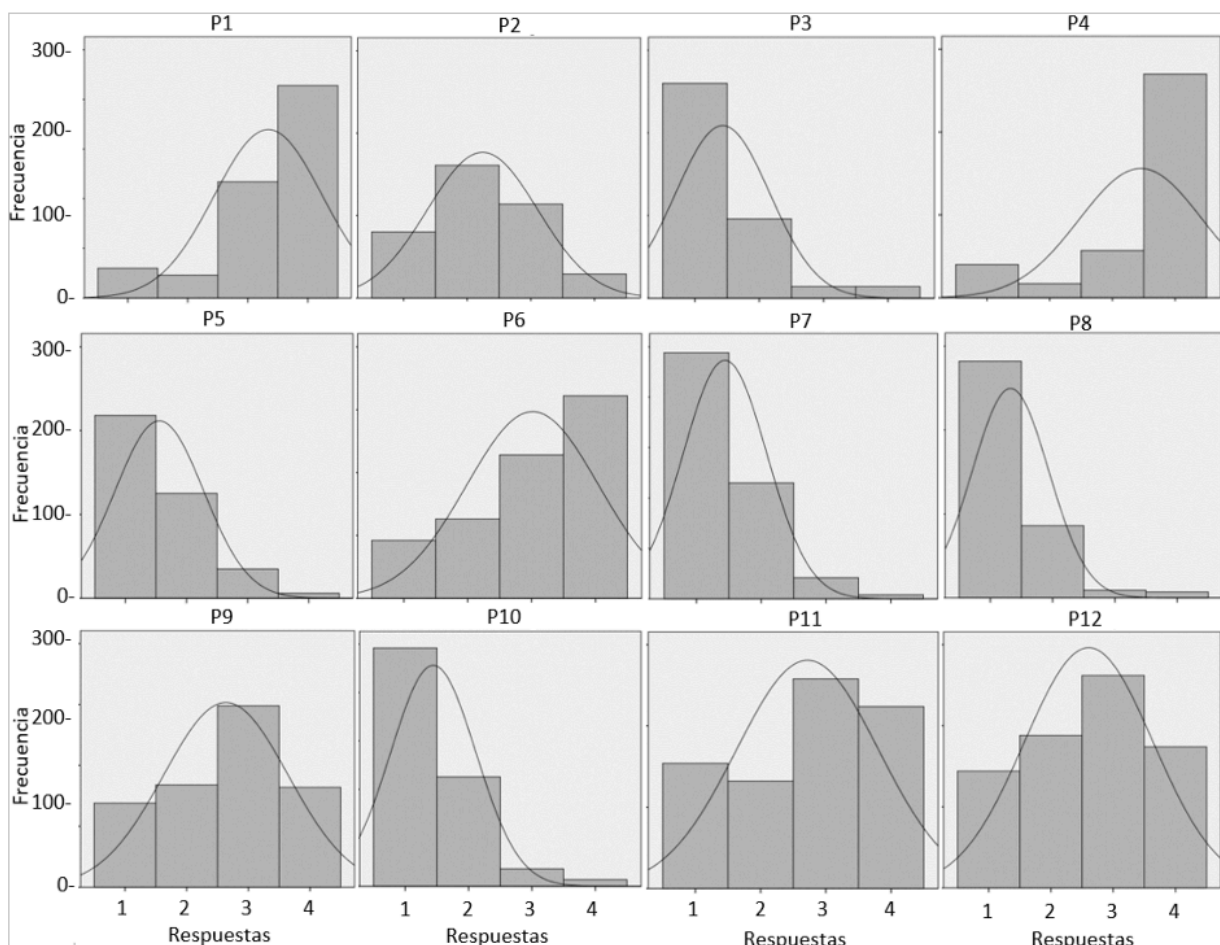
Second, concerning the question: "Do you have a relationship with people with physical motor disabilities at the university?", it stands out that only 21.6% (83 individuals) responded "Yes," highlighting the issue of the participation of people with physical motor disabilities in the higher education teaching-learning process in El Salvador.

Third, for the questions that apply exclusively to respondents who indicated having a relationship with people with physical motor disabilities, there is a notable concentration in the response "Once a week," with 60.7% for the question "How often do you have a relationship with people with physical motor disabilities at the university?" Similarly, a higher percentage is observed in the response "Student" at 57.8% for the question "What is the reason for your relationship with people with physical motor disabilities at the university?"

Regarding the dependent variables, it is worth mentioning that their analysis begins with a visual interpretation of the frequency distributions of responses to the questions through an overall graph presented in Figure 1.

Figure 1

Frequency distributions of the answers to the dependent variable questions.



Note: the bars represent the frequency distribution of the responses to the questions and the solid line shows the normal curve.

In Figure 1, the behavior of the frequency distributions of responses to questions comprising the dependent variable is shown. Thus, the comparative analysis of each question concerning the normal curve (abbreviated as "Q" followed by a number to reference the specific question, e.g., Q1 = Question 1) is presented. All normality tests conducted using the Kolmogorov-Smirnov and Shapiro-Wilk statistics ($p < 0.05$, 0.05) provided sufficient statistical evidence to determine that none of the frequency distributions represented by the dependent variables follow a normal distribution pattern (Palacios et al., 2022). Subsequently, the accumulation (behavior) of the responses was analyzed by combining an analysis of the graphs presented in Figure 1 (visual data) with the statistical data from Table 2 (numerical statistics).

Table 2

Means, Standard Deviation (SD), Floor and Ceiling Effect, Skewness, and Kurtosis.

Questions	Mean (SD)	Floor	Ceiling	Skewness	Kurtosis
Q1. Students with physical motor disabilities should be in regular classes.	3.34 (0.90)	7.81	55.73	-1.37	01.04
Q2. I find it difficult to give adequate attention to all students in a classroom.	2.24 (0.87)	20.83	7.55	0.22	-0.65
Q3. I tend to end my interactions with people with physical motor disabilities as soon as possible.	1.43 (0.73)	67.71	3.65	1.91	3.49
Q4. Students with physical motor disabilities should have everything necessary adapted (physical and technological infrastructure) to be in regular classes.	3.45 (0.98)	10.42	70.31	-1.67	1.39
Q5. I am concerned that my workload may increase by having students with physical motor disabilities in my class.	1.55 (0.72)	56.77	1.56	1.16	0.76

Q6. The teaching-learning process should be adapted for students with physical motor disabilities to be in regular classes.	3.02 (1.03)	11.98	41.93	-0.69	-0.74
Q7. I am concerned about being more stressed by having students with physical motor disabilities in my class.	1.44 (0.65)	63.54	01.04	1.41	1.75
Q8. I am afraid to look directly at a person with a physical motor disability.	1.33 (0.61)	73.44	1.82	2.19	5.38
Q9. Students who frequently fail courses should be in regular classes.	2.64 (1.01)	17.97	21.35	-0.27	-1.00
Q10. I find it difficult to overcome the impression caused by meeting people with severe physical motor disabilities.	1.44 (0.67)	64.06	1.82	1.59	2.53
Q11. I am concerned about not having the knowledge and skills necessary to teach students with physical motor disabilities.	2.72 (1.09)	20.05	29.17	-0.36	-1.16
Q12. Students who need an individualized academic program should be in regular classes.	2.61 (1.03)	18.75	22.66	-0.18	-1.11

N=384

Firstly, there is an accumulation of data towards the left in questions Q3, Q5, Q7, Q8, and Q10 (with options 1 = Strongly Disagree and 2 = Disagree). This can be verified through the statistical data corresponding to these questions in Table 2 and the averages of: their means (1.44), standard deviations (0.68), floor effects (65.10), ceiling effects (1.98), skewness (1.65), and kurtosis (2.78). Secondly, there is an accumulation towards the right in questions Q1, Q4, and Q6 (with options 3 = Agree, 4 = Strongly Agree). The statistics corresponding to these questions in Table 2 indicate an average of: their means (3.27), standard deviations (0.97), floor effects (10.07), ceiling effects (55.99), skewness (-1.24), and kurtosis (0.56). Thirdly, questions Q2, Q9, Q11, and Q12 do not show a marked tendency in their majority with respect to response options. Thus, the statistics corresponding to Table 2 indicate an average of: their

means (2.55), standard deviations (1.00), floor effects (19.40), ceiling effects (20.18), skewness (-0.15), and kurtosis (-0.98). Subsequently, an analysis of the data concerning the overall responses was conducted to observe the behavior and results of the three dimensions (factors) that comprise the concept of university teachers' attitudes. For this purpose, Table 3 was constructed.

Table 3

Sum of Global Responses of the Attitude Concept Dimensions (percentages)

Factors	Positive	Negative	Total
Factor I (Global Context Attitudes)	71.98	28.02	100
Factor II (Feelings)	94.01	5.99	100
	Existence	Absence	Total
Factor III (Concerns)	29.30	70.70	100

N=384, for Factor III (Existence = Negative Attitude, Absence = Positive Attitude)

Table 3 presents the summation of the overall responses concerning the dimensions of the university teachers' attitude concept. However, it is crucial to analyze the significance of the results in terms of their percentage representativeness more thoroughly and in detail. This is because representations through an average do not reveal the individual variations of specific questions within each factor. Consequently, these assessments can be observed when analyzing the results of the following questions: (a) Question 9 (Factor I), with a positive attitude (60.2%) and a negative attitude (39.8%); (b) Question 12 (Factor I), with a positive attitude (56.8%) and a negative attitude (43.2%); and (c) Question 11 (Factor III), with a positive attitude (62.76%) and a negative attitude (37.24%). Therefore, we can analyze these responses based on their negative attitudes and their representativeness concerning the total population of participants in this study. For example, this means that in Question 12, 166 (43.2%) university teachers have a negative attitude, which impacts the participation of individuals with physical motor disabilities in the higher education teaching-learning process at Salvadoran universities. This implies that if each teacher teaches a course in a university curriculum, this would equate to 166 courses across several universities. For this reason, the analysis of the results provides evidence demonstrating the need to cross-reference independent and dependent variables (Age, Gender, University, and Training).

Inferential Data Analysis

The inferential analysis was performed using the Chi-square statistic by means of contingency tables, the results are shown in Table 4.

Table 4

Questions and Chi-square Statistic

Questions	Age	Gender	University	Training
Q1. Students with physical motor disabilities should be in regular classes	96	236	113	371
Q2. I find it difficult to give adequate attention to all students in a classroom	700	699	90	715
Q3. I tend to end my interactions with people with physical motor disabilities as soon as possible	136	0.053*	431	801
Q4. Students with physical motor disabilities should have everything necessary adapted (physical and technological infrastructure) to be in regular classes	521	0.026*	0.023*	557
Q5. I am concerned that my workload may increase by having students with physical motor disabilities in my class	370	382	0.039*	729
Q6. The teaching-learning process should be adapted for students with physical motor disabilities to be in regular classes	0.029*	94	333	743
Q7. I am concerned about being more stressed by having students with physical motor disabilities in my class	309	638	706	642
Q8. I am afraid to look directly at a person with a physical motor disability	0.017*	0.043*	529	751

Q9. Students who frequently fail courses should be in regular classes	59	625	0.009*	0.023*
Q10. I find it difficult to overcome the impression caused by meeting people with severe physical motor disabilities	384	0.052*	82	547
Q11. I am concerned about not having the knowledge and skills necessary to teach students with physical motor disabilities	632	60	0.011*	509
Q12. Students who need an individualized academic program should be in regular classes	0.009*	553	100	522

N=384, *the asterisk denotes a significance level of $p < 0.05$

Table 4 presents an analysis that provides observations with negative attitudes in the cross-tabulations corresponding to the responses of: (a) the variable "Age" and Q12 (0.009), with "25 to 29 years" at 51.2% and "55 to 59 years" at 61.8%, (b) the variable "University" and Q11 (0.011), showing a global result of 62.8%, (c) the variable "Training" and Q9 (0.023), among teachers who responded "Yes" to having specialized training, at 66.7%. An exhaustive search was also conducted in the analysis of contingency tables where there was no significant macro-level data to find differences between each category of the variables. This led to the findings of negative attitudes in the cross-tabulations between: (a) the variable "Age" in global results with Q9 (0.059) at 62.8% and with Q11 (0.632) at 62.8%, (b) the variable "Gender" with Q11 (0.060) showing a global result of 62.8%, (c) the variable "Training" and Q11 (0.509), among teachers who responded "No" at 63.6%, (d) the variable "Training" and Q12 (0.522), among teachers who responded "Yes" at 52.4%. Consequently, the findings provide substantial evidence to continue with an in-depth analysis of the dependent and independent variables in relation to the question: "Do you have a relationship with people with physical motor disabilities at the university?" The results of this cross-tabulation are presented in a global form with their dimensions in Table 5.

Table 5

Summation of Dimensions, Teachers and Their Relationship with Students with Physical Motor Disabilities (percentages)

Factors	Relationship				Total
	Yes (N= 83)		No (N= 301)		
	Positive	Negative	Positive	Negative	
Factor I (Global Context Attitudes)	72,53	27,47	71,83	28,17	100
Factor II (Feelings)	94,38	5,62	93,91	6,09	100
	Existence	Absence	Existence	Absence	Total
Factor III (Concerns)	30,12	69,88	29,07	70,93	100

In Table 5, we can observe the lack of significant differences concerning the frequencies of responses overall. This can be confirmed by comparing the percentages obtained for Factor I: (a) "Yes," indicating a relationship (83 teachers), with positive attitudes at 72.53% and negative attitudes at 27.47%; and (b) "No," indicating no relationship (301 teachers), with positive attitudes at 71.83% and negative attitudes at 28.17%. Similarly, these results and the response patterns are evident in the other factors analyzed, which is confirmed by the Chi-square statistic's significance, where no value provided levels below 0.05, indicating independence in behavior. Therefore, the results show no differences between the responses of both groups; in other words, the attitudes of university teachers are the same regardless of whether or not they have a relationship with people with physical motor disabilities. However, a detailed examination of the responses revealed negative attitudes in Q11: (a) teachers with a relationship, with negative attitudes at 68.87%; and (b) teachers without a relationship, at 61.13%.

In this context, we can note a conceptual rupture in the macro-level behavior of the attitude concept and its factors. It is evident that when there is similar behavior whether or not there is a relationship with people with physical motor disabilities concerning concerns about not having the knowledge and skills to teach this student population, it clearly shows the profile of university teachers. This is because they lack the proper training to serve this population (94.5% of the teachers) and potentially demonstrate empathy, represented as a positive

attitude due to the importance assigned by the Ministry of Education to people with physical motor disabilities, without genuinely manifesting a positive attitude in the higher education teaching-learning process in El Salvador.

Another analysis to be developed concerns the questions of the dependent variable that arise from the relationship with people with physical motor disabilities, which are the frequency and the reason for the relationship at the university. Although the results of both questions can be generalized due to the findings obtained in the relationship responses, the behavior of the responses among the group of teachers is the same regardless of whether or not they have a relationship with people with physical motor disabilities. Hence, the following results were obtained when analyzing both questions concerning university teachers' negative attitudes, showing similar findings: (a) in the question about the frequency of the relationship, Q2 with 50% for "Three times a week," Q4 with 50% for "Three times a week" and "More than three times a week" at 54.5%, Q11 at 65.2% overall, and Q12 with 50% for "Three times a week"; and (b) in the question about the reason for the relationship, Q2 with 50% for "Co-worker and Student," Q4 with 50% for "Three times a week," and Q11 at 63.6% overall.

Additionally, with the dependent variable data, a multivariate interdependence analysis was conducted using the exploratory factor analysis (EFA) technique (Bandalos & Finney, 2010). In this analysis, a Bartlett's test of sphericity result was obtained with values below 0.05, indicating the existence of correlations between variables. Furthermore, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.788. The maximum likelihood method and orthogonal rotations were used for factor extraction. The resulting model is structured into three factors (EFA) with a significance below 0.05 in the Chi-square test (Bandalos & Finney, 2010), and the results are presented in Table 6. Additionally, Cronbach's alpha was obtained, showing the fluctuation present in the data (verification of negative attitudes): general (0.427), Q1 (0.358), Q2 (0.464), Q3 (0.403), Q4 (0.380), Q5 (0.381), Q6 (0.405), Q7 (0.389), Q8 (0.401), Q9 (0.375), Q10 (0.393), Q11 (0.501), and Q12 (0.409).

Table 6

Total variance explained

Latent Factor	Initial Eigenvalues		
	Total	Percentage of Variance	Cumulative Percentage
1	3.174	26.454	26.454
2	2.380	19.832	46.286
3	1.208	10.070	56.357
4	897	7.477	63.834
5	746	6.220	70.054
6	659	5.488	75.542
7	623	5.192	80.734
8	572	4.764	85.498
9	560	4.665	90.163
10	418	3.482	93.645
11	406	3.383	97.028
12	357	2.972	100

In Table 6, the following can be observed: (a) the identification of three latent factors that explain 56.357% of the variance observed in the data for the initial solution of the 12 original variables (above 40% is acceptable), (b) this table presents as many latent factors as there are variables, (c) the "Total" column shows the original variance explained by each latent factor, where factors with eigenvalues greater than 1 are used for the analysis, (d) the percentage of explained variance provides a ratio of the variance explained relative to the total variance across all variables, expressed as a percentage, (e) the cumulative variance shows the percentage of variance explained by the first accumulated latent factors (Bandalos & Finney, 2010).

Then, in Table 7, the rotated factor matrix is presented to demonstrate the unique contribution of each variable to the latent factor. This matrix shows the existence of three latent factors grouping all variables that exceeded the inclusion criterion of 0.40 (Bandalos & Finney, 2010). The following results were obtained in this rotated factor matrix: (a) in Latent Factor I, P7, P10, P8, P5, and P3 are grouped, (b) in Latent Factor II, P1, P9, P12, and P4 are grouped, and (c) in Latent Factor III, P11, P2, and P6 are grouped. Therefore, the results of the EFA (Exploratory Factor Analysis) validate a relationship between latent variables (EFA Factors) that can be

measured through observed variables, which are the questions from the dependent variables. In this context, it can be hypothesized that latent variables explain changes in observable indicators through dependent variables based on a model represented by this relationship validated with the EFA. Thus, the observed variables become measurable indicators representing the behavior of university teachers' attitudes towards the participation of people with physical motor disabilities in the higher education teaching-learning process in El Salvador. The graphical representation of this model's functioning can be seen in Figure 2.

Table 7

Rotated factor matrix

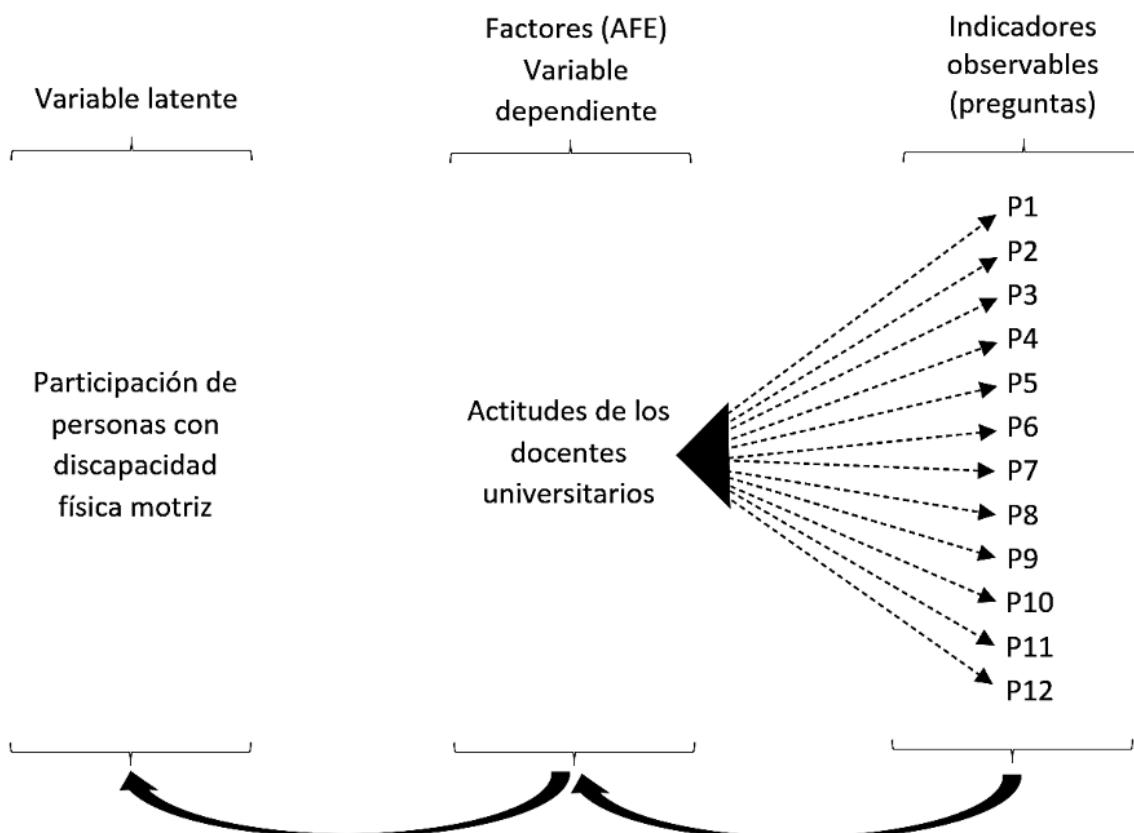
Questions	Factor		
	1	2	3
Q7. I am concerned about being more stressed by having students with physical motor disabilities in my class.	770		
Q10. I find it difficult to overcome the impression caused by meeting people with severe physical motor disabilities.	724		
Q8. I am afraid to look directly at a person with a physical motor disability.	707		
Q5. I am concerned that my workload may increase by having students with physical motor disabilities in my class.	576		
Q3. I tend to end my interactions with people with physical motor disabilities as soon as possible.	501		
Q1. Students with physical motor disabilities should be in regular classes.		646	
Q9. Students who frequently fail courses should be in regular classes.		591	
Q12. Students who need an individualized academic program should be in regular classes.		543	
Q4. Students with physical motor disabilities should have everything necessary adapted (physical and technological infrastructure) to be in regular classes.		500	
Q11. I am concerned about not having the knowledge and skills necessary to teach students with physical motor disabilities.			514

Q2. I find it difficult to give adequate attention to all students in a classroom.			443
Q6. The teaching-learning process should be adapted for students with physical motor disabilities to be in regular classes.			432

Figure 2 visually illustrates the relationship between university teachers' attitudes and the participation of people with physical motor disabilities in the higher education teaching-learning process in El Salvador. This visualization highlights the importance of observable indicators in measuring university teachers' attitudes. These indicators, in turn, become tools to quantify and demonstrate efforts made in removing barriers, which manifest as inequalities in higher education that limit the participation of people with physical motor disabilities in this educational sector.

Figure 2

Theoretical operating model of the influence of attitudes towards participation.



Therefore, it is necessary to develop indicators that are part of the processes for measuring academic quality in universities. Along with higher education laws, these indicators should gradually facilitate the elimination of attitudinal barriers among university teachers, thereby shifting the conceptualization of disability towards an educational approach based on human rights.

IV. CONCLUSIONS

The general objective of this research was to analyze the attitudes of university teachers and their influence on the participation of people with physical motor disabilities in the higher education teaching-learning process in El Salvador.

First, based on the three components of the attitude conceptualization, the answer to the research question of this study is constructed. This answer is obtained through two inquiries: the first is, "Is there a relationship between teachers' attitudes towards physical motor disabilities and the participation of people diagnosed with this disability in teaching-learning processes in higher education?" The results of this study provide sufficient statistical evidence to demonstrate that there is a relationship between the responses of university teachers and negative attitudes in the significant intersections of the variables. Also, a relevant finding is that 94.5% of the surveyed university teaching population do not have training in a special education area. Similarly, these results align with those found by Acosta and Arráez (2014), which show a lack of contextualization in teacher training concerning the competencies needed to meet the special educational needs of people with physical motor disabilities and the existence of unfavorable attitudes by teachers regarding educational inclusion. Therefore, the presence of negative attitudes among university teachers towards physical motor disabilities is confirmed; this result evidences a lack of equal opportunities, discrimination in universal access, and solidarity in fulfilling the right to education.

Second, this understanding of negative attitudes of university teachers towards inclusion provides us with a starting point from where exclusion is presented in the teaching-learning process, forming an attitudinal barrier consolidated as a structuralist construction of disability

from a model that permeates and affects inclusive education and the participation of people with physical motor disabilities in Salvadoran universities. At this point, we move to the second inquiry of the question: "Do the results generated about the attitudes of university teachers and their influence on people with physical motor disabilities explain the inclusion/exclusion of individuals in classroom teaching processes and in training/education processes?"

In this regard, the presence of a social construction of disability based on a model is evident, as well as the existence of a relationship between teachers' attitudes towards physical motor disabilities and the participation of people diagnosed with this disability in teaching-learning processes in higher education. Furthermore, the theoretical-practical functioning of this relationship and the influence of attitudes on participation is presented in Figure 3, where the influence on participation is evaluated through a latent variable via indicators (questions) that comprise the concept of university teachers' attitudes. Therefore, the educational participation of people with physical motor disabilities is driven by attitudinal development within the educational community, institutional regulations, quality systems, educational models, learning evaluation models, and primarily in teacher training and continuous awareness-raising. However, this premise can be supported by universities, but the results of this research show that there has not yet been a change in university teachers' attitudes, and these attitudes, therefore, impact the participation of people with physical motor disabilities in university educational processes.

Figure 3.

Theoretical Model of the Influence of Attitudes on Participation and Its Indicators

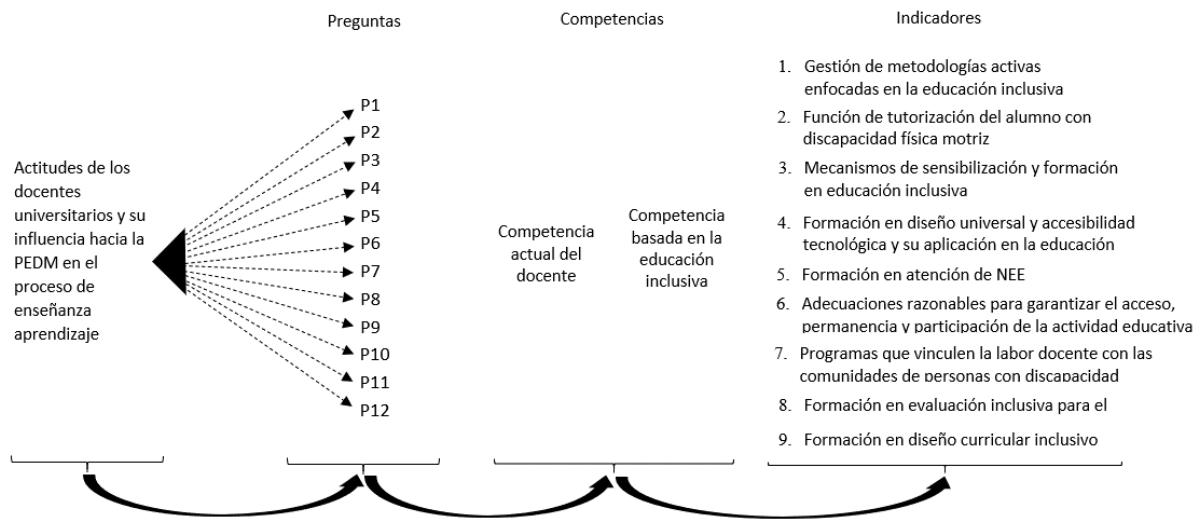


Figure 3 shows the existing relationship as a practical theoretical model of the functioning of university teachers' attitudes and their influence on the participation of people with physical motor disabilities, based on the current competencies applied in the educational teaching-learning process. In this context, negative attitudes are observed among university teachers due to a lack of training in special educational needs, within a global context where the concept of attitude is not adhered to and is distorted.

REFERENCES

- Acosta, A., & Arráez, T. (2014). Actitud del docente de educación inicial y primaria ante la inclusión escolar de las personas con discapacidad motora. *Revista de Investigación*, 38(83), 135-154. http://ve.scielo.org/scielo.php?pid=S1010-29142014000300008&script=sci_arttext
- Ainscow, M., & Miles, S. (2008). Por una educación para todos que sea inclusiva: ¿Hacia dónde vamos ahora? *EDUCACION INCLUSIVA*, 38(1), 17. <http://bibliotecadigital.mineduc.cl/handle/20.500.12365/17329>
- Armijo-Cabrera, M. (2018). Deconstruyendo la noción de inclusión: un análisis de investigaciones, políticas y prácticas en educación. *Revista Electrónica Educare*, 22(3), 151-176. https://www.scielo.sa.cr/scielo.php?pid=S1409-42582018000300151&script=sci_arttext

- Bandalos, D. L., y Finney, S. J. (2010). Factor Analysis: Exploratory and Confirmatory. En G. R. Hancock y R. O. Mueller (eds.), Reviewer's guide to quantitative methods. Nueva York: Routledge. <https://www.taylorfrancis.com/chapters/edit/10.4324/9781315755649-8/factor-analysis-deborah-bandalos-sara-finney>
- Bermúdez, M. M., & Antola, I. N. (2020). Actitudes de los maestros ante la inclusión de alumnos con discapacidad. *Ciencias Psicológicas*, 14(1), 1-16. http://www.scielo.edu.uy/scielo.php?pid=S1688-42212020000101203&script=sci_arttext
- Cisternas, D. S. (2020). The classical sociological theory and disability: some notes for a potential dialogue. *Revista Española de Discapacidad (REDIS)*, 8(1), 7-24. <https://dialnet.unirioja.es/servlet/articulo?codigo=7456208>
- CONAIPD. (2015). Encuesta Nacional de Personas con Discapacidad 2015. <http://www.conaipd.gob.sv/wp-content/uploads/2017/09/Encuesta-CONAIPD-primera-entrega.pdf>
- Cruz, V. R. (2016). Discapacidad y educación superior: ¿Una cuestión de derechos o buenas voluntades?. *CPU-e. Revista de investigación educativa*, (23), 0-0. https://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S1870-53082016000200002
- Fuentes, A. R., Cara, M. J. C., & Alaín, L. (2019). Medir actitudes profesoriales españolas hacia la educación inclusiva para lograr una escuela para todos. *Actas Icono*, 14(1), 416-433. <https://www.icono14.net/ojs/index.php/actas/article/view/1338>
- MINED. (1996). Ley General de Educación. <https://www.transparencia.gob.sv/institutions/mined/documents/240670/download>
- Morera, M. R. (2018). Las prácticas realizadas por la Universidad de Costa Rica, para garantizar la educación superior de las personas con discapacidad. *Revista Reflexiones*, 97(2), 35-54. https://www.scielo.sa.cr/scielo.php?script=sci_arttext&pid=S1659-28592018000200035&lang=es
- Muñoz, M. C. (2019). Educación inclusiva en El Salvador. Una reflexión desde las políticas educativas. *Revista Latinoamericana de Educación Inclusiva*, 13(1), 21-36. https://www.scielo.cl/scielo.php?script=sci_arttext&pid=S0718-73782019000100021
- Novo-Corti, I., Muñoz-Cantero, J. M., & Calvo-Babío, N. (2015). Los futuros docentes y su actitud hacia la inclusión de personas con discapacidad. Una perspectiva de género. *Anales de Psicología/Annals of Psychology*, 31(1), 155-171. <https://revistas.um.es/analesps/article/view/163631>
- Organización Mundial de la Salud (2011). Informe mundial sobre la discapacidad. Ediciones Organización Mundial de la Salud (OMS). https://apps.who.int/iris/bitstream/handle/10665/75356/9789240688230_spa.pdf
- Palacios, Y. D. B., Ávila, Z. E. G., Miranda, D. F. Z., & Solórzano, H. X. P. (2022). Análisis estadístico cuando no se cumplen los supuestos de las pruebas paramétricas, en el contexto de la investigación de la Cultura Física. *Universidad y Sociedad*, 14(S1), 591-600. <https://rus.ucf.edu.cu/index.php/rus/article/view/2747/2706>

- Romero, R., & Lauretti, P. (2006). Integración educativa de las personas con discapacidad en Latinoamérica. *Educere*, 10(33), 347-356. <https://www.redalyc.org/pdf/356/35603319.pdf>
 - Sabatés, L. A., & Capdevila, J. M. (2010). Aportaciones sobre la relación conceptual entre actitud y competencia, desde la teoría del cambio de actitudes. *Electronic journal of research in educational psychology*, 8(3), 1283-1302. <https://www.redalyc.org/pdf/2931/293122000016.pdf>
 - Sánchez, M. T. P., & Justicia, M. D. L. (2006). Actitudes hacia las personas con discapacidad de estudiantes de la Universidad de Granada. *Revista Española de Orientación y Psicopedagogía*, 17(2), 195-211. <https://www.redalyc.org/pdf/3382/338230775004.pdf>
 - Sánchez, M. T. P. (2017). Innovación para la formación en inclusión: Actitudes de la comunidad universitaria. *International Journal of Developmental and Educational Psychology*, 4(1), 185-193. <https://www.redalyc.org/articulo.oa?id=349853537019>
 - Simbaña, G. V., Jaramillo, N. L., & Vinuesa, V. S. (2017). Aporte de Durkheim para la Sociología de la Educación. *Sophia, Colección de Filosofía de la Educación*, (23), 83-89. http://scielo.senescyt.gob.ec/scielo.php?script=sci_arttext&pid=S139086262017000200083
 - UNESCO. (2016). Educación 2030; Declaración de Incheon y Marco de Acción para la realización del Objetivo de Desarrollo Sostenible 4: Garantizar una educación inclusiva y equitativa de calidad y promover oportunidades de aprendizaje permanentes para todos. UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000245656_spa?posInSet=3&queryId=fcd3fa4-6f8a-43cc-91e6-ce1ae3ed44ef
 - Utreras, E. (2016). Cultura Escolar: Significados Construidos por Estudiantes en Torno a su Influencia en la Permanencia y Acceso a la Educación Superior. *Integración Académica en Psicología*, 4(12). <https://integracion-academica.org/attachments/article/135/Integraci%C3%B3n%20Acad%C3%A9mica%20en%20Psicolog%C3%ADa%20-%20V4N12.pdf#page=27>
 - Val, E. M., Valle, C. D. G., Rubio, L., & de la Fuente Anuncibay, R. (2017). Influencia de las actitudes hacia la discapacidad en el rendimiento académico. *International Journal of Developmental and Educational Psychology*, 4(1), 77-86. <https://www.redalyc.org/articulo.oa?id=349853537007>
 - Victoriano, V. E. (2017). Facilitadores y barreras del proceso de inclusión en educación superior: la percepción de los tutores del programa PlaneUC. *Estudios pedagógicos*, 43(1), 349-369. https://scielo.conicyt.cl/scielo.php?pid=S071807052017000100020&script=sci_arttext&tlng=n
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AUTHOR

Author –

* **Carlos Alberto Echeverría Mayorga**

Universidad Politécnica de El Salvador. carlos.echeverria@upes.edu.sv

ORCID: [0000-0002-4261-7178](https://orcid.org/0000-0002-4261-7178)

Requests to authors – Carlos Alberto Echeverría Mayorga, carlos.echeverria@upes.edu.sv

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