

# Validation of the Satisfaction Questionnaire with physical education classes (CSCEF) in the Latin American context

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## ABSTRACT

The objective of this study was to validate the Satisfaction Questionnaire in Physical Education Classes (CSCEF) in the context of Latin America (Dominican Republic). 1298 students aged between 15 and 21 participated. The psychometric properties of the instrument were analysed. The results demonstrated that the best factor solution would be a multidimensional model represented by nine dimensions for the satisfaction construct, as well as a higher-order model. According to Cronbach's alpha and omega index, values between .66 and .99 were obtained. The Latin American version of the CSCEF was invariant with respect to gender. Although the results of this study support the validity and reliability of the instrument, some limitations identified in both the original and Spanish version of the questionnaire remain.

**Keywords:** Scholar satisfaction; Adherence to physical education class; Multidimensional psychometric model.

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## INTRODUCTION

The study of school satisfaction has attracted the attention of researchers in recent years, among other reasons for its relationship with academic achievement (Guess & McCane, 2016; Tomás, Gutiérrez & Fernández, 2016), and the possible generation of a healthy lifestyle in adulthood (Muñoz, Gómez & Granero, 2019). Similarly, its relationship with fundamental aspects such as life satisfaction, as satisfaction is a positive emotional construct closely linked to self-regulated physical exercise (Sicilia, Ferriz, Trigueros, & González-Cutre, 2014). That is why, given its link to health, and in terms of research, this construct has been related to other aspects such as general well-being, quality of life or overall life satisfaction (Alfaro, Guzmán, Reyes, García, Varela & Sirlopú, 2016; Lozano, Ortega & Tristancho, 2015).

The importance of satisfaction as the motivation behind learning strategies in the educational domain seems clear (Ulstad, Halvari, Sørebo and Deci, 2016). With respect to physical education specifically, it could be considered complex to measure, if we bear in mind that P.E. is a subject with extremely diverse curricular content, which may range from satisfaction derived from the enjoyment of taking part in games to satisfaction resulting from P.E.'s contribution to adopting a healthy lifestyle. In accordance with this approach, with respect to the valid and reliable measurement of such a variable as satisfaction, what would be difficult would be to find a suitable instrument that could representatively compile the different sources of satisfaction that students experience when they take part in physical education.

In this order of ideas, it is essential to mention that researchers' forays into the specific context of physical education and sport, with isolated intentions of measuring behaviours linked to satisfaction, are based on studies such as those by Nicholls, Patashnick & Nolen (1985), Dud, & Nicholls (1992), Chelladurai & Riemer, (1997), Treasure & Roberts, 1994 (1998), or Riemer & Chelladurai (1998). Finding a reliable instrument with which to evaluate students' levels of satisfaction through physical education specifically entails an additional problem related to the conditions that generate students' satisfaction, and in this way validly and reliably determine possible elements that take into account pedagogical "quality" and the teacher's level of didactic empowerment over content inherent to the subject (Baños, Baena-Extremera & Ortiz-Camacho, 2019). The previous argument derives from the nature of some instruments used to measure satisfaction levels in sport and physical education, many of which only enable us to measure students' perceptions of the subject one-dimensionally, as shown by the *Intrinsic Satisfaction Classroom Scale* (ISC; Duda & Nicholls, 1992). The ISC has been one of the instruments most used in measuring satisfaction with physical education in schools (Baena & Granero, 2015; Baños, Baena & Tristán 2017; Castillo, Balaguer & Duda, 2001; Briones & Taberner, 2012). However, this scale measures the perception of satisfaction centred on feelings of enjoyment or boredom in physical education lessons, ignoring representative elements of satisfaction such as those relating to interpersonal relationships, its contribution to cognitive development or to improved health.

In order to understand this need, the interest of our research focuses on the use of the *Physical Activity Class Satisfaction Questionnaire* (PACSQ; Cunningham, 2007). This instrument enables us to evaluate the satisfaction of university students in Physical Education classes from a multi-dimensional perspective. Cunningham's study (2007) begins with designing, structuring and validating an instrument originally composed of eight dimensions, which look at students' perception of improvement in the physical performance (1. Mastery Experiences); perception of improvement in the cognitive performance (2. Cognitive Development); perception of having superior skills or performing better than others in their class, be it physical or cognitive (3. Normative Success); perception of companionship and the social bonds shared while participating in physical activity (4. Interaction with others); perception of the level of fun or enjoyment in the

activity (5. Fun and Enjoyment); perception of the contribution of the physical education class in relation with the state of health in general; (6. Improvement of Health and Fitness); perception of the physical education class as a stimulating and/or rejuvenating experience which contributes towards overall well-being (7. Diversionary Experiences); perception of the class as a means of achieving relief from strain and stress, helping students break their routine. (8. Relaxation). Having carried out the qualitative structuring, Cunningham (2007), in collaboration with other experts, subjected the PACSQ to a confirmatory factor analysis which results in conceiving another factor or dimension and repositioning various items inside the instrument's original model; in this way, the instrument as it stands has nine dimensions and 45 items which show predictive validity in relation with aspects broadly related to the intention of continuing doing physical activity. Subsequently, Sicilia, Ferriz, Trigueros & González-Cutre (2014), carried out a study to validate and adapt the PACSQ to Spanish, prompted, among other academic concerns, by the need to rely on a tool that would make it possible to measure satisfaction within the field of physical education multi-dimensionally. 858 secondary education students aged between 15 and 21 participated in the process of adaptation and validation of the PACSQ's Spanish version, called "*Cuestionario de satisfacción en las clases de Educación Física (CSCEF)*". The results of the study by Sicilia et al. (2014) supported the validity and reliability of a 33-item model represented by nine dimensions that explain satisfaction, making it necessary to eliminate 12 items from the questionnaire's original version. However, the authors emphasised that they had obtained high correlations (rating between .92 and .97) between some of the CSCEF's dimensions, diversionary experiences and health improvement, mastery experiences and cognitive development, and mastery experiences and health improvement. However, after testing different 8-factor alternatives, the initial 9-factor version turned out to be the most suitable technically and statistically, backing up the discriminating validity of its dimensions. Besides making it possible to measure satisfaction multi-dimensionally, the strong points of the CSCEF include: (a) the possibility it provides of using a higher-order model, in turn making it possible to obtain a global average for the construct, (b) the invariance across gender of the 9-factor model as well as the higher-order model (which enables us to use the CSCEF to carry out comparisons between the points obtained among boys and girls), (c) and its positive results in respect of time stability (reliability over time).

Taking the PACSQ version for Spain as a reference, therefore validated for use in the Spanish language, the aim of this study was to analyse the validity and reliability of the PACSQ in its Spanish version (CSCEF; Sicilia et al., 2014) in the context of Latin America (the Dominican Republic). Its psychometric properties were analysed, testing the possibility of a 9-factor model and a higher-order model, and invariance across gender was tested in both models. The descriptive statistics and reliability were calculated.

## METHOD

### **Participants**

1298 students in 5<sup>th</sup> and 6<sup>th</sup> grades of the second cycle of secondary education, from both state and private institutions, took part in this study. They included 749 females and 549 males, with ages ranging from 15 to 19 ( $M = 16.87$ ;  $DT = 0.81$ ). The participants lived in the Dominican Republic's three most densely-populated cities, according to data from the National Statistics Office (ONE): Santo Domingo Distrito Nacional, in the south-east of the country, Santiago de los Caballeros, in the north-west, and San Cristóbal, in the south-east. Of the total sample, 812 students came from 15 state schools and 486 from private schools, receiving 2 hours of Physical Education classes per week.

### **Measurement**

"*Cuestionario de satisfacción en las clases de educación física (CSCEF)*". We used the Spanish version (CSCEF; Sicilia et al., 2014) of the *Physical Activity Class Satisfaction Questionnaire* (PACSQ; Cunningham,

2007). The instrument begins with the premise “*Indicate your level of satisfaction with the physical education classes received with respect to...*” and comprises 33 items which represent nine factors (see the Appendix). The responses are offered through a Likert scale from 1 (strongly disagree) to 8 (strongly agree).

### **Procedure**

In order to validate the instrument in respect of the context of Latin America (the Dominican Republic), the items from the PACSQ translated into Spanish (CSCEF) were used and a reading comprehension test on the 33 items based on a Likert scale was carried out. This scale was applied to 65 students from 5<sup>th</sup> and 6<sup>th</sup> grades of secondary education whose ages ranged from 15 to 19, all of whom attended state schools. The results showed that 95.7% of the students perfectly understood the questionnaire, both its wording and the meaning contained in each item. Therefore, it was decided not to apply an additional test to verify the cultural-linguistic adaptation of the questionnaire with a higher degree of complexity, as well-guided instructions prior to the application of any type of psychometric test avoids an incorrect interpretation on the part of those involved in the test (Hambleton, 1996; Prieto & Muñiz, 2000).

Once it was assured that the students could understand the instrument, we contacted the head teachers' offices in the different educational establishments, explaining the study's aim and requesting the participation of their P.E. teachers. The under-aged students provided a paternal consent form, while those of legal age gave their own consent to answer the questionnaire. The CSCEF was handed out in the presence of one of the members of the work group, who was able to resolve any doubts and ensure that the respondents filled out the questionnaire anonymously.

### **Data Analysis**

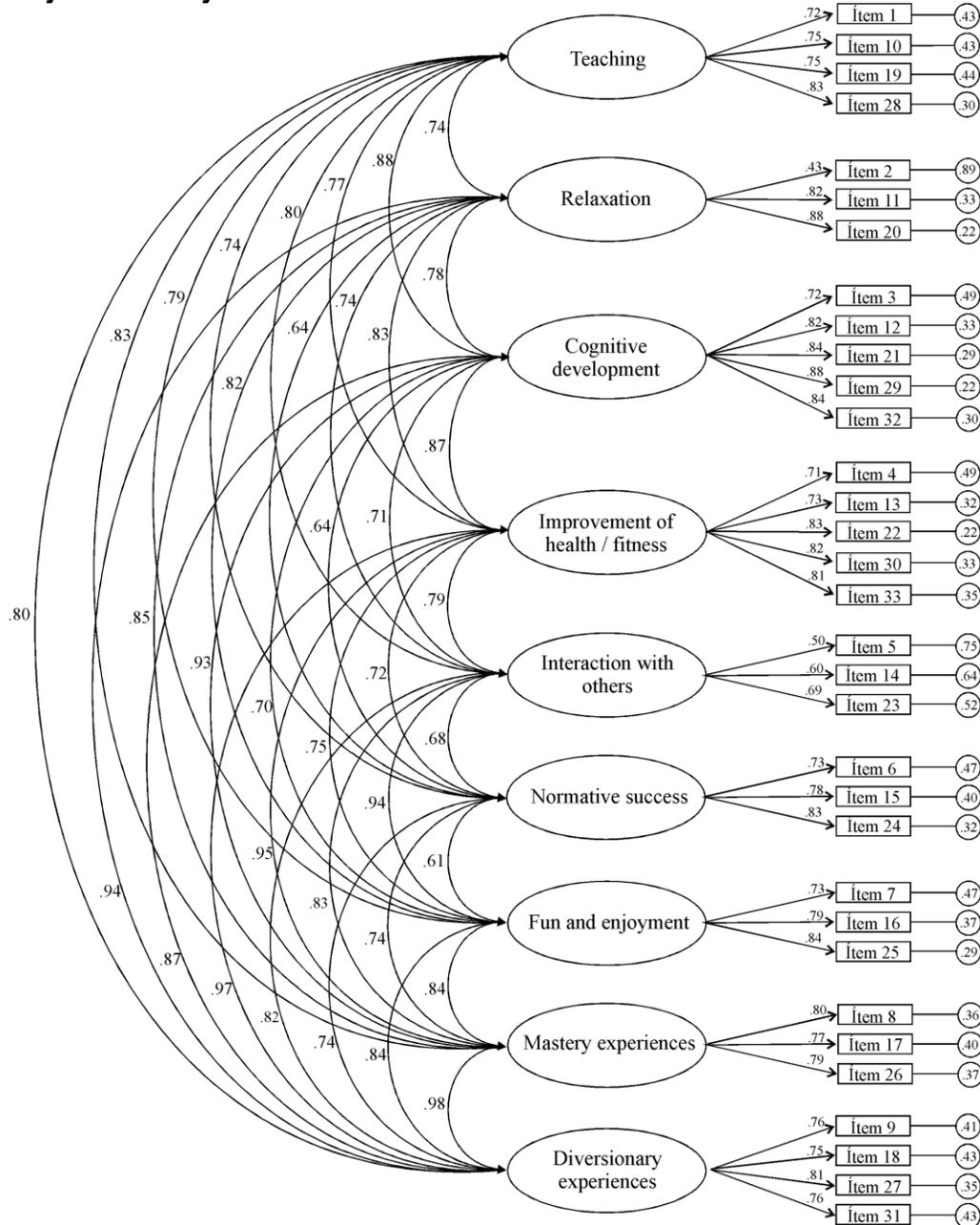
Firstly, an analysis of the psychometric properties of the CSCEF was developed in order to determine its validity and reliability in the context of South America (the Dominican Republic). Since for the confirmatory factor analysis a univariate and multi-variate normal distribution was given, the Mardia = 931.33 coefficient was the maximum likelihood method (Byrne, 2001). Furthermore, with the aim of either accepting or rejecting the model, various fit indices were used:  $\chi^2/df$ , CFI (*Comparative Fit Index*), TLI (*Tucker Lewis Index*), IFI (*Incremental Fit Index*), RMSEA (*Root Mean Square Error of Approximation*) with a 90% confidence interval, and SRMR (*Standardized Root Mean Square Residual*). Given that the  $\chi^2$  is very sensitive to the sample size (Jöreskog and Sörbom, 1993), the  $\chi^2/df$  was used, values of less than 5 being considered acceptable (Bentler, 1989). The incremental fit indices (CFI, TLI and IFI) show an acceptable fit with values of  $\geq .90$  (Schumacker and Lomax, 1996), and the error indices (RMSEA and SRMR) are assumed acceptable with values of  $\leq .08$  (Browne and Cudeck, 1993; Hu & Bentler, 1999).

Secondly, factor structure invariance across gender was tested, taking into consideration that the null hypothesis of invariance should be rejected in the presence of statistically significant differences between the unrestricted model and the successive restricted models (Byrne, 2013).

Third, the descriptive statistics and internal consistency / reliability were calculated by means of two methods, a) Cronbach's alpha ( $\alpha$ ), which represents the extent of the covariance of the items, and b) the Omega index ( $\omega$ ), which is calculated with the factor loadings of the items. For  $\alpha$  (Nunnally, 1978) and  $\omega$  (McDonald, 1981), values of  $\geq .70$  were considered acceptable. The *Statistical Package for Social Sciences* (version 21.0 for Windows, SPSS Inc, Chicago, IL, USA) were used.

RESULTS

Confirmatory Factor Analysis



Note: Ellipses represent the factors and the rectangles the diverse items. Residual variances are shown in small circles.

Figure 1. Confirmatory factor analysis of the Latin American version of the CSCEF.

The results of the model composed of nine dimensions and 33 items showed the following fit indices (see Figure 1):  $\chi^2$  (459,  $N = 1298$ ) = 231,03,  $p = .000$ ;  $\chi^2/df = 5.05$ ; CFI = .94; TLI = .93; IFI = .94; RMSEA = .056 (IC 90% = .054-.058); SRMR = .0343. However, the  $\chi^2/df$  revealed a higher than recommended value. The modification indices showed that by correlating the errors in items 5 and 14 of the interaction with others

factor and the errors in items 10 and 19 of the teaching factors, the fit indices improved (see Figure 1):  $\chi^2$  (457,  $N = 1298$ ) = 2005,48,  $p = .000$ ;  $\chi^2/df = 4.82$ ; CFI = .94; TLI = .93; IFI = .94; RMSEA = .054 (IC 90% = .052-.057); SRMR = .0332. For this last model, the regression weights of the items ranged from .43 and .88, all of them being statistically significant ( $p < .001$ ). However, correlations over .90 were shown between various factors: diversionary experiences with mastery experiences (.98); improvement in health (.97) and relaxation (.94); mastery experiences with diversionary experiences (.97); improvement in health/PC (.95) and cognitive development (.93), and fun/enjoyment with interaction with others (.94). Given that the presence of high correlations between factors had already been obtained in the Spanish version of Sicilia et al. (2014), following the methodological approach of these authors, we also tested the possibility of alternative models.

### **Confirmatory factor analyses for alternative models of the instrument**

With the aim of analysing the possibility of obtaining better factor solutions for the scale, we evaluated the sustainability of alternative models of the subscales which showed high correlations, combining them in order to form a single factor to join to the model along with the remaining subscales. 10 models were tested, maintaining the correlation between the two pairs of items of the final model and assuming as a criterion to carry out the analysis that the correlation between constructs was  $\geq .85$ . As can be observed in Table 1, all of the alternative models showed worse fit indices with respect to the model that considers the nine dimensions of the CSCEF separately. However, in spite of obtaining slightly worse fit indices than the nine-factor solution, the model that included the items of the fun and enjoyment and interaction with others subscale in the same construct showed acceptable fit indices.

Table 1. Adjustment Indices for alternative models formed by eight factors.

Correlation	Factors	$\chi^2$	$df$	$\chi^2/df$	CFI	TLI	IFI	SRMR	RMSEA (IC 90%)
.85	F7 + F1(EM y R)	2478.48	465	5.33	.93	.93	.93	.0345	.058 (.056-.060)
.93	F7 + F1(EM y DC)	2557.66	465	5.50	.93	.92	.93	.0381	.059 (.057-.061)
.98	F7 + F1(EM y ER)	2753.58	465	5.92	.92	.91	.93	.0391	.062 (.059-.064)
.95	F7 + F1(EM y MS/CF)	2339.08	465	5.03	.94	.93	.94	.0336	.056 (.054-.058)
.88	F7 + F1(E y DC)	2580.95	465	5.55	.93	.92	.93	.0380	.059 (.057-.061)
.87	F7 + F1(ER y DC)	2937.15	465	6.32	.92	.91	.92	.0389	.064 (.062-.066)
.97	F7 + F1(ER y MS/CF)	2359.64	465	5.07	.94	.93	.94	.0335	.058 (.054-.058)
.94	F7 + F1(ER y R)	2378.90	465	5.11	.94	.93	.94	.0344	.056(.054-.059)
.87	F7 + F1(MS/CF y DC)	2834.29	465	6.10	.92	.91	.92	.0369	.063 (.060-.065)
.94	F7 + F1(DD y IO)	2256.02	465	4.85	.94	.93	.94	.0341	.054 (.052-.057)

Note. By its acronym in Spanish: E = Teaching; R = Relaxation; DC = Cognitive Development; MS / CF = Health and Fitness Improvement; IO = Interaction with Others; DD = Fun and Enjoyment; MS = Master Experiences; ER = Recreational Experiences. The level of correlation indicated corresponds to that obtained in the confirmatory factor analysis.

### **Higher order model**

Opting for a nine-dimension model, which was the one that fitted best to the data, a higher-order model was tested (the nine first-order factors converging in a second-order factor called overall satisfaction). The fit indices of this model were acceptable:  $\chi^2$  (484,  $N = 1298$ ) = 2972.80,  $p = .001$ ,  $\chi^2/df = 6.14$ ; CFI = .92; TLI =

.91; IFI = .92; RMSEA = .063 (IC 90% = .061-.065); SRMR = .0424. All of the standardised regression weights were significant ( $p < .001$ ), at .85 for teaching, .89 for relaxation, .90 for cognitive development, .95 for improvement in health, .85 for interaction with others, .73 normative success, .85 for fun and enjoyment, .99 for mastery experiences, and .99 for diversionary experiences.

### **Descriptive statistics, analysis of correlations between the items and analysis of internal consistence**

The participants obtained mean scores for the nine satisfaction factors higher than the mean score of the scale, the score being highest for the fun and enjoyment factor ( $M = 6.90$ ) and lowest for the normative success factor ( $M = 6.14$ ). With respect to the calculation of reliability through  $\alpha$ , values between .66 y .91 were given, while the values for  $\omega$  were between .89 y .99. These results can be seen in Table 2.

Table 2. Rank, descriptive statistics and internal consistency.

Factor	Rank	M	DT	$\alpha$	$\omega$
Teaching	1-8	6.79	1.44	.86	.94
Relaxation	-	6.27	1.47	.68	.99
Cognitive development	-	6.59	1.43	.91	.99
Improvement in health /Physical condition	-	6.37	1.57	.88	.99
Interaction with others	-	6.61	1.29	.66	.89
Normative success	-	6.14	1.53	.82	.99
Fun/Enjoyment	-	6.90	1.42	.83	.99
Mastery experiences	-	6.65	1.43	.83	.94
Diversionary experiences	-	6.34	1.50	.85	.94
Global satisfaction	-	6.52	1.21	-	-

### **Invariance analysis**

Table 3. Invariance Analysis by gender.

<b>Nine primary order factors model</b>										
Models	$\chi^2$	gl	$\chi^2/gl$	$\Delta\chi^2$	$\Delta gl$	CFI	TLI	IFI	RMSEA (IC 90%)	SRMR
Model 1	2978.42	914	3.26	-	-	.93	.92	.93	.042 (.040 - .043)	.0377
Model 2	3046.72	938	3.25	21.706	24	.93	.92	.93	.042 (.040 - .043)	.0417
Model 3	3180.18	983	3.24	111.539	69	.93	.92	.93	.042 (.040 - .043)	.0528
Model 4	3263.88	1018	3.21	174.831	102	.93	.92	.93	.041 (.040 - .043)	.0545
<b>Higher-order factor model</b>										
Models	$\chi^2$	gl	$\chi^2/gl$	$\Delta\chi^2$	$\Delta gl$	CFI	TLI	IFI	RMSEA (IC 90%)	SRMR
Model 1	3788.01	968	3.91	-	-	.91	.90	.91	.047 (.046 - .049)	.0467
Model 2	3857.50	992	3.89	69.484	24	.91	.90	.91	.047 (.046 - .049)	.0503
Model 3	3884.23	1000	3.88	96.220	32	.91	.90	.91	.047 (.046 - .049)	.0547
Model 4	3895.11	1001	3.89	107.099	33	.91	.90	.91	.047 (.046 - .049)	.0608
Model 5	3941.93	1010	3.90	153.917	42	.90	.90	.90	.047 (.046 - .049)	.0601
Model 6	4017.14	1045	3.84	229.129	77	.90	.90	.90	.047 (.045 - .050)	.0613

Note. Model 1 = Model without restrictions; Model 2 = Model with invariant measurement weights; Model 3 = Model with invariant structural covariances; Model 4 = Model with invariant measurement residuals. Significant differences were found for  $\Delta\chi^2$  ( $p = .000$ ) between Model 1 and the other models (Model 2 to 4).

With regard to the invariance analyses (see Table 3) in terms of the type of nine-factor model correlated as if it were for the higher-order model, significant differences in the  $\chi^2$  statistic between model 1 and models 2, 3 and 4 were shown. However, given that the  $\chi^2$  coefficient is sensitive to the sample size, the criterion

established by Cheung and Rensvold (2002) was applied with respect to the  $\Delta CFI$ , for which reason  $\Delta CFI$  values lower or equal to .01 indicate that invariance of the null hypothesis should not be rejected. In this case, the difference between the models for the CFI was  $\leq .002$  in both analyses (nine-factor and higher-order models), and as such the invariance of the instrument could be accepted.

## DISCUSSION AND CONCLUSIONS

The aim of this study was to analyse the validity and reliability of the Spanish version (CSCEF; Sicilia et al., 2014) of Cunningham's PACSQ (2007) for the context of Latin America, specifically, the Dominican Republic. In line with the Spanish version, which includes a lower number of items with respect to the original version (33 as opposed to 45), and which maintains the nine original factors, this study indicates that the CSCEF would be a valid and reliable instrument with which to measure students' satisfaction with their physical education classes. The key results of the study are set out below.

Firstly, the CSCEF showed suitable psychometric properties after carrying out a correlation between a pair of items from two factors. Therefore, a 33-item, 9-factor model would be the most appropriate solution to measure satisfaction with physical education classes in the context of Latin America (the Dominican Republic). As occurred in Cunningham's original version of the PACSQ (2007), and its adaptation to the Spanish context of Sicilia et al. (2014), in this study we obtained high correlations between several factors. Sicilia et al. (2014) tested the viability of alternative eight-factor models, obtaining the one that discriminates between the nine factors hypothesised by Cunningham as the best factor solution. Along similar lines, this study analyses the discriminating validity of the instrument through ten alternative models, and although the alternative model that includes the items of the fun and enjoyment and interaction with others constructs in a single factor showed acceptable fit indices, these indices were slightly worse than in the nine-factor model. Since the publication of the Spanish version in 2014, the dimensions of the CSCEF have been used separately in some studies, supporting the discriminating validity in spite of the high correlations between their factors. For example, Ferriz, González-Cutre, Sicilia and Hagger (2016) used the cognitive development, improvement in health and mastery experiences dimensions as background variables in a longitudinal study. By relating the three factors with three variables from the theory of self-determination, the satisfaction sources showed clearly differentiated regression weights between them, with values between -.09 and .55. Bearing in mind that, on the one hand, the results of the alternative models from the Spanish version and this study, as well as those shown by Ferriz et al (2016), and that, on the other, Cunningham indicates that each factor in the PACSQ represents a different concept, it can be defended that the best solution is the nine-factor model, both in statistical and theoretical terms.

Secondly, a higher-order model which will enable future studies to analyse satisfaction as a global construct represented by its nine factors can be confirmed, which could be positive for studies which aim to tackle a large number of variables. This is the case of the study by Ferriz, Sicilia and Sáenz-Álvarez (2013), in which the relationship between motivational variables and satisfaction with physical education, using the CSCEF's global construct as a consequence, was analysed with a sample of Spanish students. As occurred in the study by Sicilia et al. (2014), the factors which contributed a higher regression weight to the global construct were those related to procedural-type learning or know-how (mastery experiences) and the perception of what P.E. contributes to emotional well-being (diversionary experiences), while the perception of being more capable of doing better than one's peers (normative success) was the construct that provided the least regression weight. Therefore, bearing the contribution of each factor to the global construct in mind, if P.E. teachers want to contribute towards students' satisfaction with their P.E. classes, learning that foments conceptual learning (cognitive development) should be promoted; the area of P.E., in collaboration with other

areas and social agents, should contribute towards the adoption of a healthy lifestyle (improvement in health); learning that enables students to develop their skills should be applied capably (mastery experiences), and physical education should contribute positively to students' emotional well-being (diversionary experiences).

Third, it should be emphasised that the model which makes it possible to distinguish between the nine factors and the one which provides a global construct were invariant with respect to gender. This result is interesting to the extent that future studies in the context of Latin America will be able to compare students' satisfaction levels in terms of the gender variable. Although different instruments can be found in specific literature to measure satisfaction (e.g., ISC; Duda and Nicholls, 1992), the PACSQ is the only one for which it has been proven that comparisons can be made between the scores obtained by boys and girls. On the basis of this possibility the instrument offers, the PACSQ (CSCEF for the Spanish language) has already been used with Spanish students (Ferriz et al., 2013), indicating that boys perceived greater satisfaction with P.E. classes than girls. Future studies could analyse the existence or otherwise of such differences between genders in Latin America.

Fourth, with regard to reliability, acceptable values were shown for  $\alpha$  except in the interaction with others factor (.66), which obtained a lower than recommended value. However, for  $\omega$ , excellent values were obtained,  $\geq .89$ . The fact that  $\alpha$  was not suitable for one of the factors does not appear concerning bearing in mind the results shown by  $\omega$ , as a considerable number of researchers (see Ventura-León and Caycho-Rodríguez, 2017) currently defend  $\omega$  as a more stable and reliable indicator of calculations, among other reasons because it does not depend on the number of items the construct represents. Therefore, in the light of the values obtained in the nine factors of  $\omega$ , it can be argued that the CSCEF was a reliable instrument, although it would be interesting for future studies to address the appropriateness or otherwise of reformulating some items in order to confirm the reliability of all of its factors.

In conclusion, this research provides proof of the validity and reliability of the CSCEF as a suitable resource to measure physical education students' satisfaction in Latin America (the Dominican Republic). It is possible to measure the construct both one-dimensionally and multi-dimensionally, also making it possible to compare the results across gender. The CSCEF could be an interesting resource for researchers to test the effectiveness of intervention programmes, as well as for teachers to have at their disposal information relating to students' perceptions of their teaching.

## **AUTHOR CONTRIBUTIONS**

All authors participated and contributed equally in the different phases of the project and the preparation of this article.

## **SUPPORTING AGENCIES**

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## **DISCLOSURE STATEMENT**

No potential conflict of interest was reported by the authors.

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**Annex: Spanish version questionnaire (in Spanish)**

Indica tu nivel de satisfacción con las clases de educación física recibidas, respecto a:

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1. La claridad de las explicaciones del profesor
  2. El modo en que mi mente puede desconectar
  3. Lo que aprendo respecto a los aspectos técnicos de la educación física
  4. La mejoría de mi salud debido a las clases
  5. Las relaciones que tengo con otros en las clases
  6. La superioridad de mis habilidades en comparación con el resto de clase
  7. La diversión que tengo en clase
  8. Cuánto aprendo acerca de cómo realizar mejor actividad física o deporte
  9. La manera en que la educación física contribuye a mi bienestar emocional
  10. El entusiasmo del profesor durante las clases
  11. El modo en que la educación física me ayuda a liberarme del estrés
  12. Cuánto aprendo sobre las diversas estrategias utilizadas en educación física
  13. El entrenamiento físico que recibo en las clases
  14. La oportunidad que tengo de socializarme con otros
  15. Mi capacidad de hacerlo mejor que otros compañeros/as de clase
  16. Las experiencias agradables que tengo en clase
  17. Mi mejoría en la ejecución de habilidades
  18. Cómo de rejuvenecido me siento como resultado de las clases
  19. La empatía que el profesor muestra hacia los estudiantes en las clases
  20. El modo en que las clases de educación física me ayudan a relajarme
  21. Lo que aprendo sobre el contenido básico de la educación física
  22. El desarrollo de una mejor condición física debido a las clases
  23. El ambiente o clima social en general de las clases
  24. Mis habilidades comparadas con las de otros compañeros/as de clase
  25. Lo bien que me lo paso en clase
  26. Mi oportunidad de practicar nuevas habilidades
  27. El modo en que las clases me hacen sentir revitalizado/a
  28. La habilidad del profesor para comunicar con eficiencia el contenido de la materia
  29. Los conocimientos que adquiero sobre los fundamentos de la educación física
  30. La contribución de las clases a mi estado general de salud
  31. El esfuerzo físico estimulante durante las clases
  32. El grado en que aprendo los conceptos básicos de la educación física
  33. El progreso para lograr un cuerpo más sano durante las clases
- 

*Nota. Enseñanza; ítems 1, 10, 19 y 28; Relajación; ítems 2, 11 y 20; Desarrollo cognitivo; ítems 3, 12, 21, 29 y 32; Mejora de la salud/ CF; ítems 4, 13, 22, 30 y 33; Interacción con otros; ítems 5, 14 y 23; Éxito normativo; 6, 15 y 24; Diversión y disfrute; 7, 16 y 25; Experiencias de maestría: 8, 17 y 26; Experiencias recreativas: 9, 18, 27 y 31.*

**Annex: Spanish version questionnaire**

Indicate your level of satisfaction with the physical education classes received, with respect to...

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1. The clarity of the teacher's lessons
  2. The way my mind was put at ease
  3. What I learned concerning the technical aspects of the physical education
  4. The improvement of my health due to the classes
  5. The interaction I had with others in the classes
  6. The superiority of my skills in comparison to others in the class
  7. The fun I have in class
  8. How much I learn about how to do better physical activity or sport
  9. The manner in which the physical education classes contributed to my emotional well-being
  10. The teacher's enthusiasm during the class
  11. The way the physical education helped me to relieve stress
  12. How much I learned about the various strategies used in physical education
  13. The physical workout I receive in the class
  14. The opportunity to make new acquaintances
  15. My ability to do better than other classmates
  16. The pleasant experiences I had in the class
  17. My opportunity to practice new skills
  18. How I feel rejuvenated as a result of the class
  19. The empathy the teacher showed for the students in the class
  20. The way that the physical education classes helped me to unwind
  21. What I learned about the basic content of the physical education
  22. The development of greater fitness as a result of the classes
  23. The general atmosphere or social climate in the classes
  24. My skills compared to students in the class
  25. How much fun I had in the class
  26. My opportunity to practice new skills
  27. The way the class makes me feel re-energized
  28. The teacher's ability to effectively communicate content matter
  29. The knowledge about the fundamentals of the physical education I have gained
  30. The class's contribution to my overall health
  31. The physical exertion during the class
  32. The extent to which I learned the essential concepts of the physical education
  33. The progress I have made toward a healthier body during the class
- 

Notes. Teaching; items 1, 10, 19 y 28; Relaxation; items 2, 11 y 20; Cognitive development; items 3, 12, 21, 29 y 32; Improvement in health /Physical condition; items 4, 13, 22, 30 y 33; Interaction with others; items 5, 14 y 23; Normative success; 6, 15 y 24; Fun/Enjoyment; 7, 16 y 25; Mastery experiences: 8, 17 y 26; Diversiory experiences: 9, 18, 27 y 31.



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