

<https://doi.org/10.1590/198053146232>

## THE UTILITY OF PHYSICAL EDUCATION ACCORDING TO STUDENTS FROM GERMANY AND CHILE<sup>1</sup>

Jaime Carcamo-Oyarzun<sup>I</sup> • Georg Wydra<sup>II</sup> •  
 Claudio Hernández-Mosqueira<sup>III</sup> • Sebastián Peña-Troncoso<sup>IV</sup> •  
 Cristian Martínez-Salazar<sup>V</sup>  
 TRANSLATED BY Helen Lowry<sup>VI</sup> and Heike Flatau<sup>VII</sup>

### Abstract

*The aim of this study is to show how the students of different cultures perceive their physical education classes. 2748 students (1373 from the Araucania Region in Chile and 1375 from Saarland in Germany) have been surveyed. The students of both countries agree that the “sportive-recreational” aspect is more important than the “social-educational” one, while the Chilean students present higher values than the German students do. In addition, the students of both countries disagree to the statement that physical education is useless for them. The Chilean and German students think that their physical education class is useful. This knowledge can be used as an opportunity to reinforce the generation of positive experiences in class and to consolidate the learning processes.*

**PHYSICAL EDUCATION • STUDENTS • CHILE • GERMANY**

## LA UTILIDAD DE EDUCACIÓN FÍSICA SEGÚN ESCOLARES DE ALEMANIA Y CHILE

### Resumen

*El presente estudio tiene como propósito determinar cómo escolares de diferentes culturas perciben la utilidad de las clases de Educación Física. Fueron encuestados 2748 escolares (1373 de la Región de La Araucanía, Chile; y 1375 del Estado de Sarre, Alemania). Tanto los escolares chilenos como alemanes reconocen una utilidad “deportivo-recreativa” por sobre una utilidad “socio-educativa”, siendo los chilenos quienes presentan valores más altos que sus pares alemanes; además, ambos grupos manifiestan su desacuerdo en que la Educación Física no les ha servido para nada. Los escolares consideran que sus clases de Educación Física les han sido útiles, lo que se presenta como una oportunidad para reforzar la generación de experiencias positivas dentro de clases y consolidar los aprendizajes.*

**EDUCACIÓN FÍSICA • ESTUDIANTES • CHILE • ALEMANIA**

**1** Article partially funded by the University of La Frontera through the Project DIUFRO Code DFP16-0011 entitled “Relevancia social de la Ed. Física según los actores de la comunidad educativa. La situación en la Región de la Araucanía”.

**I** Universidad de La Frontera, Temuco, Chile; <http://orcid.org/0000-0002-7536-8788>; [jaime.carcamo@ufrontera.cl](mailto:jaime.carcamo@ufrontera.cl)

**II** Universität des Saarlandes, Saarbrücken, Germany; <http://orcid.org/0000-0001-9038-1799>; [g.wydra@mx.uni-saarland.de](mailto:g.wydra@mx.uni-saarland.de)

**III** Universidad de Los Lagos, Puerto Montt, Chile; Grupo de Investigación AFSYE, Universidad Adventista de Chile; <http://orcid.org/0000-0001-9392-2319>; [claudio.hernandez@ulagos.cl](mailto:claudio.hernandez@ulagos.cl)

**IV** Instituto de Ciencias de la Educación, Universidad Austral de Chile, Valdivia; Universidad SEK, Chile; <https://orcid.org/0000-0002-5438-0868>; [sebastian.pena@uach.cl](mailto:sebastian.pena@uach.cl)

**V** Universidad de La Frontera, Temuco, Chile; <http://orcid.org/0000-0002-9216-1826>; [cristian.martinez.s@ufrontera.cl](mailto:cristian.martinez.s@ufrontera.cl)

**VI** Universidad de La Frontera, Temuco, Chile; [diufro@ufrontera.cl](mailto:diufro@ufrontera.cl)

**VII** Universidad de La Frontera, Temuco, Chile; [heike.flatau@ufrontera.cl](mailto:heike.flatau@ufrontera.cl)

## L'UTILITÉ DE L'ÉDUCATION PHYSIQUE, SELON DES ÉTUDIANTS ALLEMANDS ET CHILIENS

### Résumé

*L'objectif de cette étude est de déterminer la façon dont des étudiants issus de cultures différentes perçoivent l'utilité des classes d'Éducation Physique. 2748 élèves (1373 de la région d'Araucania, au Chili; et 1375 de l'État de Sarre, en Allemagne) ont été interrogés. Les étudiants chiliens et allemands reconnaissent une utilité plus "sportive-récréative" que "socio-éducative", les valeurs présentées par les Chiliens sont cependant plus élevées que chez les allemands. En outre, les deux groupes expriment leur désaccord quant à l'opinion que l'éducation physique ne leur apporte rien. Dans l'ensemble, les élèves considèrent que les cours d'Éducation Physique ont été utiles, ce qui représente une opportunité pour renforcer les expériences positives en classe et pour consolider les apprentissages.*

**ÉDUCATION PHYSIQUE • ÉTUDIANTS • CHILI • ALLEMAGNE**

## A UTILIDADE DA EDUCAÇÃO FÍSICA SEGUNDO ESTUDANTES DA ALEMANHA E DO CHILE

### Resumo

*O presente estudo tem o objetivo de determinar a forma como estudantes de diferentes culturas percebem a utilidade das aulas de Educação Física. Foram entrevistados 2.748 estudantes (1.373 da região da Araucanía, Chile; e 1.375 do Estado de Sarre, Alemanha). Tanto os alunos chilenos como os alemães reconhecem mais uma utilidade "esportivo-recreativa" que uma "socioeducativa", e os chilenos apresentam valores mais altos que seus pares alemães; por outro lado, ambos os grupos manifestam seu desacordo com a opinião de que a Educação Física não lhes serve para nada. Os estudantes consideram que suas aulas de Educação Física foram úteis, o que surge como uma oportunidade para reforçar a geração de experiências positivas nas aulas e consolidar as aprendizagens.*

**EDUCAÇÃO FÍSICA • ESTUDANTES • CHILE • ALEMANHA**

## EXPERIENCE AND PHYSICAL EDUCATION

Unlike all the subjects distributed in formal education, physical education has the advantage of being the only subject that directly bases its learning on physical experiences. As Araya (2006) notes, physical education not only involves the practice of sports or motor skills and physical performance, it also seeks to teach motor behavior that is structured by wide array of significant relationships formed throughout life. Many of these relationships are created at school, where the time students spend on this nurtures a series of elements with which they build their perceptions of their surroundings, life, others and themselves, i.e., living experiences (FABRI; ROSSI; FERREIRA, 2016).

Depending on how these experiences are perceived, students will judge their physical education classes, which is why if the experiences have been successful, the subject will be judged positively, favoring a predisposition to participate in class, whereas the negative experiences could bring about a distancing from physical education in students (FABRI; ROSSI; FERREIRA, 2016). In this sense, knowledge of how students perceive these experiences, as well as their assessment of their classes, will enable reflection of educational practices in order to reinforce the positive experiences and reduce the negative ones, since if students are unwilling to participate in physical education classes, they will lose the only concrete opportunity they have to move, express themselves with their bodies, promote motor development and produce habits of physical activity (HERNANDEZ; VELAZQUEZ, 2007). Herein lies the relevance of positive experiences in classes: since students having a favorable perception and lending

greater importance to physical education facilitates the achievement of the goals set out in the curriculum, because students would recognize the utility of the material and value the benefits that recurring practice of physical activity generates (MORENO-MURCIA *et al.*, 2013). As Rodríguez (2004) and Cañas, Novak and González (2004) suggest, this predisposition for learning must influence the conception, knowledge and utility of the material, resulting in the questioning of what is to be learned, the why and what for, relating this directly to the students' own interests and concerns. Thus, the learning needs to be perceived as useful, because when students demonstrate a high degree of commitment to school activities, they consider these activities as something important for their future (DEWITTE; LENS, 2000).

Various authors have addressed the topic of the importance and utility that students attach to physical education, mainly from two perspectives. The first is related to the attitudes to physical education, where, directly and linked to meditational processes, students manifest evaluative judgments, while the second corresponds to motivational processes, where the analysis of students' motivation is linked positively to the importance and utility attached to physical education.

## ATTITUDES TO AND UTILITY OF PHYSICAL EDUCATION

The creation of favorable attitudes to physical education is considered one of the fundamental outcomes in teaching physical education (SIEDENTOP, 1998), for which, among other things, a concrete perception of the utility of physical education must be developed, both immediately and for the future (SÁNCHEZ BAÑUELOS, 1996). Thus, the topic of the utility of the subject is included among the studies on attitudes to physical education. In addition, evidence has shown that variables like age, gender and type of school affect the utility and importance the student attaches to physical education (MORENO-MURCIA; HELLÍN-GÓMEZ, 2002; MORENO-MURCIA; HELLÍN-GÓMEZ; HELLÍN-RODRIGUEZ, 2006; RODRÍGUEZ *et al.*, 2013), as well as interaction with the teacher (SCHARAGRODSKY, 2004; HERNANDEZ; VELAZQUEZ, 2007; HERNÁNDEZ-ÁLVAREZ *et al.*, 2010; CÁRCAMO-OYARZÚN, 2012), and cultural differences (DISMORE; BAILEY; IZAKI, 2006; CARCAMO-OYARZÚN *et al.*, 2017). Although these studies analyzed different mediating variables of attitudes to physical education, their conclusions coincided in that the more important and useful the subject is considered, the greater the chances of producing physical activity habits.

## MOTIVATION AND UTILITY OF PHYSICAL EDUCATION

Self-Determination Theory (DECI; RYAN, 1985) has served to guide several studies on motivation and physical education. This theory, in very general terms, posits that human behavior is self-determined, where there are different levels of reflection and commitment that the individual has towards their actions (DECI; RYAN, 1985). Intrinsic motivation is on the first level, where behavior is guided by the pleasure that the experience in which they participate is produced in

the individual. Extrinsic motivation is on the second level; this is divided into integrated regulation (characterized by the assimilation of the activity into the individual's daily life); regulation through identification (where the individual performs the activity because it is of social and personal benefit to them); introjected regulation (feelings of guilt the individual experiences when they do not perform the intended activity); and externally regulated behavior (the individual performs the activity to obtain a reward, such as recognition, awards, success, etc.). The last level of motivation is the smallest degree of self-determination, demotivation, defined by the total absence of some type of regulation to define the behavior toward a certain activity, without finding any sense in doing it (MORENO; MARTÍNEZ, 2006). Through this theory, intrinsic motivation has been directly related to physical education, determining that it can be predictive of its importance and utility (BAENA-EXTREMERA *et al.*, 2014); i.e., that students who present a high degree of intrinsic motivation attach greater importance and utility to the subject (MORENO-MURCIA *et al.*, 2013), that students with high motivation levels have a greater chance of acquiring and adopting habits of practicing sports (GRANERO-GALLEGOS *et al.*, 2014), that the motivation leads to perceiving greater utility from sport activities (AMADO *et al.*, 2014), among other positive relations.

Regardless of the perspective from which the utility of physical education has been studied, the authors who have addressed the topic agree that the more important and useful the subject is considered, the greater the chances of those physical experiences being repeated outside school, which would contribute to consolidating active lifestyles. This situation acquires greater relevance if one considers that many countries have currently proposed in their curricula that physical education must seek regular adherence to the practice of recreational sports (HARDMAN, 2008). In this context, the present study endeavors to contrast the perceptions of Chile and Germany, which, despite having different education systems, seek to generate habits of physical activity as a learning outcome for the subject of physical education.

## PHYSICAL EDUCATION AND ITS APPROACHES IN THE CHILEAN AND GERMAN EDUCATION SYSTEMS

Before establishing a parallel between physical education in Chile and Germany, a presentation is needed of the main features of the national education systems of which this subject is part. Considering that the education system is different in every country, we will approach this subject briefly in order to understand the most relevant similarities and differences between two different cultures (BRANDL-BREDENBECK, 2005). Although in both countries education is obligatory from kindergarten (pre-school) to secondary level (UNESCO, 2007, 2010), the education structure is comprised of four levels in Chile: 1) Early childhood education (pre-school), 2) Elementary education (eight years), 3) Secondary education (four years), and 4) Higher education (leading to technical qualifications, professional titles, academic degrees or university titles) (CHILE, 2009). Germany's education

structure is made up of five levels: 1) *Elementarbereich* (equivalent to pre-school), 2) *Grundschule* (primary education, four years), 3) *Sekundarbereich I* (first level of secondary education, depending on the type of school and the region can last between 4 and 5 years), 4) *Sekundarbereich II* (second level of secondary education, depending on the type of school can last between 3 and 4 years), and 5) *Tertiärer Bereich* (provided in institutions of higher education such as universities, institutes, colleges or professional academies) (UNESCO, 2007).

Another of the important characteristics of the education systems in Chile and Germany has to do with standardization of the schools according to teaching. In Chile, according to their financial and administrative dependence, they are grouped into four types: 1) Public: establishments that are independent both administratively and academically but financed by the State (mainly institutions of higher learning as well as some pre-schools), 2) Municipal: Public schools administered by the municipalities (communal governments), state property and financing, present at the levels of pre-school, primary and secondary education, 3) Subsidized private: Privately owned and administered school, but with state financing through subsidies, also present at the pre-school, primary and secondary levels, including some higher education, and 4) Private: Privately owned schools, with private administration and financing, present at all levels of the education system (UNESCO, 2004).

In Germany, school classifications are more complex, since they provide general and vocational education, being oriented to the students' competencies (UNESCO, 2007), specifically in secondary education (*Sekundarbereich I* and *Sekundarbereich II*). In addition, considering that it is a federal republic, there are differences between regions (*Bundesländer*) both in the organization, nomenclature and number of levels in each type of school. Primary education is taught in the *Grundschule*, and this marks the beginning of mandatory education, which all children must attend once they have turned 6 years of age. It has four grades (except in Berlin and Brandenburg, where it has six). In secondary education there are many types of schools, depending on the orientation and the region; however, and in very general terms, four large types of schools can be distinguished: 1) *Hauptschule*: Secondary schools that normally include grades 5 to 9, and that have a general education, 2) *Gesamtschule*: First-cycle secondary schools that offer several courses leading to different qualifications. These can be two types: In the cooperative type, students are grouped according to the different qualifications available, whereas in the integrated type, students are grouped in courses and according to the level of competence in a series of basic materials. Several schools have the upper secondary level, organized as the *Gymnasiale Oberstufe*, 3) *Realschule*: Secondary schools that normally include grades 5 to 10, and that offer students a broader general education and the opportunity to register in upper secondary education programs leading to professional qualifications or access to higher education, and 4) *Gymnasium*: Secondary schools that include grades 5 to 13 or 5 to 12 and that provide a comprehensive general education. The upper level of the *Gymnasium* (*Gymnasiale Oberstufe*) normally includes grades 11 to 13 (in some

*Länder* grades 10 to 12 or 11 to 12) and offers programs that conclude with a final examination (called the *Abitur*), which leads to the qualification for access to higher education (UNESCO, 2007).

Despite these differences in the structure of the education systems in Chile and Germany, physical education is an obligatory subject in the curricula of both countries, considered a classic and traditional subject within the educational culture (GUARDA, 2006; DOSB *et al.*, 2009). However, this subject has developed differently in each country, having adopted approaches that have established differentiating features. In Chile, physical education (called “Physical Education and Health”) takes a health-centered approach, where the new curriculum emphasizes the generation of habits of practicing physical activity, indicating that “the subject is oriented to the habits of an active and healthy life and the regular practice of physical activity being an integral part of young people’s lives, both in and out of school” (CHILE, 2013). In Germany, in physical education (called *Sportunterricht*, translated literally as “sport classes” in English), the generation of healthy lifestyle habits is also considered one of the aims of the subject; however, it is not the only thematic axis of the curriculum. *Sportunterricht* is guided by the concept of developing the “capacity to act” (*Handlungsfähigkeit*), the ability of students to develop in their surroundings based on the multiple perspectives of physical education (*Mehrperspektivischer Sportunterricht*) (KURZ, 2000), which are six dimensions that the subject must address: social learning, body experience, health education, conscious assumption of risks, sportsmanship and willingness to do better (KRÜGER, 2012). The classes must incorporate these six pedagogical dimensions, with no one being more important than another, in order for students to experience everything so they can, on the basis of their experience and interest, give meaning to their movement (WYDRA, 2007).

Considering the differences in the approaches, where Chile concentrates on a health-oriented functionality and Germany seeks an application of performance in multiple daily dimensions, it seems to us appropriate to analyze these differences from the students’ point of view, through the perception they have of the utility of the subject of physical education. In that context, and considering that the perception of the utility of physical education classes is a variable that would significantly increase overall levels of habitual physical activity (RODRÍGUEZ *et al.*, 2013), it is relevant to delve more deeply into the study of this topic. Thus, bearing in mind that most studies that address this topic have determined whether physical education has been useful to students or not, but without going into why it has been useful and that in addition there are few transcultural studies in this area, it seems necessary to us to approach the subject from other perspectives that have not yet been considered. The present study aims to determine how students from different cultures perceive the utility of physical education classes, expressing how this subject has been useful to them specifically.

## METHODOLOGY

### GOALS

The present study aims to determine how students from different cultures perceive the utility of physical education classes, expressing how this subject has been useful to them specifically.

### POPULATION AND SAMPLE

2748 students were surveyed, 1373 in the Region of La Araucanía in Chile (48.5% girls, 51.5% boys; age  $M = 13.3 \pm 2.5$ ), and 1375 student in the Saarland in Germany (49.3% girls, 50.7% boys; age  $M=13.6 \pm 2.2$ ). So that groups in different countries could be comparable, it was necessary to design a strategy to maximize the similarities and reduce the differences of the particularities of the two groups (VAN DE VIJVER; LEUNG, 1997; BRANDL-BREDENBECK, 2005) based on the characteristics of the schools. Thus, the following criteria were adopted to find equivalence between the groups: a) Age, corresponding to the grade or education level (5<sup>th</sup> and 7<sup>th</sup> elementary and 1<sup>st</sup> and 3<sup>rd</sup> secondary in Chile, equivalent to 5<sup>th</sup>, 7<sup>th</sup>, 9<sup>th</sup> and 11<sup>th</sup> of secondary in Germany); b) Mixed schools (boys and girls); c) Types of schools (municipal, subsidized private and private in Chile and *Gesamtschule*, *Realschule* and *Gymnasium* in Germany; and d) Demographic size (urban and rural population).

### INSTRUMENT

The instrument used to collect the data was the “Questionnaire on Student Attitudes to Physical Education”, produced and validated by the Institute of Sports Science at the Saarland University in Germany (WYDRA, 2001) and adapted for the study of the attitudes to physical education in Chile and Germany (CÁRCAMO-OYARZÚN, 2012). In order to ensure equivalence between the versions of the questionnaire in German and Spanish, the back-translation method was used (BRISLIN, 1980; HAMBLETON, 1996) to produce the Spanish version. This instrument includes four general blocks: “demographic information”, “opinion of physical education classes”, “opinion of physical education teachers”, and “physical activity habits”. For the purposes of the present study, the decision was made to analyze specifically the variable Utility of Physical Education, located in the block “opinion of physical education classes”, based on the question How has physical education been useful to you? , which is composed of 10 items where the students had to answer on a scale from 1 (strongly disagree) to 4 (strongly agree) the degree to which they agreed with these items. Once the students had answered the questionnaire, a factor analysis was performed using principal components and varimax rotation. The results obtained in the Kaiser-Meyer-Olkin sampling adequacy test ( $KMO=.884$ ) and in Bartlett’s test of sphericity (6424,290  $p<.001$ ) indicated that the test was suitable to perform a factor analysis. Two factors were identified that explained 54.09% of the variance (factor 1 = 28.62%, factor 2=25.47%), called “socio-educational utility” and “sport-recreational utility” (Table 1).



In order to establish reliability, Cronbach's internal consistency coefficient was determined, obtaining an alpha of .78 for the factor "socio-educational utility" and .71 for the factor "sport-recreational utility".

**TABLE 1**  
**ROTATED COMPONENT MATRIX**

ITEM	FACTOR 1	FACTOR 2
... to receive recommendations about self-care	.843	
... to learn new things about my body	.820	
... to help me improve my appearance	.658	
... to get along better with my classmates	.550	
... to learn about new sporting activities	.535	
....to realize that doing sports is fun		.736
... to improve my athletic performance		.708
... to get motivated to do sports in my free time		.699
... to clear my mind of other subjects		.620

*Factor 1 = "Socio-educational utility"*

*Factor 2 = "Sport-recreational utility"*

Source: Authors' elaboration.

In addition, one negative item was considered, which consisted only of one statement ("it has been of no use to me at all") as a third factor called "No utility".

## DATA COLLECTION AND ANALYSIS

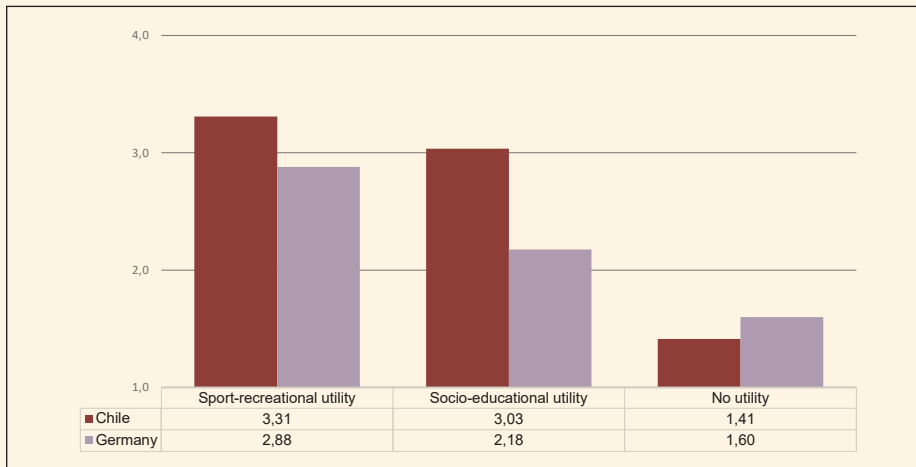
In order to administer the questionnaires, authorization was sought from the authorities of the corresponding Ministries of Education in each country; in the case of Germany, authorization was requested from the Ministry of Education and Culture of the Saarland, while in Chile authorization was obtained from the Regional Secretary of the Ministry of Education in the Region of La Araucanía. Then, the schools that fulfilled the requirements for equivalence between the samples (VAN DE VIJVER; LEUNG, 1997) were defined to then make contact with their principals. Next, the parents were asked to sign an informed consent and students an informed assent to participate in the survey. Interviewers in Chile and in Germany were trained to follow an established protocol of presentation and explanation of the survey to the students. During the application of the survey, the respective questionnaire was given to the participants to be answered individually in the presence of the interviewer, who could help the students in case they had a question while they were filling it out.

A descriptive analysis of central tendency (mean) and dispersion (standard deviation) as well as an inferential analysis through a MANOVA were performed to determine whether there were any differences according to country, sex or level (Scheffe's post hoc test). An alpha of  $p \leq .05$  was determined to interpret significance. SPSS v. 23 was used to perform these tests.

## RESULTS

As illustrated in Figure 1, both the Chilean and German students presented higher values for the factor “Sport-recreational utility” than for “Socio-educational utility”, whereas the factor “No utility” obtained lower means in both countries.

**FIGURE 1**  
AVERAGE OF THE FACTORS OF UTILITY OF PHYSICAL EDUCATION BY COUNTRY



Source: Authors' elaboration.

In tables 2 and 3 the results of the means obtained for each of the items are detailed, by factor, according to the students' nationality.

**TABLE 2**  
UTILITY OF PHYSICAL EDUCATION FROM THE POINT OF VIEW OF THE CHILEAN STUDENTS

FACTOR	HOW HAS PHYSICAL EDUCATION BEEN USEFUL TO YOU?	M	SD
Sport-recreational utility	... to realize that doing sports is fun	3.41	0.73
	... to clear my mind of other subjects	3.35	0.86
	... to improve my athletic performance	3.31	0.80
	... to get motivated to do sports in my free time	3.22	0.86
	Total Factor Sport-recreational utility	<b>3.31</b>	<b>0.61</b>
Socio-educational utility	... to learn new things about my body	3.24	0.82
	... to learn about new sporting activities	3.13	0.92
	... to help me improve my appearance	2.99	0.89
	... to get along better with my classmates	2.92	0.87
	... to receive recommendation	2.88	0.92
Total Factor Socio-educational utility	<b>3.03</b>	<b>0.61</b>	
No utility	It has been of no use to me at all.	<b>1.41</b>	<b>0.80</b>

Source: Authors' elaboration.

**TABLE 3**  
**UTILITY OF PHYSICAL EDUCATION FROM THE POINT OF VIEW OF THE GERMAN STUDENTS**

FACTOR	HOW HAS PHYSICAL EDUCATION BEEN USEFUL TO YOU?	M	SD
Sport-recreational utility	... to realize that doing sports is fun	3.10	0.82
	... to clear my mind of other subjects	2.91	0.96
	... to improve my athletic performance	3.83	0.89
	... to get motivated to do sports in my free time	3.69	0.98
	Total Factor Sport-recreational utility	<b>2.88</b>	<b>0.64</b>
Socio-educational utility	... to learn about new sporting activities	2.79	1.01
	... to get along better with my classmates	2.20	0.89
	... to learn new things about my body	2.17	0.94
	... to help me improve my appearance	1.85	0.86
	... to receive recommendation	1.85	0.82
Total Factor Socio-educational utility	<b>2.18</b>	<b>0.59</b>	
No utility	It has been of no use to me at all	<b>1.60</b>	<b>0.87</b>

Source: Authors' elaboration.

When analyzing the factor “Sport-recreational utility”, note that the Chilean and German students agree on the order of the items; however, the Chilean students present a higher mean ( $M = 3.31 \pm 0.60$ ) than those in Germany ( $M = 2.88 \pm 0.64$ ). The analysis of variance revealed significant differences between the countries ( $F(1; 2568) = 684.49; p < 0.001; \eta^2 = 0.21$ ) and levels ( $F(3; 2568) = 45.87; p < 0.001; \eta^2 = 0.051$ ), whereas no significant differences were found for sex ( $F(1; 2568) = 0.67; p = 0.412$ ). The interactions between the main effects are significant ( $F(3; 2568) = 2.78; p < 0.05; \eta^2 = 0.003$ ).

In relation to the factor “Socio-educational utility”, Chilean students ( $M = 3.03 \pm 0.61$ ) also have a higher average than the German students ( $M = 2.18 \pm 0.59$ ), there being significant differences between countries ( $F(1; 2577) = 1,309.76; p < 0.001; \eta^2 = 0.34$ ) and levels ( $F(3; 2577) = 13.87; p < 0.001; \eta^2 = 0.016$ ). No significant differences were found in either sex ( $F(1; 2577) = 0.73; p = 0.394$ ) or interactions between the main effects ( $F(3; 2577) = 2.60; p = 0.051$ ).

The factor “No utility” had lower means for both the German students ( $M = 1.60 \pm 0.87$ ) and the Chilean students ( $M = 1.41 \pm 0.80$ ). Significant differences were found between countries ( $F(1; 2634) = 27.835; p < 0.001; \eta^2 = 0.11$ ) and levels ( $F(3; 2634) = 15.549; p < 0.001; \eta^2 = 0.017$ ). In terms of sex, no significant differences were found ( $F(1; 2634) = 0.104; p = 0.747$ ), nor for the interactions between the main effects ( $F(3; 2634) = 0.580; p = 0.627$ ).

## DISCUSSION AND CONCLUSIONS

Both the Chilean and German students agreed that physical education has been useful to them, with “sport-recreational” utility being the most valued by the students in both countries. Also, the Chilean students attached a greater degree of utility to physical education than their German peers in terms of “sport-recreational” utility and “socio-educational” utility. For the negative factor “No utility”, Germans students attach greater value than the Chilean students;

however, in both groups the scores correspond to values that indicate their disagreement with the statement that physical education has been of no use to them at all.

Within the factor “Sport-recreational utility”, the item “to realize that doing sports is fun” is the one that was valued the highest over the other items for the students in both Chile and Germany. This is consistent with several studies that have addressed how students see physical education. For example, in a study by Klenk (2004), students showed that factors like “Fun” (74 %) and “Athletic performance” (61%) have the greatest utility for physical education classes, which agrees with the results obtained by Moreno-Murcia *et al.* (2006), where 12 and 13-year-old students indicated that the factors related to “Fun” (65.3%) and “Competition” (29.1%) are valued positively. Hernández y López (2007) also obtained similar results when they examined students’ opinions when describing physical education, where the factor “Fun” (85.1%) received the highest value. This clear dominance of the item “Fun” may be associated with the positive emotional experiences produced during physical sports, like happiness, success, feeling competent, fun, satisfaction, etc. (BRÄUTIGAM, 1994). The fact that physical activity is a means to “have fun” causes them to search for and relive pleasant and positive experiences. Bräutigam (1994) links this phenomenon to the concept of flow by Csikszentmihalyi (1990), where the activities performed in physical education make possible, in the main, various positive experiences, which is why it is understandable that in general students see “fun” as a practical utility of physical education.

In relation to the factor “Socio-educational utility”, it is worth emphasizing that, unlike “Sport-recreational utility”, the Chilean and German students do not agree on the order of the items that make up this factor. In the case of the Chilean students, the item “to learn new things about my body” is the item that obtained the highest value, whereas for the German students, it is the item “to learn about new sporting activities”. Considering what was set out in the introduction, the curricular differences could be related to these differences in priorities, since few studies have addressed the students’ thoughts on physical education from a transcultural perspective, indicating that the differences could be explained by organizational factors inherent to different countries (CHUNG; PHILLIPS, 2002; STELZER *et al.*, 2004; DISMORE; BAILEY; IZAKI, 2006) and that one of the factors with the greatest impact on students’ opinion of physical education is the curriculum (LUKE; SINCLAIR, 1991; SILVERMAN; SUBRAMANIAM, 1999; PHILLIPS; SILVERMAN, 2015). Thus, when contrasting the curricula of the two countries the differences in perceptions could be understood in the factor Socio-educational utility. That the Chilean students indicate that physical education has been useful to them, “to learn new things about my body” may be associated with the emphasis that the curriculum places on health, because when the curriculum is focused on generating healthy habits, the teachers can see the promotion of physical activity as the primary objective (LARSSON; NYBERG, 2017). In this case, the teacher could concentrate on imparting knowledge from a determinist standpoint, guiding toward the performance of tasks linked to bodily functions,

which is why the students attach great utility to this aspect. On the other hand, in the case of Germany, where the translation of physical education (*Sportunterricht* in German) would be “Sport classes”, the curriculum establishes that the teacher must address the various dimensions present in movement (KRÜGER, 2012); therefore, the concept of health is not the only focus, but rather a more global perspective is assumed, with sport activities as the centerpiece.

In reference to the negative factor “No utility”, for both the Chilean and German students, the means have low values, where they indicate their disagreement with the statement that physical education has been of no use to them. These results agree with studies like that of Moreno-Murcia y Hellín-Gómez (2002), where the students, given the item “what I learn in P.E. is of no use at all”, had to indicate their degree of agreement on a scale from 1 to 4 (1 being “disagree”), the students presented means between 1.36 and 1.54, values close to those of this study. Nevertheless, the fact that the students disagree that physical education has been of no use would not be an absolute trend, since in the study by Rodríguez *et al.* (2013) 85% of the students indicated that physical education has regular or low utility for their daily activities.

In relation to the differences found according to education level, the students in lower grades place greater value than the students in higher courses as the results obtained by Moreno-Murcia, Hellín-Gómez and Hellín-Rodríguez (2006). show. In terms of sex, it is worth noting that there are no significant differences, since several studies suggest that boys present more favorable general attitudes to the subject than girls; however, with regard to perception of utility, studies like that of Amado *et al.* (2014) are consistent in that no differences were found between boys and girls, which is related to the self-determined motivation and satisfaction of the psychological needs for competition, autonomy and social relations that both sexes exhibit when participating in physical activities.

It is important to indicate that one of the limitations of this study is not having included the habits of students’ extracurricular physical activity, which could have allowed for a better understanding of the utility they afford it in their daily life. This is due to the study focusing specifically on how students in two different countries perceive the school subject of physical education, considering the internal processes generated during the classes. This opens the possibility of another line of enquiry, which will make it possible to study the topic more deeply and thus better understand the practical utilities that physical education classes have in students’ daily lives.

The findings of this study indicate that, despite the differences between countries, students consider that their physical education classes are useful to them in their daily life, which is why it is necessary to take advantage of this recognition and to seek methodologies to increase the generation of positive experiences in classes, which can consolidate the lessons in the subject and bring about the intention of seeking out and repeating these experiences outside school.

## REFERENCES

- AMADO, D.; SÁNCHEZ-MIGUEL, P.; LEO, F.; SÁNCHEZ-OLIVA, D.; GARCÍA-CALVO, T. Diferencias de género en la motivación y percepción de utilidad del deporte escolar. *Revista Internacional de Medicina y Ciencias de la Actividad Física del Deporte*, v. 14, n. 56, p. 651-664, dic. 2014.
- ARAYA, E. ¿Que educación física para la escuela hoy?. *Pensamiento Educativo*, v. 38, n. 1, p. 172-185, ago. 2006.
- BAENA-EXTREMERA, A.; GRANERO-GALLEGOS, A.; SÁNCHEZ, J.; MARTÍNEZ, M. Modelo predictivo de la importancia y utilidad de la Educación Física. *Cuadernos de Psicología del Deporte*, v. 14, n. 2, p. 121-130, mayo 2014.
- BRANDL-BREDENBECK, H. P. International comparison of physical education: concepts, problems, prospects. In: PÜHSE, U.; GERBER, M. (org.). *International Comparison of Physical Education*. Oxford: Meyer & Meyer Sport, 2005. p. 19-31.
- BRÄUTIGAM, M. Spaß als Leitidee jugendlichen Sportengagements. Konsequenzen für die Sportdidaktik. *Sportunterricht*, v. 43, v. 6, p. 236-244, 1994.
- BRISLIN, R. W. Translation and content analysis of oral and written materials. In: TRIANDIS, H. C.; BERRY, J. W. (org.). *Handbook of cross-cultural psychology: methodology*. Boston: Allyn and Bacon, 1980. p. 389-444.
- CAÑAS, A.; NOVAK, J.; GONZÁLEZ, F. *Concept maps: theory, methodology, technology: Proceedings of the first International Conference on Concept Mapping*. Pamplona: Universidad Publica de Navarra, 2004.
- CÁRCAMO-OYARZÚN, J. *Der Sportunterricht aus Sichtweise der deutschen und chilenischen Schüler und Schülerinnen: eine empirische Untersuchung unter besonderer Berücksichtigung des Bundeslandes Saarland und der Región de la Araucanía*. 2003. Tese (Doutorado em Philosophie) – Universität des Saarlandes, Saarbrücken, 2012.
- CARCAMO-OYARZÚN, J.; WYDRA, G.; HERNANDEZ-MOSQUEIRA, C.; MARTINEZ-SALAZAR, C. Actitudes hacia la educación física: grados de importancia y conformidad según escolares de Chile y Alemania. Una mirada intercultural. *Retos: Nuevas Tendencias en Educación Física, Deporte y Recreación*, n. 32, p. 158-162, 2017.
- CHILE. Ley N° 20.370. Ley General de Educación. Chile, 2009.
- CHILE. Ministerio de Educación. *Bases Curriculares de Educación Física y Salud: 7° a 2° Medio*. Chile, 2013.
- CHUNG, M.-H.; PHILLIPS, A. The relationship between attitude toward physical education and leisure time exercise in high school students. *Physical Educator*, v. 59, n. 3, p. 126-138, 2002.
- CSIKSZENTMIHALYI, M. *Flow: psychology of optimal experience*. New York: Harper e Row, 1990.
- DECI, E.; RYAN, R. The general causality orientations scale: self-determination in personality. *Journal of Research in Personality*, v. 19, n. 2, p. 109-134, 1985.
- DEWITTE, S.; LENS, W. Exploring volitional problems in academic procrastinators. *International Journal of Educational Research*, v. 33, n. 7-8, p. 733-750, 2000.
- DISMORE, H.; BAILEY, R.; IZAKI, T. Japanese and English school students' views of physical education: a comparative study. *International Journal of Sport and Health Science*, v. 4, p. 74-85, 2006.
- DOSB; DSLV; dvs & Fakultätentag Sportwissenschaft. Memorandum zum Schulsport. *Sportunterricht*, v. 58, p. 302-309, 2009.
- FABRI, E. I.; ROSSI, F.; FERREIRA, L. A. Episódios marcantes das aulas de educação física: valorizando as experiências dos alunos por meio de narrativas. *Movimento*, v. 22, n. 2, abr./jun. 2016.
- GRANERO-GALLEGOS, A.; BAENA-EXTREMERA, A.; SÁNCHEZ-FUENTES, J. A.; MARTÍNEZ-MOLINA, M. Perfiles motivacionales de apoyo a la autonomía, autodeterminación, satisfacción, importancia de la educación física e intención de práctica física en tiempo libre. *Cuadernos de Psicología del Deporte*, v. 14, n. 2, p. 59-70, mayo 2014.

- GUARDA, S. Historia del Instituto de Educación Física. *Revista Educación Física – Chile*, n. 265, p. 13-24, 2006.
- HAMBLETON, R. Adaptación de tests para su uso en diferentes idiomas y culturas: fuentes de error, posibles soluciones y directrices prácticas. In: MUÑIZ, J. (ed.). *Psicometría*. Madrid: Universitas, 1996. p. 207-238.
- HARDMAN, K. Physical education in schools: a global perspective. *Kinesiology*, v. 40, n. 1, p. 5-28, 2008.
- HERNÁNDEZ-ÁLVAREZ, J. L.; LÓPEZ-CRESPO, C.; MARTÍNEZ-GORROÑO, M. A.; LÓPEZ-RODRÍGUEZ, A.; ÁLVAREZ-BARRIO, M. J. Percepción del alumnado sobre los comportamientos instructivos del profesorado y satisfacción con la Educación Física: ¿una cuestión de género?. *Movimiento*, v. 16, n. 4, p. 209-225, out./dez. 2010.
- HERNANDEZ, J. L.; LOPEZ, C. Que piensan los niños, niñas y adolescentes de la educación física y de sus profesores y profesoras. In: HERNANDEZ, J. L.; VELAZQUEZ, R. (ed.) *La educación física, los estilos de vida y los adolescentes: como son, como se ven, que saben y que opinan*. Barcelona: Grao, 2007. p. 143-168.
- HERNANDEZ, J. L.; VELAZQUEZ, R. *La educación física, los estilos de vida y los adolescentes: como son, como se ven, que saben y que opinan*. Barcelona: Grao, 2007.
- KLENK, C. Schulsport in Baden-Württemberg: eine Schülerbefragung zum Schulsport an Gymnasien. *Sportunterricht*, v. 53, n. 8, p. 233-239, 2004.
- KRÜGER, A. Multiperspectivity as a basis of current German physical education. *Movement & Sport Sciences – Science & Motricité*, n. 78, p. 11-23, 2012.
- KURZ, Dietrich. Pädagogische Perspektiven für den Schulsport. *Körpererziehung*, v. 50, n. 2, p. 72-78, 2000.
- LARSSON, H.; NYBERG, G. 'It doesn't matter how they move really, as long as they move'. Physical education teachers on developing their students' movement capabilities. *Physical Education and Sport Pedagogy*, v. 22, n. 2, p. 137-149, 2017.
- LUKE, M.; SINCLAIR, G. Gender differences in adolescents' attitudes toward school physical education. *Journal of Teaching in Physical Education*, v. 11, n. 1, p. 31-46, 1991.
- MORENO, J. A.; MARTÍNEZ, A. Importancia de la Teoría de la Autodeterminación en la práctica físico-deportiva: fundamentos e implicaciones prácticas. *Cuadernos de Psicología del Deporte*, v. 6, n. 1, p. 39-54, 2006.
- MORENO-MURCIA, J. A.; HELLÍN-GÓMEZ, P. ¿Es importante la Educación Física? Su valoración según la edad del alumno y el tipo de centro. *Revista Internacional de Medicina y Ciencias de la Actividad Física y del Deporte*, v. 2, n. 8, p. 298-319, 2002.
- MORENO-MURCIA, J. A.; HELLÍN-GÓMEZ, P.; HELLÍN-RODRIGUEZ, M. Pensamiento del alumno sobre la educación física según la edad. *Apunts, Educación Física y Deportes*, v. 85, p. 28-35, 2006.
- MORENO-MURCIA, J. A.; ZOMEÑO, A.; MARÍN DE OLIVEIRA, L.; RUIZ, L.; CERVELLÓ, E. Percepción de la utilidad e importancia de la educación física según la motivación generada por el docente. *Revista de Educación*, n. 362, p. 380-401, 2013.
- PHILLIPS, S.; SILVERMAN, S. Upper elementary school student attitudes toward physical education. *Journal of Teaching in Physical Education*, v. 34, n. 3, p. 461-473, 2015.
- RODRIGUEZ, M. L. Teoría del aprendizaje significativo. In: CAÑAS, A.; NOVAK, J.; GONZÁLEZ, F. (ed.) *Concept maps: theory, methodology, technology*. Pamplona: Dirección de Publicaciones de la Universidad Pública de Navarra, 2004. p. 535-544.
- RODRÍGUEZ, P. L.; GARCIA, E.; SÁNCHEZ-LÓPEZ, C.; LÓPEZ-MIÑARRO, P. Percepción de la utilidad de las clases de educación física y su relación con la práctica físico-deportiva en escolares. *Cultura y Educación*, v. 25, n. 1, p. 65-76, 2013.
- SÁNCHEZ BAÑUELOS, F. *La actividad física orientada hacia la salud*. Madrid: Biblioteca Nueva, 1996.
- SCHARAGRODSKY, P. A. Juntos pero no revueltos: la educación física mixta en clave de género. *Cadernos de Pesquisa*, São Paulo, v. 34, n. 121, p. 59-76, jan./abr. 2004.

SIEDENTOP, D. *Aprender a enseñar la educación física*. Barcelona: Inde, 1998.

SILVERMAN, S.; SUBRAMANIAM, R. Student attitude toward physical education and physical activity: a review of measurement issues and outcomes. *Journal of Teaching in Physical Education*, v. 19, n. 1, p. 97-125, 1999.

STELZER, J.; ERNEST, J.; FENSTER, M.; LANGFORD, G. Attitudes toward physical education: a study of High school Students from four countries-Austria, Czechrepublic, England, and USA. *College Student Journal*, v. 38, n. 2, p. 171-178, June 2004.

UNESCO. *La Educación Chilena en el cambio de siglo*. Políticas, resultados y desafíos. Informe Nacional presentado por el Ministerio de Educación de Chile en la 47ª Sección de la Conferencia Internacional de Educación de UNESCO. Ginebra: Unesco, 2004.

UNESCO. *World Data on Education*. Germany. 6. ed. Ginebra: Unesco, 2007.

UNESCO. *World Data on Education*. Chile. 7. ed. Ginebra: Unesco, 2010.

VAN DE VIJVER, F.; LEUNG, K. Methods and data analysis for cross-cultural research. In: BERRY, J. W.; POORTINGA, Y. H.; PANDEY, J. (org.) *Handbook of cross-cultural psychology: theory and method*. Boston: Allyn & Bacon, 1997. p. 257-300.

WYDRA, G. Beliebtheit und Akzeptanz des Sportunterrichts. *Sportunterricht*, v. 50, n. 3, p. 67-72, 2001.

WYDRA, G. *Sportpädagogik zwischen schulischer Pflicht, Gesundheitsorientierung und Erlebnishunger*: Skript zur Vorlesung Sportpädagogik am sportwissenschaftlichen. Saarbrücken: Institut der Universität des Saarlandes, 2007.

**NOTE:** The collaboration of each of the authors was as follows: Jaime Carcamo-Oyarzun: Concept and design of the work, selection of references, elaboration of the methodology, data collection in Chile, tabulation, analysis and interpretation of data, writing of the introduction, methodology, results and discussion; Georg Wydra: Concept and design of the work, revision of the methodology, data collection in Germany, collaboration in data analysis, bibliographic revision of studies in the German language; Claudio Hernández-Mosqueira: bibliographic revision in Spanish and Portuguese, analysis and interpretation of data, elaboration of tables, revision of citations; Sebastián Peña-Troncoso: bibliographic revision in Spanish, statistical advice, revision of the results, review of citations; Cristian Martínez-Salazar: bibliographic review in Spanish, data collection in Chile, review of presentation format, critical review of the manuscript.

#### HOW TO CITE THIS ARTICLE

CARCAMO-OYARZUN, Jaime; WYDRA, Georg; HERNÁNDEZ-MOSQUEIRA, Claudio; PEÑA-TRONCOSO, Sebastián; MARTÍNEZ-SALAZAR, Cristian. The utility of physical education according to students from Germany and Chile. *Cadernos de Pesquisa*, São Paulo, v. 50, n. 175, p. 96-111, jan./mar. 2020.  
<https://doi.org/10.1590/198053146232>

Received on: DECEMBER 11, 2018 | Approved for publication on: JUNE 4, 2019



This content is licensed under a Creative Commons attribution-type BY-NC.