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A Sport Education teaching unit as a citizenship education strategy in Physical Education. A group-randomized controlled trial

Una unidad didáctica de Educación Deportiva como estrategia de educación para la ciudadanía en Educación Física. Un ensayo controlado aleatorizado por grupos

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Abstract. The purpose of the present study was to examine the effect of a Physical Education (PE)-based Sport Education (SE) program on personal and interpersonal variables, social environment, and the predisposition of acquiring positive habits and autonomy in high school students in order to assess the contribution of this model to the students' citizenship education. A sample of 123 adolescents, 60 boys and 63 girls, participated in the present study. Students were divided into one control (CG) and one experimental (EG) group. EG performed 12 PE-lessons of SE intervention based on volleyball small-sided games and educational competitions. CG followed a traditional treatment of sport in PE, mixing tasks with small-sided games and direct instruction methodologies. Results showed that EG participants had a statistically significant increase in the scores of the following dimensions: personal (the self-determined motivation toward PE, satisfaction/enjoyment toward sport, and the physical self-concept); interpersonal (relatedness with others, cooperative learning, and important role within a work-group); social (PE classroom climate, and sportspersonship); and autonomy and acquisition of habits (autonomy support, and the intention to be physically active) compared with the CG ($p < .001$). A SE intervention in PE will allow teachers to improve students' citizenship competences.
Keywords: Motivation, adolescents, citizen formation, sportsmanship, autonomy

Resumen. El objetivo del estudio fue examinar el efecto de un programa de Educación Deportiva (ED) en Educación Física (EF) sobre variables personales e interpersonales, ambiente social, y la predisposición de adquirir hábitos positivos y autonomía en estudiantes de enseñanza secundaria para evaluar la contribución de este modelo a la educación para la ciudadanía de los alumnos. 123 adolescentes, 60 niños y 63 niñas, participaron en el presente estudio. Los estudiantes fueron divididos en un grupo control (GC) y un grupo experimental (GE). El GE realizó 12 sesiones de EF de ED basada en juegos y competiciones de situaciones reducidas de juego de voleibol. El GC siguió un tratamiento tradicional del deporte en EF, combinando tareas con situaciones reducidas de juego y metodologías de instrucción directa. Los resultados mostraron que los participantes del GE tuvieron un aumento estadísticamente significativo en las puntuaciones de las siguientes dimensiones: personal (motivación autodeterminada hacia la EF, satisfacción/disfrute hacia el deporte y autoconcepto físico); interpersonal (relación con los demás, aprendizaje cooperativo, y papel importante dentro del grupo); social (clima de aula en EF y deportividad); y autonomía y adquisición de hábitos (apoyo a la autonomía e intención de ser físicamente activo) en comparación con el GC ($p < .001$). Una intervención de ED en EF permitirá que los profesores mejoren las competencias de ciudadanía de los alumnos.
Palabras clave: Motivación. Adolescentes. Formación ciudadana. Deportividad. Autonomía.

Introduction

The educational context is considered a crucial promoter of becoming competent citizens through students' acquisition of key educative competences that they will need in their adult life (Print & Lange, 2013). Key competences for lifelong learning have been included in all European countries since 2006 (European Parliament, 2006). These competences were also supported by the Euridyce Report of the European Commission (2012), and have been included beyond Europe in many countries all over the world. The last report of the European Commission (2017) focused specifically on the Citizenship Education at School in Europe, and the conceptual framework of citizenship education is defined. It is based on the knowledge, skills, and attitudes related to the following competencies: (a) effective and constructive interaction with others, (b) critical thinking, (c) acting in a socially responsible manner and (d) acting democratically (European Commission, 2017). For this reason, being competent is defined in the educational context as possessing skills, abilities, character traits, and knowledge that students must have in order to be active and informed, to perform a task effectively, to make their own decisions, and to take responsibility (Citizen Foundation, 2015; European Commission, 2017).

Consequently, educational competences for being a capable citizen may have different nuances, beyond a behavioural perspective: (a) personal (participation and the attitude of individuals in a particular activity, and their identity as a part of the self); (b) inter-personal (the relationship with others, being able to learn cooperatively, and to feel like an important part of a group for achieving a goal); and (c) social (related to coexistence support, a positive learning environment in an educational context, and presenting good behaviour and moral reasoning) (Tibbitts, 2015). All of these dimensions are in accordance with Jaramillo and Mesa (2009) who distinguished three groups of factors that influence on the formation of a «good» citizen (identity and plurality, peaceful coexistence, and democratic participation and responsibility), and allow students to develop fundamental elements regarding tolerance and democracy, the perceptions of themselves, and their attitude and behaviors toward their peers and life. In addition, all these dimensions are related to the categories proposed by the conceptual framework of the European Commission (2017): (a) the competence of effective and constructive interaction with others would be related to all competencies from the personal perspective, as well as the dimension of being able to learn cooperatively from the interpersonal perspective; (b) the competence of critically thinking would be related to the social perspective; and (c)

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the competence of acting in a socially responsible manner would be related to the interpersonal perspective, specifically the dimensions of the relationship with others and to feel like an important part of a group for achieving a goal, and also with all the dimensions of the social perspective.

Physical Education (PE) is one of the subjects in the student curriculum that provides ideal situations for achieving these finalities, using physical activity and sport performance as a cultural and social setting where students may acquire the key competences required to be a good citizen (Gutiérrez-Díaz del Campo, García-López, Pastor-Vicedo, Romo-Pérez, Eirín-Nemiña, & Fernández-Bustos, 2017; Jung, Pope, & Kirk, 2015). In fact, many countries suggest and recommend the achievement of citizenship competences through the PE curriculum in their national standards (e.g., Education Commission of the States, in the United States of America, 2016; or the Ministry of Education, Culture, and Sport of Spain, 2015). Specifically, the Organic Law for Quality Improvement of Education in Spain (Ministry of Education, Culture, and Sport of Spain, 2013) highlights the development of the citizenship competence as a key competence that everyone needs for their personal development (personal dimension), relationships with others (inter-personal dimension), and their preparation for active and democratic participation in social life (social dimension). The enormous variety of spaces, contents, organizations, tasks design, and rules that PE put into practice allows teachers the opportunity to educate their students as good citizens, being based on sport and physical activities (McCuaig & Hay, 2013).

However, not all kinds of sport practices are associated with a positive social development (e.g., lack of sportsmanship, Viciana, Mayorga-Vega, & Blanco, 2014; or violence, Young, 2012). An ideal educational sport context in PE that could develop good citizens is the Sport Education Model (SE) because it aims to help students develop as enthusiastic, competent, and literate sportspeople (SE, Siedentop, 1994). Worldwide, it has been recognized that this model has a rich potential for the development of numerous issues related to citizenship education such as: fair play, respect for all participants and abilities, the development of leadership and social skills, or collaborative work (Martínez de Ojeda, Puente-Maxera, Méndez-Giménez, & Mahedero-Navarrete, 2019; Penney, Clarke, & Quill, 2005). The selection of teams and roles, the use of modified games, decisions about the scoring system or the competition format, are some of the decisions that require a critical and responsible students' meditation that undoubtedly entails the development of citizenship education (Penney et al., 2005).This methodological strategy emerged with the idea of taking competition to the educational context, with the main aim of providing quality and positive experiences within sports practice (Siedentop, 1994), educating students to be players in the fullest sense and not only as players in the sport context. Moreover, according to the Social Learning Theory of Bandura (1986), it is well known that an individual's experiences and interpretation of the environment where these experiences occur influence and modify their perception and behavior. Consequently, PE-based interventions using the SE methodology have provided, among others, improvements in social goals (Serra-Olivares, 2017; Wallhead, Garn, & Vidoni, 2012), motivation of students toward PE (Burgueño, Cueto-Martín, Morales-Ortiz, & Medina-Casaubón, 2019; Cuevas, García-López, & Serra-Olivares, 2016), psychological variables such as basic psychological needs and physical self-concept (Cuevas, García-López, & Contreras, 2015). To our knowledge, O'Donovan, MacPhail and Kirk (2010) carried out a unique experience in PE with SE and citizenship education, but it was developed in primary school students and conducted with a qualitative methodology (interviews), revealing positive results regarding the sport values (fairness, respect, participation) and behavior boundaries (interactions, and attitudes).

Although many studies have addressed and improved the different goals mentioned above, these interventions have been designed for measuring only some isolated dimensions of citizenship education. Unfortunately, to our knowledge, a holistic approach that jointly evaluates all the dimensions of the good citizen (e.g., motivation towards PE for the personal dimension, improvements in relationships for the interpersonal dimension, development in the sense of fair play for the social dimension or acquisition of habits and autonomy regarding physical activity) in an intervention in high school students has not been carried out before. Consequently, the purpose of the present study was to examine the effect of a PE-based SE program on personal and interpersonal variables, social environment, and the predisposition of acquiring positive habits and autonomy in high school students in order to assess the contribution of this model to the students' citizenship education.

Method

Participants

A sample of 123 adolescents, 60 boys and 63 girls, aged 14-15 years old from ninth-grade participated in the present study and met the inclusion criteria. All the students belonged to two public high schools, which were situated in an urban area of the city of Ceuta. These two school centers were situated in the same neighborhood with similar characteristics. After that, for practical reasons and due to the nature of the study (i.e., a field-based intervention focused on already established classes in a school setting) a group-randomized controlled design was used (Mayorga-Vega, Montoro-Escaño, Merino-Marban & Viciana, 2016). The five pre-established available ninth-grade classrooms, balanced by schools, were assigned randomly to form one of the following study groups: control group (CG, two classes, one from each school) or experimental group (EG, three classes, one from the first school and two from the second school). Students who belonged to the EG had previous experience in the SE model. Specifically, these students had previously participated in two teaching units based on Sport Education with a similar duration (10-12 sessions) and applied by the same teacher. However, during this intervention students took greater autonomy in the organization and implementation of the competitions, since they knew the dynamics of the organization of the SE model better. The two PE teachers (one from each school) were two graduate women with five years of experience each.

The inclusion criteria were: (a) being enrolled in the third grade of the selected schools, (b) participating in the normal PE classes, (c) being free of any health disorder which will make them unable to undergo physical activity, and (d) presenting the corresponding signed consent by their parents or legal guardians. The exclusion criteria were: (a) not correctly performing all the evaluations, and (b) not having an attendance rate of 80% or higher for PE classes during the intervention period. Adolescents and their legal guardians were fully informed about all the features of the study and were required to sign an informed consent form. The study protocol was approved by the Ethical Committee of the University of Granada.

Measures

The measurement instruments are presented according to the four dimensions of a «good citizen» mentioned in the introduction section (i.e., personal, interpersonal, social and the acquisition of habits and autonomy). All questionnaires applied a Likert-Scale from 0 «Totally disagree» to 10 «Totally agree». This type of scale has been applied previously in order to facilitate the evaluation of the items by Spanish youth, making them similar to the qualifications that they receive in their scholar marks (Viciana, Cervelló, & Ramírez, 2007). The Pre- and post-evaluation measures were applied during the first part (thirty minutes) of two PE lessons (previous to the practice), in order to assure the attention of the students due to the quantity of items to answer.

Personal dimension. The personal dimension included measurement instruments regarding motivation toward PE, satisfaction toward sport, physical self-concept, and individual effort and improvement.

Motivation toward Physical Education. The Spanish version of the Perceived Locus of Causality was used (Moreno, González-Cutre, & Chillón, 2009). This questionnaire is composed of five dimensions (four items each), according to the self-determination theory (intrinsic motivation, identified, introjected and external regulations, and amotivation), and presented good indices of fit for adolescents (CFI = .90; IFI = .90; RMSEA = .06, Cronbach alphas over .70) (Moreno et al., 2009). Moreover, and following the Chemolli and Gagné (2014) criticism against the continuum structure of the self-determined motivation, the *controlled* (introjected + external), and *autonomous* (intrinsic + identified regulations) forms of motivation were also analyzed in this study.

Sport Satisfaction Instrument. The Spanish version of the Sport Satisfaction Instrument was used (Balaguer, Atienza, Castillo, Moreno, & Duda, 1997). This questionnaire has two dimensions (satisfaction/fun and boredom, with five and two items, respectively), with good indices of fit (RMSR = .04, GFI = .95, CFI = .90; Cronbach alphas of .82 and .74, respectively) (Balaguer et al., 1997).

Perceived physical fitness, sport competence and coordination. Two questionnaires were used for these subscales of physical self-concept: (a) the Spanish version of the Physical Self-Perception Profile was applied for the perceived physical fitness subscale, due to its items being general and not centered on specific physical qualities with good indices of fit for adolescents (CFI = .95, TLI = .94; Cronbach alpha = .87; Moreno & Cervelló, 2005); and (b) the Spanish version of the Physical Self-Description Questionnaire was applied for perceived sport competence and coordination subscales with good indices of fit for adolescents (RMSRS = .053, CFI = .90; Cronbach alphas = .91 and .83, respectively) (Tomás, 1998).

Effort and improvement. The effort and improvement subscale belonging to the Spanish version of the Perceived Motivational Climate in Sport Questionnaire (PMCSQ-2, González-Cutre, Sicilia, & Moreno, 2008), specifically from the task-involving dimension, was used. It is composed of eight items and presented with good indices of fit for adolescents (GFI = .92, CFI = .90, IFI = .90; Cronbach alpha = .72 within the task-involving dimension, á = .85) (González-Cutre et al., 2008).

Interpersonal dimension. The interpersonal dimension included measurement instruments regarding the relatedness with others, cooperative learning, and the important role of the individual within the group.

Relatedness. The Spanish version of the Basic Psychological Needs in Exercise Scale (BPNES) was used to measure the relatedness with others dimension, which is composed of four items and presented a good internal consistency with good indices of fit (CFI = .95, IFI = .95; Cronbach alpha = .81) (Sánchez, & Núñez, 2007).

Cooperative learning and important role. The cooperative learning and important role subscales belonging to the Spanish version of the PMCSQ-2 (González-Cutre et al., 2008), specifically from the task-involving dimension, were used. They were composed of four and five items and presented Cronbach alphas of .65 and .70, respectively (within the task-involving dimension, Cronbach alpha = .85) (González-Cutre et al., 2008).

Social dimension. The social dimension included measurement instruments regarding the classroom climate and sportsmanship.

Classroom climate. The classroom climate was measured by the Spanish version of the Classroom Environment Inventory (Marcelo, 1992). It measures students' perception regarding seven dimensions (personalization, implication, social cohesion, satisfaction, task orientation, innovation, and individualization), which are each composed of seven items. The CEI presented good internal consistency values (Cronbach alphas over .70, except for innovation, which was .50), taking into account the low number of items that compose the different dimensions (Marcelo, 1992).

Sportsmanship. The Spanish version of the Multidimensional Sportspersonship Orientations Scale (MSOS) of Martín-Albo, Núñez, Navarro, and González (2006) (CFI = .90; RMSEA = .05; Cronbach alphas ranged from .71 to .81, except for the negative approach dimension, Cronbach alpha = .65) was used to measure the players' sportsmanship. The MSOS measures five dimensions (commitment, social conventions, rules and officials, opponents, and negative approach) through 25 items.

Acquisition of habits and autonomy dimension. The acquisition of habits and autonomy dimension included measurement instruments regarding the intention to be physically active and the autonomy support.

Intention to be physically active questionnaire. The Spanish version of the intention to be physically active

questionnaire was applied (Moreno, Moreno, & Cervelló, 2007). It is composed of five items, and presented good psychometric properties for adolescents (CFI = .98; RMSEA = .056; Cronbach alpha = .94) (Moreno et al., 2007).

Autonomy support. The Spanish version of the BPNES (Sánchez & Núñez, 2007) was used to measure the dimension of autonomy support perceived by students. It is composed of four items with a good internal consistency value (Cronbach alpha = .81) (Sánchez & Núñez, 2007).

Procedure

After contacting the principals in the two school centers and obtaining the required permissions to develop the study, natural groups were randomly assigned to the CG and EG. Although the two PE teachers had applied the SE Model previously, they received two specific training sessions focused on the characteristics of the intervention programs to ensure a correct and homogeneous implementation. Specifically, these training sessions were focused on the SE and direct instruction's benchmarks. For example, during the SE training, the phases, the teams' configuration or assignation of roles were explained, among others.

The EG followed a SE intervention based on volleyball, small-sided games, and educational competitions. The intervention consisted of 12 PE classes distributed in the following phases: (a) introductory phase, with two PE classes (explanation of the SE program; introductory games; teams configuration according to the students' initial levels of volleyball performance, and assignation of roles of each team component; and the elaboration of the observational items by consensus with the students); (b) pre-season, with three PE classes (with autonomous practice performed by teams and teachers supervised the classes, but left practicing plays and roles autonomously to the teams themselves); (c) season, with six PE classes (where the formal competition between teams was developed, having a duty team supporting each match); and (d) a final event, of one PE class (awards ceremony, and final free match between the participating teams). The roles of the duty team were defined as responsible of the sport material, official, observer/registrer, and publicist/journalist, whereas the components of the competitive teams had a physical trainer/coach, and four players (i.e., five students per team). These roles were explained and assigned during the introduction phase of the SE model and they were applied in the following sessions. It was not necessary to use a progressive adaptation because students had previous experience in this teaching model. The SE program was based on the affiliation sense of a formal competition (team social cohesion), the autonomy of sport practice and competition management, behaviors and beliefs modification caused by the score registered during the season phase (observation and register after each match, which acted as a feedback of the participants' behavior), and the social/festive environment present in the entire process. The observation items were related to pro fair-play behaviors of the players and coaches (i.e., «protests to official decisions»), in order to display the progression during the competition, modifying the punctuation of their team and, consequently, progressing in the ranking of the SE competition. The length and characteristics of the SE program were in accord with previous studies (Cuevas et al., 2016; Sun, 2016).

The GC followed a traditional treatment of sport in PE classes, mixing tasks with tactical-centered small-sided games situations (Mesquita, Farias, & Hastie, 2012) and direct instruction methodologies (Metzler, 2011). The lessons delivered to the CG followed this structure: brief explanation of the objectives of the lesson; a warm-up of 5-10 minutes with global and specific sport games; then the main part of the lesson was developed, consisting of three-to-five technique-centered tasks, and three-to-five small-sided games varying the rules, the technical elements of the play, and the tactical focus of the practitioners; and finally, a cool-down phase was also applied at the end of the class, commonly with a free game and/or flexibility tasks. Both programs (SE and traditional) were designed and tested carefully according to the characteristics described previously. An external researcher, experienced PE teacher, observed the application of the models to the EG and the CG, using direct instruction and SE teacher benchmarks (Metlzer, 2011 and Ko, Wallhead & Ward, 2006, respectively), following previous studies' methodologies (Cuevas et al., 2016).

Statistical analysis

Descriptive statistics for the general characteristics and the dependent variables of the included participants were calculated. The one-way analyses of variance (ANOVA) was conducted to examine potential differences in terms of body mass, body height, and body mass index values between the two groups. A chi-squared analysis was carried out to examine if the two groups had a balanced ratio of genders and extracurricular sport participation (i.e., less than/ equal to or more than 3 days per week). The reliability of the dependent variables was estimated using the intraclass correlation coefficient from the two-way ANOVA ($ICC_{3,k}$) (Shrout & Fleiss, 1979). A Mixed Linear Model with the maximum likelihood estimation method was used. According to Field's (2017) recommendation, the approach was starting from «basic» models in which all the parameters were fixed and then progressively random coefficients and exploring confounding variables was followed. The – 2 log-likehood (-2LL, i.e., comparing the change in the chi-square test) and Akaike's information criterion (AIC, i.e., absolute value) were used to compare the models fit. Although in the present study for most of the variables the intra-class correlation coefficients (ICC, also known as intra-cluster correlation coefficients) did not show empirical evidence of observations dependency (ICC, median = .04; only 6 out of 30 variables values were higher than .10), according to Li et al. (2017), since the unit of intervention was the class, finally a Mixed Multilevel Linear Model (MLM, also known as Hierarchical Linear Model) with participants nested within classes was selected. The Cohen's *d* effect sizes were calculated to examine the magnitude of the SE program. All statistical analyses were performed using the SPSS version 21.0 for Windows (IBM® SPSS® Statistics). The statistical significance level was set at $p < .05$.

Results

Although all 123 invited students agreed to participate,

only 109 participants completed all the evaluations and attended 80% or more of the intervention program sessions. The included EG participants obtained an average attendance of 93%. The one-way ANOVA results did not show statistically significant differences in body mass, body height, or body mass index between the groups (p > .05). Additionally, the chi-square analyses showed that the two groups had a balanced representation of boys and girls, and extracurricular sport participation (p > .05). In the sample of the present study the reliability of all the dependent variables was above .70, except for external regulation (.46) and controlled motivation (.67).

Tables 1-4 show descriptive statistics and MLM results for the effect of the SE program on all the studied dependent variables. The goodness-of-fit results ranged: - 2LL = 190.031-422.695 and AIC = 200.031-432.695. The MLM analyses showed that the EG participants had a statistically significant increase in the scores of all positive measured dimensions: personal (the self-determined motivation toward PE: intrinsic motivation, identified regulation, introjected regulation and autonomous motivation; satisfaction/enjoyment toward sport; and the dimensions of the physical self-concept), interpersonal (relatedness with others; cooperative learning; and important role within a work-group), social (PE classroom climate; and sportspersonship orientations, except negative approach); and autonomy and acquisition of habits (autonomy support, and the intention to be physically active) compared with the CG (p < .05). Additionally, the results showed that the EG participants had a statistically significant decrease in the scores of negative approaches in sportspersonship orientations, boredom, external regulation and amotivation compared with the CG (p < .05). However, for controlled motivation statistically significant differences were not found (p > .05). The magnitude of the intervention program effect was moderate-to-large for all the variables (|d|= .58-2.97), except for controlled motivation (|d| = .02).

Table 1
Effect of the Sport Education program on personal dimension variables

Variable	Group	Pre-intervention	Post-intervention	Multilevel lineal model				ES
		M (SD)	M (SD)	- 2LL	AIC	*F*	*p*	*d*
Intrinsic satisfaction in sport								
Satisfaction/ Diversion	EG	8.01 (1.17)	8.93 (1.06)	199.455	209.455	31.773	.004	.89
	CG	7.99 (1.12)	7.88 (1.04)					
Boredom	EG	2.07 (1.39)	1.13 (1.38)	326.644	336.644	20.077	.006	-.67
	CG	2.50 (1.95)	2.65 (1.75)					
Motivation toward Physical Education								
Intrinsic motivation	EG	7.19 (.89)	8.80 (1.05)	303.822	313.822	28.906	< .001	1.05
	CG	7.37 (1.34)	7.85 (1.16)					
Identified regulation	EG	7.29 (.89)	8.87 (1.00)	286.368	296.368	77.199	< .001	1.47
	CG	7.51 (1.46)	7.40 (1.14)					
Introjected regulation	EG	6.01 (1.18)	6.91 (1.34)	311.016	321.016	19.825	< .001	.63
	CG	5.86 (1.44)	5.93 (1.07)					
External regulation	EG	5.64 (1.16)	4.84 (1.62)	369.347	379.347	9.211	.003	-.58
	CG	5.64 (1.63)	5.63 (.79)					
Amotivation	EG	3.47 (1.46)	1.56 (1.90)	422.695	432.695	11.607	.029	-1.20
	CG	2.99 (1.59)	2.91 (1.52)					
Autonomous motivation	EG	7.24 (.83)	8.83 (.99)	286.171	296.171	53.749	< .001	1.34
	CG	7.44 (1.34)	7.62 (1.10)					
Controlled motivation	EG	5.83 (1.02)	5.87 (1.27)	305.635	315.635	.102	.750	.02
	CG	5.75 (1.11)	5.78 (.66)					
Perceived physical self-concept								
Physical fitness	EG	6.55 (1.40)	7.66 (1.12)	267.382	277.382	32.655	.002	.93
	CG	6.71 (1.67)	6.43 (1.37)					
Coordination	EG	6.41 (1.12)	7.67 (1.43)	312.821	322.821	16.266	.007	1.01
	CG	7.26 (1.51)	7.16 (1.29)					
Sports competence	EG	6.77 (1.31)	7.77 (1.30)	305.611	315.611	30.717	.002	.72
	CG	6.94 (1.99)	6.79 (1.82)					
Effort and improvement								
	EG	6.91 (.72)	8.57 (.95)	235.131	245.131	166.780	< .001	2.09
	CG	6.99 (1.29)	6.62 (.83)					

Note. ES = Effect size; M = Mean; SD = Standard deviation; - 2LL = -2 log-likelihood; AIC = Akaike's information criterion; *d* = Cohen's *d* effect size; EG = Experimental group (*n* = 67); CG = Control group (*n* = 42).

Table 2
Effect of the Sport Education program on interpersonal dimension variables

Variable	Group	Pre-intervention	Post-intervention	Multilevel lineal model				ES
		M (SD)	M (SD)	- 2LL	AIC	*F*	*p*	*d*
Perceived Motivational Climate in Sport (task-involvement)								
Cooperative learning	EG	6.25 (1.27)	8.92 (.90)	297.465	307.465	107.985	.001	1.81
	CG	6.23 (1.65)	6.34 (1.33)					
Important role	EG	6.51 (1.01)	8.94 (1.02)	294.072	304.072	98.959	< .001	1.99
	CG	6.02 (1.62)	5.87 (1.25)					
Relatedness								
	EG	7.11 (.88)	8.54 (1.15)	279.891	289.891	25.854	< .001	1.37
	CG	8.14 (1.02)	8.12 (.79)					

Note. ES = *Note.* ES = Effect size; M = Mean; SD = Standard deviation; - 2LL = -2 log-likelihood; AIC = Akaike's information criterion; *d* = Cohen's *d* effect size; EG = Experimental group (*n* = 67); CG = Control group (*n* = 42).

Table 3
Effect of the Sport Education program on social dimension variables

Variable	Group	Pre-intervention	Post-intervention	Multilevel lineal model				ES
		M (SD)	M (SD)	- 2LL	AIC	*F*	*p*	*d*
Classroom climate in Physical Education								
Personalization	EG	5.68 (.89)	8.52 (1.01)	290.578	300.578	109.77	.001	2.43
	CG	6.19 (1.39)	6.27 (1.46)					
Implication	EG	4.86 (.99)	7.55 (.81)	234.914	244.914	179.377	< .001	2.97
	CG	4.91 (.85)	4.82 (.90)					
Cohesion	EG	8.55 (.67)	9.24 (.81)	190.031	200.031	14.777	.008	.62
	CG	7.26 (1.00)	7.32 (.99)					
Satisfaction	EG	6.95 (.76)	8.81 (.86)	229.671	239.671	138.798	< .001	1.94
	CG	7.32 (1.06)	7.44 (1.06)					
Task-orientation	EG	6.38 (.64)	8.25 (.78)	209.157	219.157	101.464	< .001	2.46
	CG	6.46 (.87)	6.52 (.95)					
Innovation	EG	5.13 (.89)	7.38 (.85)	250.259	260.259	36.990	.002	1.83
	CG	4.77 (1.58)	4.81 (1.68)					
Individualization	EG	3.61 (1.04)	6.55 (1.08)	280.747	290.747	18.378	.007	2.56
	CG	4.48 (1.13)	4.47 (1.23)					
Sportspersonship orientation								
Social conventions	EG	7.10 (1.04)	8.67 (1.14)	325.464	335.464	38.398	.001	1.15
	CG	6.52 (1.86)	6.45 (1.48)					
Rules and referees	EG	6.76 (.96)	8.17 (1.16)	291.491	301.491	49.291	.001	2.39
	CG	6.96 (1.24)	5.79 (1.04)					
Commitment	EG	7.54 (.80)	9.01 (1.11)	308.759	318.759	15.104	.016	1.07
	CG	7.73 (1.37)	8.08 (1.01)					
Opponent	EG	5.71 (1.53)	7.16 (1.52)	346.642	356.642	15.983	.011	1.51
	CG	5.40 (1.69)	4.46 (1.27)					
Negative approach	EG	4.77 (1.10)	3.83 (1.33)	316.765	326.765	6.208	.058	-.97
	CG	4.85 (1.17)	5.00 (.78)					

Note. ES = Effect size; M = Mean; SD = Standard deviation; - 2LL = -2 log-likelihood; AIC = Akaike's information criterion; *d* = Cohen's *d* effect size; EG = Experimental group (*n* = 67); CG = Control group (*n* = 42).

Table 4
Effect of the Sport Education program on acquisition of habits and autonomy dimension variables

Variable	Group	Pre-intervention	Post-intervention	Multilevel lineal model				ES
		M (SD)	M (SD)	- 2LL	AIC	*F*	*p*	*d*
Intention to be physically active								
	EG	7.18 (1.30)	8.59 (1.15)	294.817	304.817	28.800	.002	.83
	CG	7.23 (1.97)	7.32 (2.03)					
Autonomy support								
	EG	5.64 (1.33)	7.84 (1.12)	310.610	320.610	42.224	.001	1.39
	CG	4.07 (1.42)	4.10 (1.32)					

Note. ES = Effect size; M = Mean; SD = Standard deviation; - 2LL = -2 log-likelihood; AIC = Akaike's information criterion; *d* = Cohen's *d* effect size; EG = Experimental group (*n* = 67); CG = Control group (*n* = 42).

Discussion

The aim of the present study was to examine the effect of a PE-based SE program on the different dimensions that compose citizenship education in high school students. Results of the present study revealed that after a short-term intervention program of 12 lessons following the SE

methodology, high school students' citizenship education was improved. Positive results were obtained in categories of personal, interpersonal, social, and acquisition of habits and autonomy. Consequently, these improvements in the four established categories suppose the fulfillment of the competences proposed by the European Commission (2017) based on: (a) effective and constructive interaction with others; (b) critical thinking; and (c) acting in a socially responsible manner for the citizenship education.

Regarding the effect sizes of the program, results of the present study confirmed not only the change in the variables studied but also moderate-to-large magnitudes of those effects. Although, the length of the teaching unit is the minimum that the author proposed (Siedentop, 1994), these large effect sizes are greater than previous studies in some dimensions. This may be due to the fact that EG students and teachers of this study had a previous 2-year experience in SE model. Instead, in the previous studies analyzed here, it was the first time that the students received a SE teaching unit. For this reason, in the present study EG students took greater autonomy in the organization and implementation of the competitions, and spent little time in the first phases of the model (e.g., introductory phase, like elaboration of the observational items or explanation of roles) which can lead to obtaining positive effects in terms of personal, interpersonal, social, and acquisition of habits and autonomy. Below, the specific effect sizes obtained in each dimension are compared to previous studies. The only experience found in PE examining the effect of a SE program on citizenship education was carried out by O'Donovan et al. (2010) with 62 primary schoolchildren, who were in accordance with the present study and also obtained positive qualitative results registered by interviews (in relation to fairness and respect, positive and negative behavior, active participation, and cross-curricular links).

Regarding the personal dimension of citizenship education, the participants of this study incremented their self-determined motivation toward PE and their satisfaction toward the sport practice, as well as their physical self-concept and the effort that students put into the tasks they performed, which is in line with previous research (Cuevas et al., 2016). Comparing the results obtained in this study with those found by Cuevas et al. (2016), similar effect sizes are obtained for satisfaction towards the sport practice: (a) satisfaction and enjoyment dimension (d = .89 vs. .62); and (b) the boredom dimension (d = -.67 vs. -.52). In addition, higher effect sizes are obtained in the present study for all self-determined motivation categories: (a) intrinsic motivation (d = 1.05 vs. .73, respectively); (b) identified regulation: (d = 1.47 vs. .59, respectively); and (c) introjected regulation (d = .63 vs. -.09, respectively). These differences may be also due to the motivational variables being measured with a different measurement tool from the one used in this study. Motivation is considered one of the most important variables in PE teaching (Bryan & Solmon, 2012), and the relationship between intrinsic motivation toward physical or sport activities and the usefulness of the tasks performed as perceived by students during PE classes is reciprocal (Viau, 2000). The awareness of this relationship provides PE students with the perception of value for our discipline in society and in their lives, which is a fundamental part of being a good citizen from the physical point of view (Cloes, 2017). The value «beyond the school» of the PE mentioned by the authentic pedagogy theory of Newmann, Marks and Gamoran (1996) passes through the satisfaction of sport practice, the motivation toward the subject of PE, and the capacity of being autonomous in applying the learning achieved in the classroom to the students' lives (this last characteristic will be discussed below). Furthermore, physical self-concept was also improved in this research (perceived physical fitness, sport competence, and coordination). It has been demonstrated that physical self-concept influences, as a pre-dispositional factor, on the habitual physical activity performed (Welk, 1999) and on the physical fitness achieved by individuals (Mayorga-Vega, Viciana, Cocca, De Rueda, 2012). Thus, from a personal point of view, it is possible to conclude that the SE intervention carried out in the PE classes contributed to forming physically educated citizens (Cloes, 2017).

In regards to the interpersonal dimension, the EG participants of the present study increased the score in relatedness with others, cooperative learning, and important role of the individual within the group variables. Previous research verified this positive effect of SE interventions on social goals. For instance, Wallhead et al. (2012) found that the SE program carried out during two semesters increased students' affiliation, recognition, and status, which were related also to an increase on relatedness and enjoyment in PE. On the other hand, the study carried out by Méndez-Giménez, Fernandez-Río & Méndez-Alonso (2015) also found improvements in the relatedness with others dimension. The results obtained in the present study are larger in terms of effect size in comparison with the study by Méndez-Giménez et al. (2015) in both experimental groups (d = 1.37 vs. .03 and .19, respectively). Moreover, mastery-involving climate has been verified as the most frequent environment of SE interventions as well, which entails fostering the importance of the individual within the group (Hastie, & Wallhead, 2015). Consequently, the SE program developed in PE also contributed to increase the interpersonal dimension of the students' citizenship education.

Regarding the social dimension, the high school students belonging to the EG group in this study perceived an improvement in the classroom climate provided by the PE teacher in terms of personalization, implication, social cohesion, satisfaction, task orientation, innovation, and individualization, as well as an increase in their sportsmanship. In line with the qualitative study of Calderón, Martínez de Ojeda, and Méndez (2013), where PE teachers perceived that the SE methodology fostered the social and civic key competency established by the European Committee (2012), the present study confirmed that social and civic behavior in sport performance could be modified and improved. On one hand, the SE program caused an ideal classroom climate for learning, as previous research also demonstrates (Perlman, 2012). And on the other hand, the sport content of PE delivered in the SE program also caused a change in the sportsmanship of students, which is a previous step (given in the sport context) for applying a better moral-reasoning and behavior to their lives, in the context of society (Cloes,

2017). Previous studies also confirmed the effect of a SE program on the students' sportsmanship (Méndez-Giménez et al., 2015; O'Donovan, et al., 2010). However, although the results were good and students had an increase in the sportsmanship scores, the magnitude of the effect size obtained by Méndez-Giménez et al. (2015) was very small in both experimental groups (EG-1 and EG-2) compared to the results obtained in the present study for students' sportsmanship: (a) social conventions (d = .06 and .00 vs. 1.15); (b) rules and referees (d = .04 and -.87 vs. 2.39); and (c) opponent (d = .10 and .24 vs. 1.51).

Regarding the acquisition of the habits and autonomy dimension (autonomy support, and the intention to be physically active), it was confirmed that the SE intervention carried out in PE increased the autonomy support perceived by students, which is one of the key principles reported by UNESCO (to give students opportunities to make decisions) through the so-called «quality physical education» explained by McLennan and Thompson (2015). These results were in accordance with previous research regarding the autonomy perceived by students after a SE program (Sun, 2016). However, the magnitude of the effect size in this study was 11 times greater than the one obtained by Sun (2016) (d = 1.39 vs. .12, respectively). These differences in the effect size should be taken with caution because two different instruments were applied in each study and they may not be totally comparable. Moreover, the study carried out by Méndez-Giménez et al. (2015) also found increases in autonomy perceived scores. In this case, the magnitude of the effect size is also higher than in the present study in comparison with both experimental groups (d = 1.39 vs. -.06 and .19, respectively). In accordance with the results obtained by Cuevas et al. 2016, results of the present research also showed an increase of the intention to be physically active. In the present study, the magnitude of the effect size is also larger in comparison with the one obtained by Cuevas et al. (2016) (d = .83 vs. .34, respectively). Haerens, Kirk, Cardon, and De Bourdeaudhuij (2011) in their model for health-based PE stand out in that the specific role of the PE teacher should be centered on the priority of the promotion of an active lifestyle, and the results of this study support this idea in a double perspective: (a) providing autonomy to the participants, which supposedly they will apply to a sport activity organization and performance during their leisure time; and (b) providing higher intention to be physically active in the out of the school time period. Like the trans-contextual model of Hagger and Chatzisarantis (2016) states, motivation achieved in the PE context is the key concept in order to make effective and capitalize the potential need of young people to practice sport in their leisure time, and the SE methodology could make that significant contribution to students' lives (Hastie & Wallhead, 2015).

Although this report has separated the contribution to the citizenship education of a SE program in four dimensions, they all were previously related in literature. For instance, Franco, Pérez-Tejero and Arrizabalaga (2012) linked the motivation and the intention to be physically active, and with the type of competition in which the sport practitioners were involved, being the formal competition the more related with these two variables. Physical self-concept was also included in the link between motivation and the intention to be active in Spanish adolescents by Cuevas, Contreras, Fernández and González-Martí (2014), being physical fitness and physical attractiveness the more predictive factors of motivation toward physical activity for boys and girls, respectively. Moreover, other variables such as perceived autonomy have been related to motivation toward PE after a SE program (Sun, 2016). Finally, in the experience carried out by Wallhead et al. (2012), increased social goals were also related with the increment of extracurricular participation in sports activities, demonstrating once again this interrelationship between variables and dimensions. Hence, the complex network between the attributes of students' citizenship education needs to be taken into account in this interdependent relationship between variables that occurs in the sport setting.

Despite that several dimensions have been improved after this study, the concept of education for citizenship is complex and we have selected and focused on those that are influenced and possible to measure after a PE intervention. For example, the dimension of acting democratically proposed by the European Commission (2017) or political and intercultural dimensions of citizenship education (Tibbits, 2015) still have not been measured due to temporary issues, the increase in the number of instruments, and the lack of personal resources. Future interventions should consider these limitations, including strategies and measurement instruments of acting democratically and political and intercultural dimensions in order to test the complete effects of a SE program in schoolchildren. Although previous research confirmed that PE students recognized and were able to apply the competencies learnt in PE beyond the sport setting (Koh, Ong, & Camiré, 2014), further studies should consider collaborating with students' families, probably using a qualitative method, in order to study in depth this complex link between the classroom and life. Finally, it should be noted that because the external regulation and controlled motivation showed low reliability, the findings of the present study with these variables should be taken with caution. Moreover, the present article provides valuable knowledge in the area and helps PE teachers and policymakers responsible for the citizenship education in the school context to design effective programs that allow for obtaining positive results in terms of personal, interpersonal, social, and acquisition of habits and autonomy improving the students' citizenship education.

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