

Effects of a Sport Education Season of an Alternative Sport on School Climate, Emotional Intelligence, and Perceived Competence of Elementary School Students in a Culturally Diverse Context

Efectos de una temporada de Educación Deportiva sobre un Deporte Alternativo en el Clima Escolar, la Inteligencia Emocional y la Competencia Percibida de Estudiantes de Educación Primaria pertenecientes a un Contexto Multicultural

*Federico Puente-Maxera, **Diego Martínez de Ojeda, ***Antonio Méndez-Giménez, **Juan José Valverde, **Isabel Jiménez-Martínez

*Regional Ministry of Education of the Principality of Asturias (Spain), **Regional Ministry of Education of the Region of Murcia (Spain), ***University of Oviedo (Spain)

Abstract. *Purpose:* The aim of this study was to explore the influence of a Sport Education Model (SEM) season about *colpbol* on primary education students' school climate, emotional intelligence, and perceived competence. *Method:* 77 (42 boys, 35 girls; 64% immigrant) fourth-to-sixth grade students ($M_{age} = 10.87$; $SD = 1.09$) from a southern Spain school took part in this study. Sixth-grade students were taught through co-teaching, while other grades followed traditional teaching. Over a five-week period, students participated in a season of 10 sessions of *colpbol*. Dependent variables were measured through questionnaires. *Results:* Results showed significant improvements in sixth-grade students (all analyzed variables) and fifth-grade students (perceived competence and emotional control and regulation). No significant changes were found in fourth-grade students. *Discussion:* It is shown the positive influence of co-teaching in culturally diverse classrooms on both psychological and socio-affective learning dimensions. Likewise, alternative sports could enhance the inclusive principles of the SEM inspired by the 'sport for all' policy.

Keywords: alternative sport, physical education, pedagogical model, culturally diverse classrooms, co-teaching.

Resumen. *Objetivo:* El objetivo principal de este estudio ha sido conocer el impacto de una temporada de *colpbol* basada en el modelo de educación deportiva (MED) sobre la convivencia escolar, la inteligencia emocional y la competencia percibida en alumnado de educación primaria. *Método:* Participaron 77 estudiantes (64% inmigrantes) de cuarto a sexto curso ($M_{edad} = 10.87$; $DT = 1.09$) de un centro ubicado en la zona rural del sur de España. El grupo de sexto asistió a clases en modalidad de docencia compartida, mientras que en los restantes niveles dicha docencia fue impartida de forma tradicional. Las variables dependientes fueron medidas a través de cuestionarios. *Resultados:* Los resultados mostraron mejoras significativas en el grupo de sexto curso (en todas las variables analizadas) y en quinto curso (competencia percibida y control/regulación emocional), sin observarse cambios en el grupo de cuarto. *Discusión:* Se evidencia el potencial de la docencia compartida en contextos multiculturales sobre la dimensión psicológica y socio-afectiva del aprendizaje y se corroboran los propósitos del deporte alternativo, así como su efecto añadido al ser conjugado con el MED. El deporte alternativo podría potenciar los principios inclusivos del MED inspirados en el lema de un 'deporte para todos'.

Palabras clave: deporte alternativo, educación física; modelo pedagógico; aulas multiculturales; docencia compartida.

Fecha recepción: 18-03-23. Fecha de aceptación: 09-08-23

Federico Puente-Maxera

fedepuentem@hotmail.com

Introduction

Over the last decades, broad scientific evidence has revealed the potential of physical education (PE) for generating positive effects on different learning domains, going beyond the *physical* field, and including others such as emotional (Pellicer, 2011), social (Bailey, 2005) or affective (Teraoka et al., 2020). These wide-scope consequences have linked PE to a holistic and integral nature, commonly associated with the idea of a *Quality Physical Education* (Dyson, 2014).

In order to test the quality of such practices, numerous studies have focused on knowing which factors determine greater engagement to physical and sport activities (Farias et al., 2018; Martínez de Ojeda et al., 2016). In this regard, school climate seems to play an important role in teaching and learning processes (Del Rey et al., 2017). School climate has been described as the set of human relationships among different people within the educational community (Sánchez-Alcaráz et al., 2018). It is also referred to a complex and multidimensional construct (Maxwell et al., 2017) which includes different components such as classroom climate, participation, coopera-

tion, solving-problem and social relationships.

In the PE area, several programs have been attempted to improve school climate, revealing the importance of addressing specific strategies (Gil-Espinosa, 2009) as well as the content taught (Ardila et al., 2019). In addition, school climate has been positively correlated with academic performance (Cerdeira et al., 2019) and emotional intelligence (EI; Sáez et al., 2014). Regarding the latter, a recent study (Méndez-Giménez et al., 2020) revealed how the intention to both create and strengthen friendship relationships was associated with greater EI, a correlation also observed in other investigations (Fierro-Suero et al., 2019).

EI has been defined as the ability to control one's own emotions to lead them in a positive way (Goleman, 1996). The interest in this construct within the physical-sports field is still incipient (Laborde et al., 2016). Although numerous studies have focused on both professional and pre-service teachers as well as university students, the impact on primary and secondary school students has also increased (Fernández-Espínola & Almagro, 2019). An extensive production has focused on knowing the relationship between emotional intelligence and the motivational

dimension of learning (Cera et al., 2015; Gómez-López & Granero-Gallegos, 2020). Other studies have explored whether some specific teaching methods and strategies could favor a greater development of emotional intelligence. In this sense, recent studies highlight the positive effect of cooperative structures (Rivera-Pérez et al., 2020; Ruiz-Ariza et al., 2019).

Together with this methodological aspect, co-teaching scenarios have proven to be valuable in the development of the socio-affective dimension of learning (Young et al., 2020). The educational system in Spain has recently called for the use of various methodologies, among which there is room for teaching collaboration, subject to the organizational autonomy of the educational centers. Co-teaching can manifest itself to various degrees (Friend & Cook, 2007) depending on several factors, including: the responsibility assumed by teachers, space distribution, or the students' organization. Among the most important benefits are the development of social skills, inclusion, and emotional learning (Benia & Young, 2020).

Likewise, emotional intelligence has been identified as a key issue in the construction of physical self-concept (Salvador, 2012) this last being, in turn, an indicator of a positive psychological state. In this way, several studies present the physical self-concept as a positive predictor of essential habits such as the intention to be physically active (Moreno et al., 2007) or enjoyment (Navarro et al., 2016), although some studies reveal it could be mediated by variables such as gender (Urrutia-Medina et al., 2023). Among the different domains that explain it (e.g., physical appearance), the notion of how competent students perceive themselves plays a determining role in their motivational profile (Moreno & Vera, 2011). Competence refers to the 'ability of individuals to effectively use and adapt their resources in order to achieve goals in a changing environment' (Hellín et al., 2006, p.220).

Several studies have focused on investigating possible relationships between perceived competence and different sociodemographic variables (Gil-Arias et al., 2020; Martínez de Ojeda et al., 2016). Thus, many studies confirm the existence of connections according to age. This situation has aroused the interest of students at different educational levels. In this regard, a nationwide study (Navarro et al., 2016) observed that physical self-concept tended to become more negative as students went from 10 to 12 years old. An analogous trend was revealed in a study with similar-age schoolchildren (Puertas et al., 2017), also suggesting the convenience of finding strategies to maintain optimal levels of competence in students throughout their entire educational life.

In the field of PE, the methodology has been one of the most explored and manipulated independent variables (Casey & Kirk, 2020). On this edge, the notion of *pedagogical model* has gained prominence, being presented as an integral approach capable of combining teaching, learning, context, and content perspectives (Haerens et al., 2011). Authors such as Dyson (2014) agree with this idea of

'globality' and focus on the learning process as well as the need to provide authentic, relevant, and meaningful experiences to students. Among the different models (Metzler, 2017), sport education (SEM) seems to be consistent with the aforementioned claims (Siedentop et al., 2020). It is the most studied model worldwide (Kirk, 2013). The SEM aims to develop students who are competent, literate, and enthusiastic. Six essential elements describe it (Siedentop et al., 2020): (1) season, characterized by a longer duration compared to a conventional didactic unit; (2) affiliation, with students being organized into teams; (3) formal competition, alternating periods of competition (e.g., intergroup) with others of training (e.g., intragroup); (4) final event, which represents the outcome of the unit; (5) record keeping, providing constant feedback to the students; and (6) festivity, since the unit is developed in a playful and fun environment.

As noted, the SEM has been extensively tested and extended to new and different contexts, as shown in the numerous reviews carried out to date, both nationally (Guijarro et al., 2020) and internationally (Evangelio et al., 2018; Hastie et al., 2011). This expansion has entailed new contexts (countries, educational stages, formal / non-formal education, etc.) as well as new dependent variables (e.g., motivational dimensions of learning). In addition, the previously mentioned variables have piqued the interest of researchers. Thus, in terms of school climate, the review developed by Serra-Olivares (2017), applied to the Chilean educational context, underlined the SEM elements recognized as promoters of a better school climate, that is, teams remain together throughout the season; the long duration of the didactic units; and the emphasis on the learning process as well as on its socio-affective dimension (cooperation, respect, sportsmanship, etc.). These aspects have been identified in previous studies both in primary (Martínez de Ojeda et al., 2016; Sierra-Díaz et al., 2018) and secondary education (Viciana et al., 2020).

The evidence showing positive correlations between SEM and EI, although not so extensive, has gradually increased. For example, a quasi-experimental study with sixth-grade students showed improvements in all dimensions of emotional intelligence (attention, clarity, and emotional repair) after participating in a season (12 sessions) of mime (Méndez-Giménez et al., 2017b). For their part, Luna et al. (2019) tested a pilot program based on socio-emotional learning (SEL) on secondary school students. As a result, they found significant improvements in EI in those who experienced the SEM program without observing analogous effects in the control group. More recently, Arikan (2020) also found positive effects after combining SEM and SEL, this time in ninth-grade students. The results reflected positive effects on emotional intelligence, regardless of the itinerary followed by the students (ordinary, sports, or vocational). These three studies considered the simultaneous participation of students in the same grade. Regarding this, Méndez-Giménez et al. (2017b) suggested the need for further research that

corroborates the relationships between SEM and EI with more groups of students at different educational levels.

Likewise, students' perceived competence has been analyzed through SEM-programs. In their review, Araujo et al. (2014) revealed the potential of the model to promote improvements in students' competence, both real and perceived. These improvements are shown across different educational levels (*primary*, in Méndez-Giménez et al., 2017a; *secondary*, in Gil-Arias et al., 2020) and contexts (e.g., *high-performance sport* in Meroño et al., 2015). Among the most prominent reasons are (a) the adjustment of the content to the characteristics of students (e.g., use of modified games), (b) greater opportunities for practice time, or (c) the possibility of assuming a role within a team. However, these positive effects seem to be influenced by related factors such as gender or skill level (Araujo et al., 2014). Likewise, in intercultural terms, the specific literature shows how the effects on skill development have not been without discrepancies when applying the SEM in multicultural contexts (Puente-Maxera et al., 2018b; 2020), pointing out that cultural background could play a significant role in students' learning opportunities. Among other reasons, these circumstances might be motivated by the teaching content selected.

Regarding the content, along with the exploration of new contexts and variables, the introduction of new contents has been a foremost purpose (Evangelio et al., 2018; Guijarro et al., 2020; Hastie et al., 2011). With initial experiences focused on sports contents, programs have been extended to other contents, such as body expression (Méndez-Giménez et al., 2017a, 2017b) or outdoor activities (Méndez-Giménez et al., 2019). Although conventional sports (basketball, handball, volleyball, etc.) have been the most recurrent and selected content, in the last five years, programs that use alternative sports as main content have increased (Guijarro et al., 2020). Alternative sports are understood as those that "seek to achieve greater participation and an explicit development of social values through regulatory modifications" (Hernández, 2007). The coeducational perspective has been widely explored in numerous studies and programs using alternative sports, suggesting that gender should be examined as an independent factor. The SEM-based experiences carried out up to date have verified many of the educational aims pursued by this sport typology, highlighting the added effect when combining both approaches. As examples, there have been seasons of *ultimate* (Puente-Maxera et al., 2018a), *pichi* (a modified game of baseball; Martínez de Ojeda et al., 2016), *floorball* (Sierra et al., 2018) or *games from around the world* (Puente-Maxera et al., 2021).

Purposes and hypothesis

Based on the aforementioned, the main purpose of this study has been to know the effect of a SEM-season about *colpbol* (an emerging alternative sport) on fourth, fifth and sixth-grade students' school climate, emotional intelli-

gence, and perceived competence in a culturally diverse context. Settings for both co-teaching and ordinary teaching have been taken into account. It was hypothesized that the *colpbol* program would cause improvements in (a) school climate, (b) emotional intelligence, and (c) perceived competence of all groups, regardless of the teaching setting (ordinary / co-teaching). In addition, gender and origin were considered independent factors.

Materials and method

Design

A quasiexperimental design was followed with pretest (before starting the unit; second week of January) and posttest (after the implementation of the unit; fourth week of February) measures. In terms of fidelity, Hastie and Casey's recommendations (2014) regarding model-based practices were followed: (a) a rich description of the context, (b) a detailed process about the validation of the model, and (c) a vast explanation of the curricular elements. Informed consents were obtained from students' families and legal guardians, as well as from the school staff.

Sample

Context. The intervention was carried out in a state and coeducational (boys and girls) elementary school, located in a rural area of southern Spain. The population of the area has grown in recent decades, mainly due to the strong influx of immigrants who have been settled, being agriculture their main economic activity. More than 65% of students have immigrant backgrounds, mainly from North Africa (e.g., Morocco).

Students. The sample consisted of 77 students (42 boys, 35 girls; see Table 1) with an average age of 10.87 ($SD = 1.097$). Groups were selected by non-probabilistic convenience sampling, remaining intact during the study. The groups that participated were: one fourth-grade class, one fifth-grade group, and two sixth-grade groups. From the total of immigrants students, 46 were from Morocco and three from Ecuador. All students had previous experience with the SEM (at least, two years); however, none had previous experience with co-teaching.

Table 1.
Characteristics of the participants

	4 th Grade	5 th Grade	6 th Grade
Spanish	7	11	10
Immigrants	12	17	20
Boys	10	14	18
Girls	9	14	12
Total	19	28	30

Teachers. Three PE teachers participated. Two of them were considered experts in SEM (expert teacher 1 - ET1- and expert teacher 2 -ET2-). ET1 had 22 years of experience, 10 of them applying the SEM; and ET2 had 14 years of experience and six of them applying the SEM. The other teacher was considered novice in the use of SEM (eight years of teacher experience, but no previous experi-

ence with the SEM). This novice teacher (NT) taught a fourth-grade group who had already experienced the SEM for two years; ET2 taught a fifth-grade and one of the sixth-grade groups; and ET1 taught the other sixth-grade group. Before starting the season, the NT received information about the SEM, following the premises of Calderón and Martínez de Ojeda (2014), including specific theoretical-practical training about the model. Likewise, the NT, in order to be able to implement SEM correctly, taught each session to a third-grade class along with ET2 (Méndez-Giménez & Martínez de Ojeda, 2016).

Intervention programme

The intervention programme included a season of SEM that was implemented in a regular way (a teacher with a group of students) in fourth-grade and fifth-grade groups, and implemented through co-teaching in the two sixth-grade classes (Figure 1).

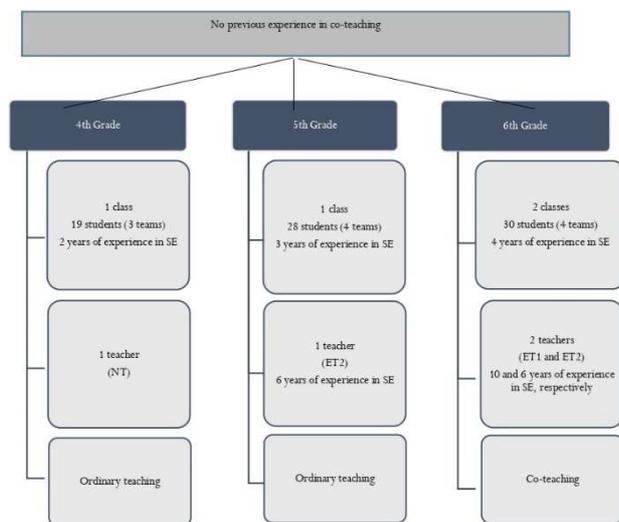


Figure 1. Type of teaching in which each group participated. Note: SE: Sport Education; NT: Novice Teacher; ET1: Expert Teacher 1; ET2: Expert Teacher 2.

The main content of the SE season was colpbol. The aim of this invasion game is to introduce a plastic ball into

the opposing team’s goal by hitting it. It is played in a multi-sport court with handball goals (Hernández et al., 2019).

The season design was carried out by the two expert teachers in the SEM and validated by two experts in teaching models (both PhD in Physical Activity and Sport Sciences). The teaching unit took into account the following indicators (Hastie et al., 2017): (1) the season spanned an extended period of time; (2) teams remained together; (3) the competition included modified versions of the original game; (4) the students assumed roles other than players; (5) teams played small-sided intragroup games; (6) the season took place in a festive atmosphere; (7) a data recording system was carried out; (8) the season culminated with a final event.

To validate the implementation of the model, a session of each phase was videorecorded. Furthermore, ET1 observed one session per week of each of the participating groups in which he did not teach so that he could check that the SEM was being correctly applied. In addition, an external observer was asked to evaluate the videos and code each session using the checklist. Their observations reached 100% agreement, ensuring that all indicators were included (Hastie et al., 2017).

Over a five-week period, students participated in a season of 10 sessions (60 minutes, twice a week) of colpbol (see Table 2) in an outdoor multi-sports court of 20x40 m. Following the principles of the SEM, students were organised by the teachers into three or four teams of six-to-seven members, ensuring the greatest heterogeneity (gender and nationality). Participants were assigned to different teams following a ‘blind choice system’ (Siedentop et al., 2020).

Students assumed three roles: (1) players; (2) they assumed a team role (coach, physical trainer, health and risk manager, and equipment manager); and (3) *duty team* role (referee / score-keeper). The unit progressed through different phases (Calderón et al., 2010).

Table 2. Contents developed in the colpbol season

Session	Content
1 (I)	Explanation, team building, role assignment, affiliation.
2 (TL)	Hitting technique activities. Students begin to implement general roles.
3(TL)	Individual and team striking activities. Tactical work activities in numerical superiority with finishing: 2x0; 3x1; 2x1 to score in goal with/without goalkeeper.
4 (AP)	Communication with teams is initiated through the student-coach, introducing review activities (some of those previously worked on). Activities of progression towards the opponent’s goal in numerical advantage (e.g. passes in groups of two by hitting to score in a goal defended by a goalkeeper). Defence initiation activities (e.g. same activity as above with a defender). Activities in numerical equality (e.g. 3x3 and two goals per team without a goalkeeper).
5 (AP)	Communication with the teams is continued through the student-coach. Activities of progression in numerical equality (e.g. 3x3 with large goals; to score, they have to do it from less than one meter).
6 (AP)	Autonomous practice, activities indicated through the student-coach. Explanation of the score sheet. Scrimmage games with duty team (learning referee and score-keeper roles in colpbol content).
7 (AP)	Autonomous practice. Practice matches with duty team.
8 (FC)	Formal competition. League format.
9(FC)	Formal competition. League format.
10 (FE)	Diploma award ceremony.

Note. I: Introductory; TL: Teacher-led; AP: Autonomous Practice; FC: Formal Competition; FE: Final Event.

Instruments

School climate

Peers’ social network and normative adjustment subscales were used, both included in the school climate scale by Del Rey et al. (2017). The subscale of normative adjustment did

not provide an acceptable reliability (.67 in pretest and .58 in posttest). Therefore, it was used the *peers’ social network* subscale (.78) which consists of seven items (e.g. “My classmates help me when I need it”). The results were measured in a Likert scale that ranged from 0 (*never*) to 5 (*always*).

Table 3.
Descriptive statistics (means and standard deviation) of analyzed variables according to grade, gender, and nationality

	Peers' social network				ECR				EE				ER				Perceived competence			
	PreT		PostT		PreT		PostT		PreT		PostT		PreT		PostT		PreT		PostT	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
4 th grade	4.02	.70	4.15	.65	4.16	.67	4.12	.64	4.02	.81	4.18	.62	4.21	.76	4.23	.79	7.11	1.62	7.13	1.49
Spanish	4.02	.92	4.33	.56	4.06	.87	4.09	.88	3.81	1.02	4.02	.60	4.30	.91	4.23	.97	6.70	2.31	6.55	2.06
Immigrants	4.02	.96	4.03	.70	3.84	.88	4.13	.55	4.12	.70	4.26	.64	4.16	.72	4.24	.74	7.35	1.10	7.42	1.10
Boys	3.81	.69	4.00	.58	3.95	.80	3.98	.79	3.73	.95	4.03	.78	4.02	.93	4.08	.98	6.92	1.61	7.08	1.40
Girls	4.20	.69	4.30	.72	4.41	.40	4.29	.36	4.38	.41	4.38	.24	4.43	.47	4.41	.50	7.32	1.69	7.19	1.69
5 th grade	3.91	.93	4.12	.86	3.84	1.02	4.05*	.90	3.92	.90	4.11	.75	4.21	.83	4.30	.71	7.27	1.93	7.97**	1.25
Spanish	4.12	.62	4.20	.76	4.05	.93	4.14	.84	4.18	.71	4.24	.65	4.38	.64	4.32	.63	7.35	1.55	7.71	1.25
Immigrants	3.70	1.15	4.05	.97	3.63	1.11	3.95	.98	3.67	1.03	4.23	.65	4.06	.97	4.28	.80	7.18	2.32	8.21*	1.27
Boys	3.92	1.14	4.22	1.12	3.89	1.01	4.00	.94	3.81	0.96	4.12	.74	4.07	.87	4.06	.83	7.25	2.26	8.37	1.18
Girls	3.90	.76	4.04	.65	3.79	1.09	4.10*	.89	4.04	4.87	4.38	.48	4.34	.80	4.52	.52	7.28	1.70	7.66*	1.27
6 th grade	4.02	1.01	4.27**	.96	3.86	.86	4.33***	.66	3.68	.82	4.36***	.57	4.09	.80	4.57**	.40	7.81	1.66	8.83***	.84
Spanish	4.23	.65	4.43*	.51	4.06	.88	4.46	.40	4.00	.79	4.44	.59	4.31	.72	4.57	.35	7.00	2.10	8.51*	.90
Immigrants	3.91	1.14	4.18**	1.13	3.76	.86	4.27***	.74	3.53	.80	4.33***	.58	3.99	.84	4.57**	.43	8.29	1.16	9.00**	.78
Boys	3.96	1.17	4.14**	1.20	3.68	.98	4.08*	.75	3.57	.89	4.27**	.60	3.98	.93	4.46*	.42	7.79	1.76	8.82**	1.01
Girls	4.10	.74	4.46**	.43	4.12	.59	4.67**	.25	3.82	.72	4.50**	.53	4.24	.60	4.72**	.32	7.85	1.60	8.85**	.49

Note: *p < .05; **p < .01; ***p < .001; ECR: Emotional Control and Regulation; EE: Emotional Empathy; ER: Emotional Recognition

Emotional intelligence

The questionnaire of Emotional Intelligence in Physical Education was used (Cecchini et al., 2018). The scale, introduced by the sentence "In my PE classes...", consists of 22 items divided into three factors (Cronbach's alpha values = .87, .81, .82, respectively): emotional recognition (8 items; e.g. "I am aware of my emotions when I play or compete"), control and emotional regulation (7 items; "When I face a game and / or competition, I control my emotions") and emotional empathy (7 items; e.g. "I easily understand how my peers and / or rivals feel in games and / or competitions"). The answers were valued using a Likert scales which fluctuated from 1 (*totally disagree*) to 5 (*totally agree*).

Perceived competence

It was used the subscale of perceived competence, included in the Physical Self-concept Scale for teenagers (C-PSQ) by Moreno et al. (2007), adapted from Fox and Corbin (1989). The subscale, introduced by the sentence "When I practice physical activity..." is made up of ten items (e.g. "I am very good at almost every sport"). Cronbach's alpha value obtained by Moreno et al. (2007) was .87. The answers were valued by a Likert scale that ranged from 0 (*totally disagree*) to 10 (*totally agree*).

The questionnaires were completed in an approximated averaged time of 25 minutes, under the supervision of the teacher and in the main classroom.

Data analysis

Statistical analysis were performed using the software SPSS v.21.0 for Windows (SPSS, Inc., Chicago, IL). The internal consistency was examined by means of Cronbach's alpha coefficients. Firstly, tests of Kolmogorov-Smirnov were requested in order to assess the normality of data. Levene test was used to measure the equality of variances. The results showed the non-compliance of the parametric assumptions, leading to the use of non-parametric tests. The Wilcoxon rank test was applied to calculate intra-group differences over time (PreT - PostT). Whereas the Mann-Whitney U test determined intergroup differences according to gender, nationality, and group. For each case, the level of significance was set at p < .05;

p < .01; p < .001. Considering Fritz et al. (2012) contributions, the effect size was calculated for non-parametric tests. The following intervals were taken into account for r: .1-.3 = small effect; .3-.5 = intermediate effect; and .5 and higher = strong effect.

Results

Table 3 shows the descriptive statistics (means and standard deviations) for each of the variables analyzed, established according to grade, gender, and nationality. According to the peers' social network, the rank tests of Wilcoxon and Mann-Whitney U test showed significant improvements in sixth-grade students for the whole sample (Post-Pret: Z = -3.403; p = .001; r = .44), Spanish students (Post-Pret: Z = -2.032; p = .042; r = .26), immigrants (Post-Pret: Z = -2.769; p = .006; r = .36), boys (Post-Pret: Z = -2.629; p = .009; r = .34), and girls (Post-Pret: Z = -2.226; p = .026; r = .29).

Regarding emotional intelligence, Wilcoxon and Mann-Whitney tests showed a significant improvement in fifth-grade students' control and emotional regulation (see table 3), as well as in the whole sample (Post-Pret: Z = -2.048; p = .004; r = .27) and girls (Post-Pret: Z = -2.153; p = .003; r = .29). Such improvement was also verified in sixth-grade students (Post-Pret: Z = -3.535; p < .001; r = .46), and specifically in immigrants (Post-Pret: Z = -2.520; p < .001; r = .33), boys (Post-Pret: Z = -2.171; p = .03; r = .28) and girls (Post-Pret: Z = -2.943; p = .003; r = .38).

In sixth grade, Wilcoxon and Mann-Whitney tests also showed a significant improvement in emotional empathy (Post-Pret: Z = -4.081; p < .001; r = .52), specifically in immigrants (Post-Pret: Z = -3.520; p < .001; r = .45), boys (Post-Pret: Z = -2.976; p = .03; r = .38) and girls (Post-Pret: Z = -2.807; p = .005; r = .36). Besides, in sixth-grade students, that improvement was verified in emotional recognition (Post-Pret: Z = -3.476; p = .001; r = .45), also for immigrants (Post-Pret: Z = -3.098; p = .002; r = .4), boys (Post-Pret: Z = -2.275; p = .0230; r = .29) and girls (Post-Pret: Z = -2.812; p = .005; r = .36).

Finally, it was observed an important increase in perceived competence (see table 3) in fifth-grade students for

the whole sample (Post-Pre: $Z = -3.006$; $p = .003$; $r = .40$), as well as in immigrant students (Post-Pre: $Z = -2.415$; $p = .016$; $r = .32$), and girls (Post-Pre: $Z = -2.249$; $p = .025$; $r = .30$). It was also found a significant increase in sixth-grade students' perceived competence (Post-Pre: $Z = -3.867$; $p < .001$; $r = .50$), specifically in Spanish (Post-Pre: $Z = -2.383$; $p = .017$; $r = .31$), immigrant (Post-Pre: $Z = -3.066$; $p = .002$; $r = .40$), boys (Post-Pre: $Z = -2.845$; $p = .004$; $r = .37$) and girls (Post-Pre: $Z = -2.670$; $p = .008$; $r = .34$). Results showed an intermediate effect size.

Discussion

The main purpose of this study has been to know the impact of an alternative sport (colpobol) season, based on the SEM, on fourth, fifth and sixth-grade students' school climate, emotional intelligence and perceived competence in a culturally diverse context. In addition, co-teaching and ordinary teaching scenarios were considered. The results revealed positive effects of the intervention in students of higher grades, with special incidence in sixth-grade students, for each of the variables analyzed. On the other hand, no significant changes were found in the fourth-grade group.

The initial hypothesis anticipated improvements in the school climate for all the participants. Nevertheless, significant increases in the peers' social network were only found in sixth-grade students (co-teaching modality). No significant changes were observed in the remaining groups (fourth and fifth, both with ordinary education). On the one hand, these findings corroborate the benefits of the SEM in the development of contexts that favor an optimal school climate (Serra-Olivares, 2017). On the other hand, the results are consistent with previous studies that show improvements in the social climate, both in primary (Martínez de Ojeda et al., 2016) and secondary education (Viciana et al., 2020). Considering gender, the highest values in girls, both in the pre- and post-test, agree with previous interventions in which a greater sense of belonging was observed in girls with respect to boys (Cerdeira et al., 2019). In multicultural terms, similar trends were observed in both origins, although they reported a higher level of significance in immigrants.

Interestingly, these results are congruent with a previous study, which analyzed the influence of both teaching modalities (ordinary and co-teaching) on classroom social climate in primary students participating in two consecutive seasons (Calderón et al., 2016). In this research, the students who participated through co-teaching and combined grouping (both in third and fifth-grade), experienced improvements in this variable, but this was not the case for those who followed a traditional modality (fourth and sixth-grade students). Some authors (Ploessl et al., 2010) highlight the incidence of co-teaching in the development of communication skills and conflict resolution, both aspects involving peers' interactions. Speculatively,

this assumption could provide a rationale for results among fourth-grade students. It should be noted that the content addressed in its first season (Calderón et al., 2016) was *pichi*, thus suggesting positive initial effects after the application of alternative sports (Ardila et al., 2019). The results obtained in this study point in that same direction. However, beyond the notable increase in evidence that highlights the strength of the SEM to generate positive effects in multicultural contexts (Guijarro et al., 2020) its incidence in alternative sports continues to be scarce. Thus, the study by Puente-Maxera et al. (2018a) did not show improvements in intercultural relations after a season of ultimate, while when a more conventional sport was applied (e.g., handball), improvements in the relationship were observed, although only in native students (Puente-Maxera et al., 2018b).

The second hypothesis established that the intervention would promote improvements in each factor of the students' emotional intelligence, irrespective of the teaching scenario. In line with this hypothesis, a high impact on the sixth-grade group was observed, with increases in all subgroups, except for Spanish students. These results are consistent with a previous experience with students of the same educational level participating in a season of mime (Méndez-Giménez et al., 2017b). In terms of nationality, significant improvements were concentrated exclusively among students of immigrant origin in each of the subvariables. These data seem to corroborate the positive correlations between emotional intelligence and cross-cultural adjustment observed in university students (Lin et al., 2012). However, further studies with school-age students are necessary to explore possible relationships between emotional intelligence and students' origin.

Likewise, a recent comparative study reported improvements in the emotional intelligence of Turkish adolescents after participating in a season of volleyball (Arikan, 2020), regardless of the training itinerary (academic, vocational, or sports). Not only in terms of conventional sports (close to the interests of the current study), Luna et al. (2019) showed positive effects on the emotional intelligence of students after participating in a season of an alternative sport (ringo). Contrasting the present study, both proposals (Arikan, 2020; Luna et al., 2019) were inspired by the principles of the SEL. This situation suggests the strength of the SEM, when applied isolated, in the development of the socio-affective dimension.

Finally, the last hypothesis predicted increases in the students' perceived competence, regardless of the teaching modality. This hypothesis was partially satisfied, as significant increases were observed in both fifth and sixth-grade students, highlighting the effect caused in all subgroups among the latter. These results are consistent with what was reported in specific reviews of the model (Araujo et al., 2014), as well as in programs aimed at similar-aged students (Méndez-Giménez et al., 2017a). One of the main reasons could be attributed to students' previous experience with the SEM. Previous studies show how

prolonged exposure to the model favors greater opportunities for the practice and learning of the content (Farias et al., 2018) which is, in the present study, an unknown content for students. This argument could explain the absence of significative changes in the fourth-grade group, which had less previous experience with SEM. In turn, these data seem to corroborate the link between the practice of team sports and greater perceived competence noted in previous studies (Hellín et al., 2006).

In terms of origin, the improvements reported in immigrant students, both in fifth and sixth-grade groups, are consistent with a recent study with second-grade students after applying a pre-sport, in which only immigrant students improved the technical aspect (Puentes-Maxera et al., 2020). In line with what the authors warned, the simplicity of the technical requirements of the sport practiced (e.g., hitting with the hands without the possibility of holding the ball) could favor greater competence development. With respect to gender, the increases observed in girls regardless of the teaching modality assumed (fifth-grade, ordinary; sixth-grade, co-teaching) would confirm the benefits of alternative sports for coeducation (Ramos & Hernández, 2014). Finally, the improvements at a competence level are equally noteworthy, as the sixth-grade group started with high scores, thus overcoming a possible 'ceiling effect' observed in other studies (Mesquita et al., 2012).

Beyond the abovementioned, the present study holds several limitations. First, it is noteworthy to mention that none of the students had previous experience with co-teaching, which is an issue that needs to be isolated in future studies. In addition to the teaching modalities contemplated, it will be interesting to compare the effects generated using a more traditional methodology (e.g., direct instruction). Second, the experience of the students with the SEM (at least two courses) is another factor that could have influenced the results. This situation suggests replicating the intervention with students without SEM experience. Likewise, students belonging to groups of different academic levels may have made it difficult to compare results. Finally, future interventions should consider other independent variables not contemplated in the current study, such as skill level.

Conclusions

The present study allows continuing a line of research regarding the use of the SEM and its application through co-teaching. The results provide clear evidence regarding the positive effects of co-teaching regarding the development of the socio-affective dimension of learning. In this sense, proposing a shared scenario in a multicultural context favors a greater approach and an improvement in the students' school climate in a bidirectional way, that is, both from the native towards the immigrant students, and vice versa. Likewise, the viability of combining the SEM with new contents is confirmed, as well as the achieve-

ment of several of the purposes and aspirations pursued by both ones. Alternative sports could enhance the inclusive principles of the SEM inspired by the 'sport for all' policy (Siedentop et al., 2020).

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

None

References

- Araújo, R., Mesquita, I., & Hastie, P. A. (2014). Review of the Status of Learning in Research on Sport Education: Future Research and Practice. *Journal of Sports Science and Medicine*, 13(4), 846-858.
- Ardila, J., Jaimes, G., Noy, M., Reina, B., & Martínez, M. (2019). School coexistence through physical education. *Revista de Actividad física y deporte*, 5(2), 16-39. <https://doi.org/10.31910/rdafd.v5.n2.2019.1251>
- Arikan, N. (2020). Effect of Sport Education Model-Based Social-Emotional Learning Program on Emotional Intelligence. *International Education Studies*, 13(4), 41-53. <https://doi.org/10.5539/ies.v13n4p41>
- Bailey, R. (2005). Evaluating the relationship between physical education, sport and social inclusion. *Educational Review*, 57(1), 71-90. <https://doi.org/10.1080/0013191042000274196>
- Bienia, E. J., & Young, N. D. (2020). Co-Teaching in the Arena of Social and Emotional Learning. In N. D. Young, A. C. Fain & T. A. Citro (2020). *Mastering the Art of Co-teaching: Building More Collaborative Classrooms* (pp. 97-110). Vernon Press.
- Calderón, A., Hastie, P. A., & Martínez de Ojeda, D. (2010). Learning to Teach Sport Education: Initial Experience in Elementary Education. *Cultura, Ciencia y Deporte*, 5, 169-180. <https://doi.org/10.12800/ccd.v5i15.103>
- Calderón, A., & Martínez de Ojeda, D. (2014). Training in-service teachers in Physical Education. A proposal to teach the sport education model. *Revista de Educación*, 363, 128-153.
- Calderón, A., Martínez de Ojeda, D., Valverde, J. J., & Méndez-Giménez, A. (2016). "Now we help ourselves more": Team-teaching and social classroom climate. Experience with Sport Education. *RICYDE. Revista Internacional de Ciencias del Deporte*, 44(12), 121-136. <https://doi.org/10.5232/ricyde2016.04403>
- Casey, A., & Kirk, D. (2020). *Models-Based Practice in Physical Education*. Routledge.
- Cecchini, J. A., Méndez-Giménez, A., & García-Romero, C. (2018). Validation of the Emotional Intelligence Questionnaire in Physical Education. *Revista de*

- Psicología del Deporte*, 27(1), 87-96.
- Cera, E., Almagro, B., Conde, C., & Sáenz-López, P. (2015). Emotional Intelligence and Motivation in Secondary Physical Education. *Retos. Nuevas Tendencias en Educación Física, Deporte y Recreación*, 27, 8-13 (accessed 27 December 2020) <https://doi.org/10.47197/retos.v0i27.34336>
- Cerda, G., Pérez, C., Elipe, P., Casad, J. A., & Del Rey, R. (2019). School Coexistence and Its Relationship with Academic Performance Among Primary Education Students. *Psicodidáctica*, 24, 46–52. <https://doi.org/10.1016/j.psicod.2018.05.001>
- Del Rey, R., Casas, J. A., & Ortega-Ruiz, R. (2017). The Development and Validation of the Schoolwide Climate Scale. *Universitas Psychologica*, 16(1), 275-285. <https://doi.org/10.11144/Javeriana.upsy16-1.dvec>
- Dyson, B. (2014). Quality physical education: A commentary on effective physical education teaching. *Research Quarterly for Exercise and Sport*, 85(2), 144-152. <https://doi.org/10.1080/02701367.2014.904155>
- Evangelio, C., Sierra-Díaz, J. M., González-Villora, S., & Fernández-Rio, J. (2018). Sport education model in elementary and secondary education: Systematic review. *Movimento*, 24(3), 931-946. <https://doi.org/10.22456/1982-8918.81689>
- Farias, C., Valerio, C., & Mesquita, I. (2018). Sport Education as a Curriculum Approach to Student Learning of Invasion Games: Effects on Game Performance and Game Involvement. *Journal of Sports Science and Medicine*, 17(1), 56-65.
- Fernández-Espínola, C., & Almagro, B. (2019). Relation between motivation and emotional intelligence in Physical Education: A systematic review. *Retos. Nuevas Tendencias en Educación Física, Deporte y Recreación*, 36, 584-589. <https://doi.org/10.47197/retos.v36i36.64968>
- Fierro-Suero, S., Almagro, B. J., & Sáenz-López, P. (2019). Psychological needs, motivation and emotional intelligence in Physical Education. *Revista Electrónica Interuniversitaria de Formación del Profesorado*, 22(2), 167-186. <https://doi.org/10.6018/reifop.22.2.345241>
- Fox, K. R., & Corbin, C. B. (1989). The physical self-perception profile: Development and preliminary validation. *Journal of Sport and Exercise Psychology*, 11(4), 408-430. <https://doi.org/10.1123/jsep.11.4.408>
- Friend, M., & Cook, L. (2007). Co-teaching. *Educational Leadership*, 64(5), 48-52.
- Fritz, C. O., Morris, P. E., & Richler, J. J. (2012). Effect size estimates: current use, calculations, and interpretation. *Journal of Experimental Psychology: General*, 141(1), 2-18. <https://doi.org/10.1037/a0024338>
- Gil-Arias, A., Claver, F., Práxedes, A., Villar, F. D., & Harvey, S. (2020). Autonomy support, motivational climate, enjoyment and perceived competence in physical education: Impact of a hybrid teaching games for understanding/sport education unit. *European Physical Education Review*, 26(1), 36–53. <https://doi.org/10.1177/1356336X18816997>
- Gil-Espinosa, F. J. (2009). *Estrategias didácticas para mejorar la convivencia y participación del alumno en educación física* (Tesis doctoral). Universidad de Granada.
- Goleman, D. (1996). *Inteligencia Emocional*. Kairos.
- Gómez-López, M., & Granero-Gallegos, A. (2020). Predicting emotional intelligence by meeting basic psychological needs in physical education classes. *International Journal of Developmental and Educational Psychology. INFAD Revista de Psicología*, 1(1), 341-350. <https://doi.org/10.17060/ijodaep.2020.n1.v1.1790>
- Guijarro, E., Rocamora, I., Evangelio, C., & González-Villora, S. (2020). Sport Education Model in Spain: a systematic review. *Retos, Nuevas Tendencias en Educación Física, Deporte y Recreación*, 38(2), 886-894. <https://doi.org/10.47197/retos.v38i38.77249>
- Haerens, L., Kirk, D., Cardon, G., & De Bourdeaudhuij, I. (2011). Toward the development of a pedagogical model for health-based physical education. *Quest*, 63(3), 321-338. <https://doi.org/10.1080/00336297.2011.10483684>
- Hastie, P. A., & Casey, A. (2014). Fidelity in models-based practice research in sport pedagogy: A guide for future investigations. *Journal of Teaching in Physical Education*, 33(3), 422-431. <https://doi.org/10.1123/jtpe.2013-0141>
- Hastie, P. A., Martínez de Ojeda, D., & Calderón, A. (2011). A review of research on Sport Education: 2004 to the present. *Physical Education and Sport Pedagogy*, 16(2), 103-132. <https://doi.org/10.1080/17408989.2010.535202>
- Hastie, P. A., Ward, J. K., & Brock, S. J. (2017). Effect of graded competition on student opportunities for participation and success rates during a season of Sport Education. *Physical Education and Sport Pedagogy*, 22(3), 316-327. <https://doi.org/10.1080/17408989.2016.1203888>
- Hellín, P., Moreno, J. A., & Rodríguez, P. L. (2006). The relationship between perceived motor competence and physical/sporting activities. *Revista de Psicología del Deporte*, 15(2), 219-231.
- Hernández, A., Martínez, I., & Carrión, S. (2019). The Colpbol as a means to increase motivation in Primary Education. *Retos: Nuevas Tendencias en Educación Física, Deporte y Recreación*, 36, 348-353. <https://doi.org/10.47197/retos.v36i36.70396>
- Hernández, J. M. (2007). El valor pedagógico de los deportes alternativos. *Lecturas: Educación Física y Deportes, Revista Digital*, 114. Retrieved from <http://www.efdeportes.com/efd114/el-valor-pedagogico-de-los-deportesalternativos.htm>
- Kirk, D. (2013). Educational value and model-based practice in Physical Education. *Educational Philosophy and Theory*, 45(9), 973-986. <https://doi.org/10.1080/00131857.2013.785352>
- Laborde, S., Dosseville, F., & Allen, M. S. (2016). Emotional intelligence in sport and exercise: A systematic

- review. *Scandinavian Journal of Medicine & Science in Sports*, 26, 862-874. <https://doi.org/10.1111/sms.12510>
- Lin, Y-C., Chen, A., & Song, Y-C. (2012). Does your intelligence help to survive in a foreign jungle? The effects of cultural intelligence and emotional intelligence on cross-cultural adjustment. *International Journal of Intercultural Relations*, 36(4), 541-552. <https://doi.org/10.1016/j.ijintrel.2012.03.001>
- Luna, P., Guerrero, J., & Cejudo, J. (2019). Improving Adolescents' Subjective Well-Being, Trait Emotional Intelligence and Social Anxiety through a Programme Based on the Sport Education Model. *International Journal of Environmental Research and Public Health*, 16(10), 1821. <https://doi.org/10.3390/ijerph16101821>
- Martínez de Ojeda, D., Méndez-Giménez, A., & Valverde, J. J. (2016). Sport Education model effects in the social climate classroom, perceived competence and intent to be physically active: an extended study in primary education. *SportTK*, 5(2), 153-166.
- Maxwell, S., Reynolds, K. J., Lee, E., Subasic, E., & Bromhead, D. (2017). The Impact of School Climate and School Identification on Academic Achievement: Multilevel Modeling with Student and Teacher Data. *Frontiers in Psychology*, 8, 2069. <https://doi.org/10.3389/fpsyg.2017.02069>
- Méndez-Giménez, A., Cecchini, J. A., & García-Romero, C. (2020). Profiles of emotional intelligence and their relationship with motivational and well-being factors in physical education. *Psicología Educativa*, 26(1), 27-36. <https://doi.org/10.5093/psed2019a19>
- Méndez-Giménez, A., & Martínez de Ojeda, D. (2016). Tutoring effect in teachers continuous learning process: a longitudinal case study in sports education. *Ágora para la educación física y el deporte*, 18(2), 133-150.
- Méndez-Giménez, A., Martínez de Ojeda, D., & Valverde, J. J. (2017a). Efecto de una temporada de Educación Deportiva dedicada al mimo en la autorregulación (evaluación), la diversión y la competencia del alumnado. *EmásF: revista digital de Educación Física*, 44, 21-40.
- Méndez-Giménez, A., Martínez de Ojeda, D., & Valverde, J. J. (2017b). Emotional Intelligence and Motivational Mediators in a Season of Sport Education Mime. *Ágora para la Educación Física y el Deporte*, 19(1), 52-72. <https://doi.org/10.24197/aefd.1.2017.52-72>
- Méndez-Giménez, A., Puente-Maxera, F., Martínez de Ojeda, D., & Liarte, J. P. (2019). Examining the motivational effects of an orienteering season on secondary school students. *Cultura, Ciencia y Deporte*, 14(42), 297-309.
- Meroño, L., Calderón, A., & Hastie, P. A. (2015). Effect of a Sport Education season on psychological variables in youth swimmers. *Cuadernos de Psicología del Deporte*, 15(2), 35-46. <https://doi.org/10.4321/S1578-84232015000200005>
- Mesquita, I., Farias, C., & Hastie, P. A. (2012). The impact of a hybrid sport education-invasion games competence model soccer unit on students' decision making, skill execution and overall game performance. *European Physical Education Review*, 18(2), 205-219. <https://doi.org/10.1177/1356336X12440027>
- Metzler, M. W. (2017). *Instructional models for physical education* (3rd ed.). Holcomb Hathaway. <https://doi.org/10.4324/9781315213521>
- Moreno, J. A., Moreno, R., & Cervelló, E. (2007). The physical self-concept as predictor of the intention of being physically active. *Psicología y Salud*, 17(2), 261-267.
- Moreno, J. A., Cervelló, E., Vera, J. A., & Ruiz, L. M. (2007). Physical self-concept of Spanish schoolchildren: Differences by gender, sport practical levels of sport involvement. *Journal of Education and Human Development*, 1(2), 1-17.
- Moreno-Murcia, J. A., & Vera, J. A. (2011). Model Causal of the Satisfaction with the Life in Adolescent Students of Physical Education. *Revista de Psicodidáctica*, 16(2), 367-380.
- Navarro, R., Barreal, P., & Basanta, S. (2016). Relationship between physical self-concept and enjoyment in physical education lessons at primary school children. *Journal of Sport and Health Research*, 8(2), 151-162.
- Pellicer, I. (2011). *Educación Física Emocional. De la teoría a la práctica*. INDE.
- Ploessl, D. M., Rock, M. L., Schoenfeld, N., & Blanks, B. (2010). Practical techniques to enhance co-teaching interactions. *Intervention in School and Clinic*, 45(3), 158-168.
- Puente-Maxera, F., Méndez-Giménez, A., & Martínez de Ojeda, D. (2018a). Effects of Sport Education model on interculturality: The student-coach role in elementary school students. *Espiral. Cuadernos del Profesorado*, 11(22), 1-14. <https://doi.org/10.25115/ecp.v11i21.1912>
- Puente-Maxera, F., Méndez-Giménez, A., & Martínez de Ojeda, D. (2018b). Sport Education model and roles' dynamics. Effects of an intervention on motivational variables of elementary school students. *Cultura, Ciencia y Deporte*, 13(39), 281-290.
- Puente-Maxera, F., Méndez-Giménez, A., & Martínez de Ojeda, D. (2020). Sport Education and Introduction to Invasion Games in Early Primary Education. *Apunts. Educación Física y Deportes*, 140, 23-30. [https://doi.org/10.5672/apunts.2014-0983.es.\(2020/2\).140.04](https://doi.org/10.5672/apunts.2014-0983.es.(2020/2).140.04)
- Puente-Maxera, F., Méndez-Giménez, A., & Martínez de Ojeda, D. (2021). Physical activity levels during a Sport Education season of games from around the world. *European Physical Education Review*, 27(2), 240-257. <https://doi.org/10.1177/1356336X20939591>
- Puertas, P., González, G., Espejo, T., Pérez, A. J., Zurita, F., & Martínez, A. (2017). The perception of primary education schools on their self-physical concept: descriptive study according to gender and course. *REIDOE*, 3(1), 4-18.

- Ramos, F., & Hernández, A. (2014). Gender discrimination in physical education classes according to contents and groups used. *Revista Española de Educación Física y Deportes*, 404, 27-38. Retrieved from <http://www.reefd.es/index.php/reefd/article/view/44/46>
- Rivera-Pérez, S., León-del-Barco, B., Fernandez-Rio, J., González-Bernal, J. J., & Iglesias Gallego, D. (2020). Linking Cooperative Learning and Emotional Intelligence in Physical Education: Transition across School Stages. *International Journal of Environmental Research and Public Health*, 17(14), 5090. <https://doi.org/10.3390/ijerph17145090>
- Ruiz-Ariza, A., Suárez-Manzano, S., López-Serrano, S., & Martínez-López, E. J. (2019). The effect of cooperative high-intensity interval training on creativity and emotional intelligence in secondary school: A randomised controlled trial. *European Physical Education Review*, 25(2), 355–373. <https://doi.org/10.1177/1356336X17739271>
- Sáez, U., Lavega, P., Mateu, M., & Rovira, G. (2014). Positive emotions and education of school life. Contributions of cooperative motor expression. *Revista de Investigación Educativa*, 32(2), 309-326. <https://doi.org/10.6018/rie.32.2.183911>
- Salvador, C. M. (2012). Influence of emotional intelligence in self-concept. *International Journal of Learning and Development*, 2(1), 232-240. <https://doi.org/10.5296/ijld.v2i1.1256>
- Sánchez-Alcaráz, B. J., Gómez-Mármol, A., Valero, A., Esteban, R., & González-Víllora, S. (2018). Design and Validation of an Observational Instrument of Student Misconducts in Physical Education. *Estudios sobre Educación*, 35, 453-472. <https://doi.org/10.15581/004.35.453-472>
- Serra-Olivares, J. (2017). Examining the Sport Education Model possibilities on school life: An example in La Araucanía (Chile). *Retos. Nuevas Tendencias en Educación Física, Deporte y Recreación*, 31, 156-160.
- Siedentop, D., Hastie, P. A., & van der Mars, H. (2019). *Complete Guide to Sport Education* (3rd ed.). Human Kinetics.
- Sierra-Díaz, M. J., Evangelio, C., Pérez-Torralla, A., & González-Víllora, S. (2018). Towards a more social and cooperative behaviour in physical education: sport education model application. *SportTK*, 7(2.S1), 83-90. <https://doi.org/10.6018/sportk.343281>
- Teraoka, E., Ferreira, H. J., Kirk, D., & Bardid, F. (2020). Affective learning in physical education: a systematic review. *Journal of Teaching in Physical Education*, 1(aop), 1-14. <https://doi.org/10.1123/jtpe.2019-0164>
- Urrutia-Medina, J., Vera-Sagredo, A., Flores-Rivera, C., Hetz-Rodríguez, K., Pavez-Adasme, G., & Poblete-Valderrama, F. (2023). Perception of physical self-concept in secondary school students in Physical Education classes. *Retos*, 49, 510–518. <https://doi.org/10.47197/retos.v49.98769>
- Viciano, J., Casado-Robles, C., Pérez-Macías, L., & Mayorga-Vega, D. (2020). A Sport Education teaching unit as a citizenship education strategy in Physical Education. A group randomized controlled trial. *Retos. Nuevas Tendencias en Educación Física, Deporte y Recreación*, 38, 44-52. <https://doi.org/10.47197/retos.v38i38.73546>
- Young, N. D., Fain, A. C., & Citro, T. A. (2020). *Mastering the Art of Co-teaching: Building More Collaborative Classrooms*. Vernon Press.