What Do We Know About the Development of Personal and Social Skills within the Sport Education Model: A Systematic Review

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Abstract

The purpose of the present study was to conduct a review of the research on the Sport Education (SE) studies that have examined the development of students' personal and social skills. Research articles selected were found through Web of Science, SCOPUS, Academic Search Complete, ERIC, SPORTDiscus with Full Text, Education Source, PsycINFO and PsycARTICLES databases. The keywords "Sport Education" and "physical education" were used in different combinations. The articles were included for analysis if the following criteria were met: (i) were published in peer-reviewed international journals indexed in JCR (Journal Citation Reports) or SJR (Scientific Journal Rankings); (ii) were available in full-text; (iii) examined personal and social variables included or measured as main outcomes within the SE model. The quality of the selected studies was scored using a quality assessment list. Fifty-one studies were included. Results showed that, considering the development of social and personal competencies, the majority of SE research took place in Spain and USA in a co-educational PE context (high school). Enjoyment/satisfaction, enthusiasm and engagement were the predominant outcome measures, using a non-experimental design and multiple qualitative tools in more than half of the studies. Few studies established the fidelity of the model implementation. There is a need for future research to consider other samples, contexts, cultures and types of sports seeking to reinforce the positive impact of SE on the personal and social competencies. Longer units with a good planning, mixed and quantitative methodological designs and the report of the model fidelity would be also particularly important for future investigations.

Key words: Sport Education model, physical education, pedagogical models, personal skills, social skills.

Introduction

Physical Education (PE) is recognized by its crucial role in students' acquisition of values and competencies that contribute to their motor, cognitive, emotional, personal and social development and facilitate the inclusion in current society, preparing them for the future (Giraldéz, 2006; Mesquita, 2012; Rosado and Mesquita, 2011; Taggart, 1988).

The explicit and formal character of the instructional process, evident in the traditional pedagogical approaches (called teacher-centered approaches) have tended to dominate PE instruction for much of the 20th century (Gubacs-Collins, 2015; Gubacs-Collins and Olsen, 2010; Lee, 1993). The teaching/learning process is one in which the role of the teacher is primarily as instructional leader and students are expected to demonstrate more compliance than initiative (Metzler, 1989; Rosado and Mesquita, 2009; Rosenshine, 1979). This direct style has the potential to compromise students' capabilities of building their own learning, and reduce the role of their cognitive and social processes, decision-making and autonomy (Bruning et al., 2004; Ennis, 2014; Metzler, 2011; Siedentop et al., 2011). As a result, a number of student-centered approaches (SCA) have been developed which are based on the constructive and social theories of learning (Hastie and Siedentop, 1999; Mesquita et al., 2012; Putnam et al., 1990). SCA are designed to stimulate the ability of students to make decisions, to reflect, and to solve problems (Dyson et al., 2004; Hastie and Mesquita, 2016). This then allows students to have a more proactive than reactive role in their own learning and changes the role of the teacher to one more of a facilitator (Ennis, 2014; Hattie, 2012; Jones, 2007; Mesquita, 2013).

In PE, one of the most widely implemented and researched "second generation of models that build on strong statements of democratic, student-centered practice" (Ennis, 2014, p.63) is SE (Siedentop et al., 2011). SE is a pedagogical model that incorporates the tenets of socio-constructivist learning theories recognized by its valences for "learning focused, provide measurable student outcomes, and assist students to become engaged in positive, learning-oriented sport environments" (Ennis, 2014, p.67). It is characterized by prioritizing more implicit and informal teaching strategies (prevails questioning) allowing students to make decisions during the learning process, and encouraging them to learn autonomously and responsibly (Mesquita et al., 2012). The features that underpin SE (seasons, affiliation, formal competition, culminating events, record keeping and festivity) aim to fulfil Siedentop's (2002) goal of educating students to be "athletes in the fullest sense and to help them develop as competent, literate and enthusiastic sportspersons". To do this, students are given opportunities to engage in a variety of roles, beyond that of simply as player. These can include coaches, referees, score keepers, statisticians, members of the sports organizing board or sports director.

According to the Cochrane Collaboration (Higgins et al., 2019), systematic reviews are important because they provide a high-level summary of primary research on a specific research question that attempts to identify, select, synthesize, and appraise all high-quality evidence relevant to that question to answer it. Further, systematic reviews collate all evidence pertinent to a priori selected criteria for eligibility to address the specific research question. Without them, researchers lack an understanding of the subject,

of what has already been examined, how it has been researched, and what key concerns have been identified.

Previous systematic reviews of SE research (Araújo et al., 2014; Evangelio et al., 2018; Hastie et al., 2011; Hastie and Wallhead, 2016; Wallhead and O'Sullivan, 2005) have been structured with different focus. For example, Wallhead and O'Sullivan (2005) and Hastie, Martínez de Ojeda and Calderón (2011) focused on the achievement of the "big 5" aims of PE, namely students' attitudes and values, personal and social skills, fitness, as well as motor skills and tactical knowledge. Later, Araújo, Mesquita and Hastie (2014) reviewed studies where there was a specific examination of students' learning outcomes, while Hastie and Wallhead (2016) focused on the extent to which the competent, literate and enthusiastic goals of SE were achievable. Most recently, Evangelio et al. (2018) organized their review around SE's impact on cognitive, social, affective and physical outcomes.

During recent years, PE programs have been challenged by the needs of children and youth in a changing environment (Chin and Edginton, 2014; Ennis, 2014; O'Sullivan, 2013) and the development of personal and social skills have become particularly valued. Hence, it is necessary to perform this review including the most prominent research, indicating which are the most studied and valued personal and social variables within the SE model, in order to answer specific research questions and indicate directions that future research and practice might follow.

The purpose of this study was to systematically review and synthesize the SE studies that have examined the development of students' personal and social skills. The five research questions which guided the review of these studies were:

(Q1) Which contexts are the most prevalent with respect to research on the development of personal and social skills within SE?

(Q2) Who are the participants included in SE studies that consider the development of personal and social skills?

(Q3) What were the most frequently analyzed variables when participating in a SE season?

(Q4) What are the methodologies that have been used to investigate the development of personal and social skills within SE classes?

(Q5) How many studies have established the fidelity of the model implementation?

Methods

Search strategy
The systematic review followed the PRISMA protocol for reporting systematic reviews (Moher et al., 2009), and was conducted through electronic searches on eight databases. These include Web of Science, SCOPUS, Academic Search Complete, ERIC, SPORTDiscus with Full Text, Education Source, PsycINFO and PsycARTICLES. The search included all papers published up until March 2018, using the Boolean operators (AND, OR) to concatenate the search terms "Sport Education", "physical education". A secondary search was performed by screening the reference lists of the included studies and relevant review articles. The study selection was carried out independently by

two authors to minimize potential selection bias. Both these authors have experience in this methodology and are knowledgeable of instructional models in PE, and any discrepancies were resolved by consensus.

Inclusion/Exclusion Criteria
Studies for this review were included according to the following criteria: (i) were published in peer-reviewed international journals indexed in JCR or SJR; (ii) were available in full-text; (iii) examined personal and social variables as either included or measured as main outcomes within the SE model.

Studies were excluded if they: (i) were review or opinion articles; (ii) were articles without full-text availability; or (iii) addressed issues related with SE other than the development of personal and social skills. Duplicate documents, opinion articles, books, book chapters, review articles, conference papers or theses were also excluded from this review.

Articles' titles and abstracts generated from this process were read and included or excluded on the basis of the above criteria.

Study Selection Process
Figure 1 presents the study selection processes. The initial search, from the wide range of articles that identified "Sport Education" AND "physical education" in either the title, abstract or keywords (n = 1644), only peer-reviewed articles with impact factor related to SE research were selected for reading (n = 99). From this number, only those related to social and personal development were selected (n = 59). Review articles (n = 3) and articles without full text (n = 5) were excluded for this review. After a review of titles and abstracts, 49 articles were selected, and their full text was analyzed. Therefore, only peer review journal articles, published in journals with impact factor, that specifically studied the development of personal and social skills with SE were included to the present review (n = 51).

Data Extraction and codification of the studies
In order to extract all relevant data from the 51 studies included in this review, content analysis was performed. Studies are presented in Table 1, in alphabetical order according to the first last name of the principal author. The review categories used were defined a priori (Harris et al., 2014) seeking to answer the research questions. The categories are listed below (Table 1) with the legends used for each one in Table 2 appearing in brackets.

Methodological Quality Assessment
To assess the methodological quality of the included 51 studies we used the validated Downs and Black checklist (1998). Items that were not applied to the design of the analyzed studies were removed from the 27-item checklist. The modified version consisted of items 1-4, 6, 10-13, and 18-24, with the highest possible score of 16 (Table 2). Two main evaluators independently performed the assessment of the selected studies. Both researchers discussed and agreed upon the reconciliation of observed differences. In the present systematic review, no study was excluded due to a significantly low quality assessment score.
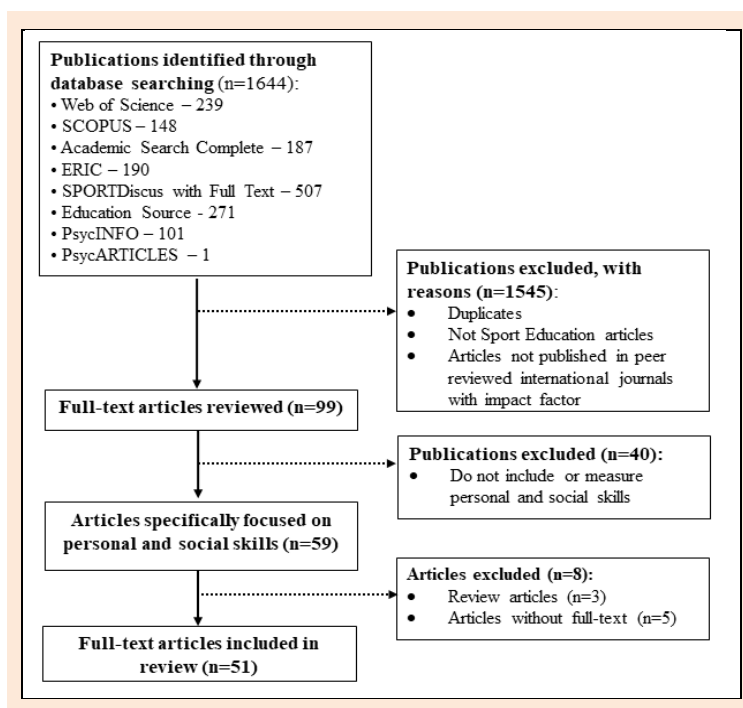
Figure 1. Study flowchart.

Table 1. Categories and legend.

Category	Legends
Author(s) / Country	Identifies the authors, the year and the country where the study took place
Purpose	Describes the purpose of the study
P - Participants	St – Students T – Teachers A – Athletes C – Coaches Pa – Parents
SP - School Population	E – Elementary School M – Middle School H – High School
CL - Classes	Sx – Single Sex Classes Mx – Mixed Sex Classes
D/R - Skills of the participants	Whether disabled or at-risk students are included in the study: Y – Yes N – No
S – Sport	Whether the investigated SE season were with: TS – Team Sports IS – Individual Sports MA – Multiactivities
DES – Study Design	QL – Qualitative QT – Quantitative MIX – Both qualitative and quantitative E – Experimental QE – Quasi-experimental NE – Non-experimental
LS – Length of the SE Season	Number of lessons
F - Fidelity of the SE model	Whether is performed in the study: Y – Yes N – No
Variables	Personal and social variables that were analyzed across the study
Main Results	Main results of the study provided by the author/s
Q – Study Quality	Methodological quality of the study

Table 2. Modified version of the checklist.

Reporting
1 - Is the Hypothesis/aim/objective clearly described?
2 - Are the main outcomes to be measured clearly described in the Introduction or Methods section?
3 - Are the characteristics of the participants included in the study clearly described?
4 - Are the interventions of interest clearly described?
6 - Are the main findings of the study clearly described?
10 - Have actual probability values been reported (e.g. 0,035 rather than <0,05) for the main outcomes except where the probability value is less than 0.001?

External Validity
11 - Were the subjects asked to participate in the study representative of the entire population from which they were recruited?
12 - Were those subjects who were prepared to participate representative of the entire population from which they were recruited?
13 - Were the staff, place, and facilities where the patients were treated, representative of the treatment the majority of patients receive?

Internal Validity - *Bias*
18 - Were the statistical tests used to assess the main outcomes appropriate?
19 - Was the compliance with the interventions reliable?
20 - Were the main outcome measures used accurate (valid and reliable)?

Internal Validity - *Confounding (selection bias)*
21 - Were the patients in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited from the same population?
22 - Were the study subjects in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited over the same period of time?
23 - Were study subjects randomized to intervention groups?
24 - Was the randomized intervention assignment concealed from both patient and health care staff until was complete and irrevocable?

Results

Table 3 provides an overview of each of the 51 studies included in this review.

Table 3. **Characteristics of included studies.**

Author(s)/Country	Purpose	P	SP	CL	D/R	S	DES	L	F	Variables	Main results	Q
Alexander & Luckman (2001) Australia	Identify the teachers' perceptions and uses of the SE curriculum model	T	E/H	Mx	N	Ma	QT/NE	-	N	Equity Inclusion Enjoyment	- Greater emphasis on social skills; - SE is inclusive and promotes gender equity and enjoyment for students in physical education.	9
Alexander et al., (1996) Australia	Report the Australian national trial of SE: Program change, educational impact, inclusivity, SE as a management tool	T/St	E/H	Mx	N	Ma	MIX/QE	-	N	Leadership Ownership Equity Teamwork Peer-support	- SE promoted a growing sense of ownership, cooperation, compliance, leadership, teamwork, peer support and equity. - Potential for gender marginalization.	8
Ang & Penney (2013) Singapore	Explore the modification of the SE and utilization of pedagogical strategies to respond to students' limited skills and abilities to handle failure in the context of PE.	St	E	Mx	N	TS	MIX/E	30	N	Confidence Resilience Inclusion Peer-support Fair-play	- Students' physical self-concept and their ability to handle the stress from failure in PE were increased by the confidence- enhancing strategies used during the SE season; - Positive developments in students' social and emotional skills.	12
Browne et al., (2004) Australia	Examine the impact that two instructional approaches (traditional and SE) to teaching rugby had on students' learning, enjoyment and affection.	St	M	Sx (Boys)	N	TS	MIX/QE	20	N	Affiliation Enjoyment Responsibility Autonomy	- SE developed a greater feeling of community among their team; - Differences between groups were explained by the increased membership and feelings of belonging in SE.	14
Brunton (2003) United Kingdom	See whether SE is a curriculum model that can successfully change power hierarchies in school PE.	St	H	Mx	N	IS	MIX/QE	20	N	Responsibility Teamwork Engagement	- Preference for responsibility expressed by female students - Team work was achieved through cooperative learning methods;	12
Burgueño et al., (2017) Spain	Examine the influence of an intervention based on SEM, in comparison with Traditional Teaching Model, on motivational regulation in high school students in PE class.	St	H	Mx	N	TS	QT/QE	12	N	Motivation	- SE encouraged the development of the most self-determined regulations of motivation (intrinsic motivation and identified regulation) in teaching-learning process in school setting, which could arouse the interest of students for regular practice of sport in free time.	12
Calderón et al., (2010) Spain	Analyze the initial implementation experiences of SE of a teacher and his students, in the elementary education.	St	E	Mx	N	TS	MIX/NE	14	Y	Enthusiasm Engagement Affiliation Satisfaction	- SE developed a greater feeling enthusiasm and engagement; - Drawings revealed that students developed the sense of affiliation and satisfaction.	12

* P= participants, St= students, T= teachers, A= athletes, C= coaches, Pa= parents, SP= school population, E= elementary, M= middle school, H= high school, CL= classes, Sx= single-sex, Mx= mixed-sex, D/R= disabled or at-risk students, Y= yes, N= no, S= sport, TS= team sports, IS= individual sports, MA= multiactivities, DES= study design, QL= qualitative, QN= quantitative, MIX= qualitative and quantitative, E= experimental, QE= quasi-experimental, NE= non-experimental, LS= length of the Sport Education season (number of lessons), F= fidelity of the Sport Education model, Q= methodological quality of the study.

Table 3. Continued…

Author(s)/Country	Purpose	P	SP	CL	D/R	S	DES	L	F	Variables	Main results	Q
Calderón et al., (2013) Spain	Compare the students and teachers' perceptions after practice with different pedagogical models (SE and Traditional Style).	St/T	E	Mx	N	TS	QL/NE	8	Y	Engagement Enthusiasm Satisfaction	- Students referred greater feelings of satisfaction, enthusiasm and engagement.	12
Calderón et al., (2016) Spain	Investigate the effect of shared teaching or co-teaching using the SEM in Primary, on the Social Climate Pre and post-intervention classroom.	St	E	Mx	N	TS	MIX/QE	10	N	Teamwork Satisfaction Autonomy Engagement Fair-play Responsibility	- The SE improved the Social Climate Classroom in the Primary sample object of study, favors the integration and teamwork, the students' engagement and fair-play.	
Carlson & Hastie (1997) Australia	Examination of the social system as it occurred in a unit of SE.	St/T	H	Mx	N	TS	QL/NE	16	N	Leadership Trust Responsibility Cooperation Engagement Enjoyment Fair-play Inclusion	-SE increased the socialization due to increased interaction time; - Students spoke of cooperating, working as a team, learning to trust each other, fair-play and inclusion; - Facilitation of enjoyment within the SEM - Students who took referees roles viewed their refereeing as a positive experience with responsibility' improvements.	9
Clarke & Quill (2003) UK	SE as a vehicle to enhance learning aligned with the National Curriculum	St	M	Mx	N	Ma	QL/NE	44	N	Inclusion Autonomy Leadership Motivation Empathy Ownership Fair-play Responsibility	- Greater inclusion of less able students - Less teacher-dependent; - The pupils became valued team members and the more able pupils helped the less able to ensure the success of the team; - The pupils who took responsibility within the lesson became more involved in the learning process and demonstrated a strong sense of ownership and generally seemed more motivated and determined to succeed; - Pupils valued acceptable codes of behavior for competition.	**8**
Cuevas et al., (2015) Spain	Analyze the impact of SEM in psychological basic need satisfaction in PE secondary students.	St	H	Mx	N	TS	QT/QE	19	Y	Autonomy Social interactions	- Improvements in the autonomy and satisfaction of the competence in the SE group; - Emphasized the suitability of the SEM to improve the satisfaction of psychological basic needs in PE.	13
Cuevas et al., (2016) Spain	Analyze the impact of the SEM in self-determination and motivation, psychological basic need thwarting, enjoyment-satisfaction, boredom, and intention to be physically active in PE secondary school students in Spain.	St	H	Mx	N	TS	QT/QE	19	Y	Motivation Self-determination Enjoyment	- Significant improvements in intrinsic motivation in the SE group; - Emphasized the suitability of the SEM to improve self-determined behaviors in PE; - Changes were also observed in the satisfaction-enjoyment.	13

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Table 3. Continued…

Author(s)/Country	Purpose	P	SP	CL	D/R	S	DES	L	F	Variables	Main results	Q
Curtner-Smith & Sofo (2004) USA	Determine 15 American preservice teachers' (PTs) conceptions of the teaching–learning process while teaching Sport Education and Multi-activity units during an early field experience.	T	M	Mx	N	TS	QL/NE	10	N	Enjoyment Ownership Motivation	- PTs found SE more attractive due to its compatibility with their occupational socialization and its cultural advantages; - PTs perceived that pupils "really enjoyed competition and games and being in a team".	9
Farias et al., (2018) Portugal	Examine students' development of Game Performance and Game Involvement during participation in three consecutive SE seasons of invasion games.	St/T	M	Mx	N	TS	QT/QE	54	Y	Engagement Ownership	- Improvements in Game Involvement in the second (handball) and third (football) seasons; - Students' Game Involvement scores of handball and football were significantly higher than their scores while playing basketball; - The opportunity for an extended engagement in game-play activities and prolonged membership of students in the same teams throughout three consecutive seasons of SE were key to the outcomes found.	9
Fernandez-Rio & Menéndez Santurio (2017) Spain	Assess students and teachers' perceptions concerning their participation in an educational kickboxing learning unit based on a hybridization of two pedagogical models: Sport Education and Teaching for Personal and Social Responsibility.	St/T	H	Mx	N	IS	QL/NE	16	N	Responsibility Enjoyment Cooperation Affiliation Friendship	- Data produced 11 themes: responsibility, learning and roles, enjoyment, teaching, competition, cooperation and novelty, friendship, affiliation and transfer. - The hybridization of the two pedagogical models seemed to help increase both social and personal responsibility and to provide students with meaningful sporting experiences.	11
García-Lopez & Gutiérrez (2015) Spain	Analyze the effect of a SE season on student empathy and assertiveness.	St	E/M	Mx	N	TS	QT/QE	18	N	Assertiveness Empathy	- SE was shown to be a useful instructional model for improving a variable (assertiveness) directly related to personal and social responsibility. Group and team were key aspects when differences were significant.	10
García-Lopez et al., (2012) Spain	Analyze the development of empathy, assertiveness and social relations that are usually attributed to this instructional model.	St	M	Mx	N	TS	QT/QE	18	Y	Friendship Engagement Responsibility Empathy Assertiveness	- Significant differences were found in increasing positive friends among the components of each team; - High levels of students' engagement and responsibility to the performance of their duties both as referees and statisticians.	12
Gil-Arias et al., (2017) Spain	Investigate the effect a hybrid TGfU/SE unit, in comparison to direct instruction, on Students' perceptions of various aspects of their motivation to engage in physical education	St	H	Mx	N	TS	QT/QE	8	Y	Autonomy Enjoyment Empowerment	- Students showed significant improvements in autonomy and enjoyment; - Students valued the empowerment by the teacher to solve specific tactical problems.	13

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Author(s)/Country	Purpose	P	SP	CL	D/R	S	DES	L	F	Variables	Main results	Q
Gutierrez Diaz del Campo et al., (2014) Spain	Analyze the viability of the SEM in the 2nd year of Elementary School, based on the analysis of the perceptions of teacher, and students.	St/T	E	Mx	N	TS	MIX/NE	10	Y	Motivation Inclusion Affiliation	- SE improved the inclusion; - Students revealed high levels of motivation and high-lighted the affiliation.	10
Grant (1992) New Zealand	Report the teacher perspectives of curriculum in terms of student gains.	T	H	Mx	N	Ma	QL/NE	22	N	Ownership Responsibility Inclusion Cooperation Enthusiasm Decision-making	Teacher perceptions suggested that students: - Had considerable ownership and responsibility for what occurred at different stages of the program; - Helped establish realistic goals for the program; - Were valued members of a team; - Had an opportunity to share responsibility for and fully participate in all aspects of sport; - Were involved in decision making; - Were in situations where their presence and contributions were valued. - Revealed enthusiasm for competition - Promoted successful inclusion of lower skilled student.	7
Hastie (1996) USA	Examine the student role involvement in SE.	St	M	Sx (Boys)	N	IS	MIX/NE	12	N	Engagement Responsibility Ownership Enthusiasm	- High levels of student engagement with both playing and non-playing roles; - Student preference for responsibility and persistent team membership; - Students showed high levels of enthusiasm during their duty roles.	9
Hastie & Buchanan (2000) USA	Analyze the combined SE-TPSR model.	St	M	Sx (Boys)	N	TS	QL/NE	26	N	Responsibility Empower-ment Problem-solv-ing	- The hybrid model was effective in facilitating personal responsibility, student empowerment and problem-solving; - Given the many opportunities to solve problems, the students were able to demonstrate a high degree of personal responsibility.	11
Hastie et al., (2014) USA	Implement a SE season designed to be mastery involving and examine the degree of congruence between the objective measure of the presented climate with the students' perceptions of the saliency of this motivational climate.	St	H	Sx (Boys)	N	TS	QT/NE	12	Y	Satisfaction Engagement Autonomy	- Consistent student perception of a mastery climate across all phases of the season; - Students' perception of increased autonomy throughout the intervention; - The intervention caused improvements in engagement, satisfaction and perceived competence.	11

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Author(s)/Country	Purpose	P	SP	CL	D/R	S	DES	L	F	Variables	Main results	Q
Hastie & Sinelnikov (2006) Rússia	Examine the participation and perceptions of Russian students to SE	St	M	Mx	N	TS	MIX/NE	18	Y	Engagement Ownership Enjoyment Compliance Empathy	- Students of both genders and skill levels spent most of their lesson time actively engaged in motor tasks. - Students demonstrated significant competence in the officiating and coaching roles associated with the season. - Students commented that they found the season to be particularly interesting, that they enjoyed having student coaches and that they developed significant team affiliation. - Not only did the students show high levels of compliance with the attentional requirements of these roles, they also stated that officiating was enjoyable and 'interesting' but made unusual demands on students	12
Hastie & Sharpe (1999) USA	Examine the effect of SE curriculum on prosocial behavior.	St	M	Sx (Boys)	Y (At risk)	TS	QT/QE	20	N	Compliance Friendship Leadership	- Formalized fair-play accountability system within formal competition phase increased compliance, reduced negative peer interactions and increased instances of leadership.	11
MacPhail et al (2004) UK	Analyze year-5 students' experiences of SE and the effects of membership of persisting groups on team affiliation.	St	E	Mx	N	TS	QL/NE	16	N	Ownership Confidence Empathy Friendship Cooperation	- The opportunity to become affiliated with a team was an attractive feature of the pupils' PE experience and that, under the framework of SE, there was an obvious investment made by the students in relation to their sense of identity and involvement as members of a persisting group.	11
MacPhail et al (2008) UK	Explore childrens' experiences of fun and enjoyment during SE.	St	E	Mx	N	TS	MIX/NE	16	N	Ownership Enjoyment Autonomy Motivation	- Students found the model to be fun and entertaining and developed the sense of affiliation and membership of a team. - Students' perceptions of increased autonomy.	11
Méndez-Gimenez et al., (2015) Spain	Compare the effects of three different instructional models: Traditional, Sport Education and Sport Education with Self-Made Materials on PE students' motivation and sportsmanship.	St	M/H	Mx	N	TS	QT/QE	12	N	Friendship Fair-play Sportsmanship Autonomy	- SE seems to offer more advantages to develop achievement and social goals, as well as sportsmanship, of adolescents in PE. - SE groups showed significant increases in friendship goals; - SE groups reported improvements in autonomy, - Regarding fair play, significant improvements were also found in those groups that experienced SE.	11

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Author(s)/Country	Purpose	P	SP	CL	D/R	S	DES	L	F	Variables	Main results	Q
Menéndez & Fernandez-Rio (2017) Spain	Explore the impact of the combination of two pedagogical models, SE and Teaching for Personal and Social- Responsibility, for learners with disabilities experiencing a contactless kickboxing learning unit.	St/T	H	Mx	Y (Disability)	IS	QL/QE	16	Y	Ownership Enjoyment Inclusion Cooperation Friendship	- Data analysis resulted in three major categories: part of the team, learning and enjoyment. - The hybridization of SE and TPSR seems to be a powerful tool for including students with disabilities in PE, helping them and their classmates connect in and out of class. - Many students without a disability highlighted the importance of cooperative learning in this experience.	11
Meroño et al., (2015) Spain	Analyze the effect of an intervention program based on Sports Education, on the perception of autonomy; the degree of enjoyment and perceived competence, and the degree of commitment; in a group of swimmers belonging to a sports club.	A/C	M/H	Mx	N	IS	MIX/QE	32	Y	Autonomy Enjoyment Commitment Motivation	- Optimal behavior of the psychological variables of this study after the SE intervention; - Perception of autonomy of young athletes increased throughout the intervention; - Intrinsic and extrinsic motivation scores also showed no change from pre-post-SE.	13
Meroño et al., (2016) Spain	Examine the effect of a Sport Education season on the technical learning of four swimming strokes and the perceived motivational climate.	A/C	M/H	Mx	N	IS	MIX/QE	32	N	Motivation	- The intervention program based on SE had a positive impact on improvement of swimming skill, and a more optimal motivational climate.	12
Mowling et al., (2006) USA	Examine student drawings to determine what they perceived as most important during SE.	St	E	Mx	N	TS	QL/NE	20	N	Affiliation Responsibility Engagement	- Four key themes emerged: (1) winning as a primary agenda; (2) a strong focus on affiliation and festivity; and (3) minimal representation of roles and responsibilities, (4) engagement.	12
Mesquita et al., (2016) Portugal	Examine the perceptions of a physical education teacher and her students about the educational value of SEM regarding the development of competence, literacy and enthusiasm.	St/T	M	Mx	N	IS	QL/NE	20	N	Autonomy Equity Responsibility Enthusiasm Teamwork Motivation Engagement	- Development of competent, literate and enthusiastic sportspersons; - Sense of autonomy, promoted by the balance between competition and inclusion, which also promoted literacy; - The enthusiasm was fostered by the interrelationship between the dynamics in cooperative work and the motivational climate generated having significant impact on students' engagement in practice.	11

* P= participants, St= students, T= teachers, A= athletes, C= coaches, Pa= parents, SP= school population, E= elementary, M= middle school, H= high school, CL= classes, Sx= single-sex, Mx= mixed-sex, D/R= disabled or at-risk students, Y= yes, N= no, S= sport, TS= team sports, IS= individual sports, MA= multiactivities, DES= study design, QL= qualitative, QN= quantitative, MIX= qualitative and quantitative, E= experimental, QE= quasi-experimental, NE= non-experimental, LS= length of the Sport Education season (number of lessons), F= fidelity of the Sport Education model, Q= methodological quality of the study.

Table 3. Continued…

Author(s)/Country	Purpose	P	SP	CL	D/R	S	DES	L	F	Variables	Main results	Q
O'Donovan (2003) UK	Analyze the effect of SE on student social goals and peer culture.	St	M	Mx	N	Ma	QL/NE	170	N	Inclusion Peer-support	- SE promoted contact with peers from a variety of social groups and this provided an opportunity for these pupils to become affiliated to peers in 'higher' social groups and provided opportunities for pupils to exert their position in the social hierarchy to influence the PE culture.	11
Perlman (2010) USA	Examine the influence of Sport Education on amotivated students affect and needs satisfaction.	St	H	Mx	N	TS	QT/QE	15	Y	Enjoyment Satisfaction	- Amotivated students in SEM perceived higher levels of enjoyment and satisfaction than students taught by the traditional approach. - There was no difference in the need for autonomy and competence.	12
Perlman (2011) USA	Examine the influence of the SEM on students' self-determined motivation and underlying psychological need(s) in PE.	St	H	Mx	N	TS	QT/QE	20	Y	Self-determination Motivation	- Changes in self-determination for students engaged in the SEM; - Implementation of the SEM may be utilized as a means for supporting students' social connectedness and motivation to engage in sport-based activities.	12
Perlman (2012) USA	Examine the perceptions and experiences of 33 amotivated students (during four consecutive seasons of the SEM.	St	H	Mx	N	Ma	QL/NE	12	Y	Engagement	- The features of team affiliation and a holistic game-play evaluation facilitated changes to amotivated students' perceptions of a sport-based physical education class.	11
Perlman & Goc Karp (2010) USA	Examine the perceptions of students and teachers from their experiences in two consecutive units of SE.	St/T	H	Mx	N	TS	QL/NE	12	Y	Self-determination Fair-play Inclusion	- Structural aspects of SE assisted in facilitating movement along the self-determined continuum; - Students attributed being on a team throughout each season and implementation of a fair-play evaluation facilitated the sense of inclusion.	11
Pill (2010) Australia	Explore a SE pilot project as a case study of the approach in a primary school setting.	St/T	M	Mx	N	Ma	QL/NE	10	N	Equity Responsibility Motivation Teamwork Engagement	- SE can deliver positive products for the class climate as well as for a student's personal and social skill development in a primary school setting. - Enhanced levels of cooperation with peers, and a determination to be more equitable in participation during practice and play; - Students felt more included and motivated, and understood that they had developed skills for working cooperatively with others; - Enhanced feelings of motivation and inclusion.	11

* P= participants, St= students, T= teachers, A= athletes, C= coaches, Pa= parents, SP= school population, E= elementary, M= middle school, H= high school, CL= classes, Sx= single-sex, Mx= mixed-sex, D/R= disabled or at-risk students, Y= yes, N= no, S= sport, TS= team sports, IS= individual sports, MA= multiactivities, DES= study design, QL= qualitative, QN= quantitative, MIX= qualitative and quantitative, E= experimental, QE= quasi-experimental, NE= non-experimental, LS= length of the Sport Education season (number of lessons), F= fidelity of the Sport Education model, Q= methodological quality of the study.

Table 3. Continued…

Author(s)/Country	Purpose	P	SP	CL	D/R	S	DES	L	F	Variables	Main results	Q
Romar et al., (2016) Finland	Describe and understand players', coaches' and parents' perceptions and experiences of a soccer season when using the model in a Finnish junior sport club.	A/C/Pa	M	Mx	N	TS	QL/NE	11	Y	Affiliation Enjoyment Autonomy Responsibility Empowerment Enthusiasm	- Players affiliated within their teams, enjoyed having autonomy, responsibilities, had 'fun', enjoyed and spoke passionately about the experience; - Players valued the chance to make decisions and be responsible for their own actions.	11
Sinelnikov and Hastie (2008) Rússia	Study the ecology of SE in one Russian school.	St	H	Mx	N	TS	QL/NE	18	Y	Responsibility Ownership Fair-play Empowerment Enjoyment	-Students enjoyed being part of a team and developed a strong sense of belonging; - During officiating, students were concerned about not giving an advantage to any particular team; - Fun was derived from being part of the team and from the authentic competition; - Students reported increased levels of responsibility and decision-making during the season.	12
Sinelnikov and Hastie (2010) Russia	Measure and describe the objective motivational climate of a Sport Education season conducted in a Russian school.	ST	H	Mx	N	TS	QT/QE	18	Y	Motivation	- SE had more mastery-oriented and less performance-oriented teacher behaviors. - The objective motivational climate of skill practice and practice competition phase had more of a mastery-oriented climate.	11
Smither & Xihe (2011) USA	Examine high school students' experiences in a Sport Education unit being implemented with smaller teams and fewer roles.	St/T	H	Mx	N	TS	QL/NE	280	N	Engagement Autonomy Problem-solving	- Transformation of students into more active learners through team autonomy and problem solving within the team; - The smaller teams with few roles appeared to lead to higher engagement, especially for less skillful students.	11
Spittle & Byrne (2009) Australia	Investigated the influence of SE on student motivation.	St	M	Mx	N	TS	QT/QE	10	N	Motivation	- Difference were found between the conditions on changes in perceived competence, task orientation, and mastery climate, with the traditional condition decreasing significantly from pre- to post-test compared with SE.	12
Tindall (2013) Ireland	Provide a detailed description of post primary students' reactions to a disability awareness experience using extended contact theory, SE and the disability sport of sit-volleyball as the framework.	St	H	Sx (Girls)	Y	TS	QL/NE	16	N	Enjoyment Empathy (experience)	- Participating in a disability sport was found to be favorable amongst the students; - Students expressed an interest in further disability sport experiences as part of their regular PE curriculum.	11

* P= participants, St= students, T= teachers, A= athletes, C= coaches, Pa= parents, SP= school population, E= elementary, M= middle school, H= high school, CL= classes, Sx= single-sex, Mx= mixed-sex, D/R= disabled or at-risk students, Y= yes, N= no, S= sport, TS= team sports, IS= individual sports, MA= multiactivities, DES= study design, QL= qualitative, QN= quantitative, MIX= qualitative and quantitative, E= experimental, QE= quasi-experimental, NE= non-experimental, LS= length of the Sport Education season (number of lessons), F= fidelity of the Sport Education model, Q= methodological quality of the study.

Table 3. Continued…

Author(s)/Country	Purpose	P	SP	CL	D/R	S	DES	L	F	Variables	Main results	Q
Vidoni & Ward (2009) USA	Examine the effects of fair-play instruction on student social skills during SE.	St	M	Mx	N	TS	QT/QE	18	N	Engagement Enjoyment Fair-play	- Fair-Play instruction was effective in increasing students' active participation, and in decreasing waiting time for all participants; - students enjoyed participating in the study because they had fun with that.	11
Wallhead et al., (2010) USA	Analyze the effects of SE on students' voluntary participation in a lunch-time recess sport club.	St	E/H	Mx	N	TS	QT/QE	24	Y	Motivation	- Autonomy supportive curriculum models, such as SE, may have the potential to facilitate transfer of motivation and participation in PA from a physical education to an extracurricular context.	12
Wallhead & Ntoumanis (2004) UK	Analyze the changes in student motivation as a result of SE.	St	H	Sx (Boys)	N	TS	QT/QE	6	N	Enjoyment Engagement Motivation	- Increases in SE student enjoyment and perceived effort; - Perceptions of task involving climate explained increases in student motivational indices.	11

* P= participants, St= students, T= teachers, A= athletes, C= coaches, Pa= parents, SP= school population, E= elementary, M= middle school, H= high school, CL= classes, Sx= single-sex, Mx= mixed-sex, D/R= disabled or at-risk students, Y= yes, N= no, S= sport, TS= team sports, IS= individual sports, MA= multiactivities, DES= study design, QL= qualitative, QN= quantitative, MIX= qualitative and quantitative, E= experimental, QE= quasi-experimental, NE= non-experimental, LS= length of the Sport Education season (number of lessons), F= fidelity of the Sport Education model, Q= methodological quality of the study.

The results of this study are presented in response to the research questions mentioned above.

Q1. Which contexts are most likely to research the development of personal and social skills within SE?

Countries: According to the country where the research on the development of personal and social skills using the SE took place, the United States (29%) and Spain (29%) represented over half of all publications (58%), followed by Australia (12%) and the United Kingdom (12%), Russia (6%), Portugal (4%), Finland (2%), Ireland (2%), New Zealand (2%) and Singapore (2%).

Context: Regarding the studies' context, the majority of research (94%) took place in school contexts and within PE lessons. Only three studies (6%) were conducted within sport club settings. Studies with involving data from only students were more frequent (67%). Ten studies (20%) used student and teacher data, whereas only 4 studies (8%) focused exclusively on teachers. Two studies (4%) were focused on athletes as participants while one study (2%) involved at same time coaches, athletes and parents.

Classification of sport type: With respect to the type of sport/activity studied, the predominance of team sports in 37 studies (72%) was noticeable, whereas only 7 studies (14%) incorporated individual sports (such as kickboxing, badminton, swimming) in their seasons. The remaining 7 studies (14%) were developed with multiactivities (individual and team sports).

Q2. Who are the participants included in SE studies that consider the development of personal and social skills?

Participants: The total sample of the included studies was 2949 students (83%) (1301 boys and 1118 girls, considering that in eight studies the gender of 353 participants was not specified), 496 teachers (15%) (107 with experience in teaching SE), 68 athletes (2%) (22 boys and 23 girls, considering that in two studies the participants' gender was not specified), 8 coaches (0.2%) (without previous experience in SE) and 4 parents (0.1%).

School level: The most frequent school level studied (40%) was high school (considered as grades 9-12), followed by the middle school (31%), which is from 6th until 8th grade. Fewer studies (18%) took place in elementary schools (1st to 5th grade), and of those, the most common grade level were 4th and 5th.

Class composition: 36 studies (70%) were in a co-educational PE context, two examined only girls (4%), and 6 examined only boys (12%) in a single-sex PE context. Class composition was not reported in 7 (14%) of the studies.

Students with special needs or "at risk": In 49 studies (96%) participants were not students with special needs or "at-risk" of failure due to undisciplinary behaviors or in process of early dropout. Of interest, only 2 studies (4%) included participants who had a disability (intellectual or motor) or were considered as "at risk" of failure or early dropout.
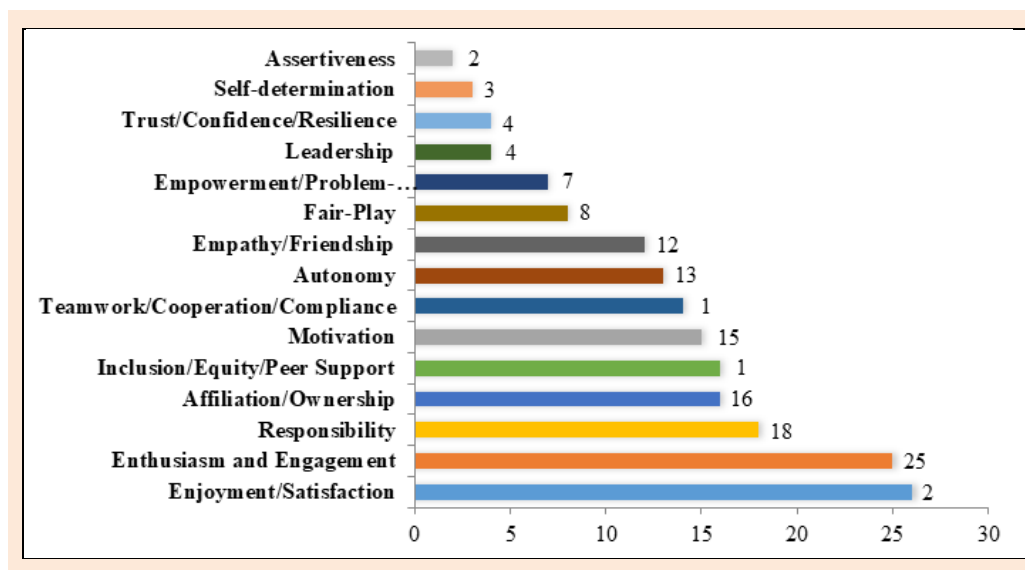
Figure 2. Personal and social variables studied in a Sport Education season.

(Q3) What were the most frequently analyzed variables when participating in a SE season?
Figure 2 provides an illustration of the range of variables examined in studies in this review. As can be seen in the figure enjoyment/satisfaction, enthusiasm and engagement are the predominant outcome measures.

(Q4) What are the methodologies that have been used to investigate the development of personal and social skills within SE classes?
Study approach: Almost half of all studies adopted a qualitative approach (23; 44%), of the remainder, 14 adopted a quantitative approach (27%), while 14 assumed a mixed approach combining both quantitative and qualitative approaches (27%).

Study design: More than half of the studies (26) included in this review utilized a non-experimental design (51%) to describe the development of students' personal and social skills within SE (without control, manipulation or alteration of the variables, focused on teachers and students' perceptions).

However, is that of the 24 studies that involved a quasi-experimental design (49%) (being able to manipulate and control the variables with pre-posttest designs), only two included a control group. Further, there was no randomization of participants within these studies.

Instruments: The use of questionnaires was reported in all quantitative studies (27) and focused on students' perceptions, and two collected data with direct observation. The analyzed qualitative studies have focused on students and teachers' perceptions, and adopted semi-structured interviews and drawings to collect data. Data collection with mixed methods studies was mostly conducted using individual or group interviews and questionnaires, as well as through diaries, interviews and questionnaires.

The most widely used instruments to collect data in studies with a qualitative multimethod strategy were interviews (12/18), followed by diaries and/or field notes (8/18), focus group interviews (6/18), participant observa-

tion (5/18), journals and/or reflective logs (3/18), videotape (3/18), drawings (2/18), photovoice (1/18) and document analysis (1/18). One study adopted a quantitative multi-method strategy (with multiple forms of quantitative data) using the questionnaires and the field work.

Length of the season: In 18 studies, the SE season extended for more than 20 lessons (35%), 15 studies for between 15 and 19 lessons (29%), 13 between 10 and 14 (6%) and 4 with less than 9 lessons (4%). Each lesson lasted 45-60 minutes.

No information was given about the length of the SE season implementation in 2 studies (4%).

Q5. How many studies have established the fidelity of the model implementation?
In 19 studies (37%) the fidelity of the SE implementation was confirmed, that is, the authors performed the validation of the model implementation and presented a detailed description of the program and curricular elements of the unit (Hastie and Casey, 2014). In 25 studies (49%), the authors presented only a description of the program or curricular elements of the unit, failing to carry out the validation of the model, that is, did not assure that the instruction was indeed consistent within the accepted standards for the SE.

Discussion

The aim of this systematic review was to describe and examine what is currently known concerning students' development of personal and social competencies when participating in PE classes with SE, in order to give directions for future research and practice.

The SE research included in this systematic review was published between 1992 and 2018 with an increasing number of publications over the years. The fact that the majority of studies took place in USA and Spain (58%) is in line with previous reviews. Although studies have been developed in other countries, namely in Australia and elsewhere in Europe (such as United Kingdom, Russia, Portugal), it would be important to expand the impact of

the SE on those and other contexts and cultures.

The findings revealed that studies regarding the development of personal and social competencies focused mostly on students' perceptions (83%), and were located in school contexts (94%), and involved co-educational classes (70%). However, in the main, there was minimal research that involved students with disabilities, or those considered "at-risk" of failure or who were in the process of early dropout (96%).

One of the long-term purposes of the SE is to make sport more widely accessible so that race, disability, or socioeconomic status are not barriers to participation, thereby promoting inclusion and equity (Siedentop, 1994). By consequence, samples that consider participants with those particular characteristics must be taken into account in SE season implementations. Moreover, given that it is recognized that sport is a privileged space for the development of personal and social skills (Fraser-Thomas et al., 2005; Wright and Côté, 2003) the implementation of SE should not be limited only to the area of PE. It should focus on addressing the level of transfer to other contexts, namely sport training settings, seeking to reinforce the positive impact of SE on the personal and social skills of athletes found in studies of Meroño et al. (2015; 2016).

Results showed that the development of personal and social competencies was more studied in high-school (40%) and 9th grade (30%), which is in contrast to other reviews which identified middle (Araújo et al., 2014; Hastie et al., 2011) and elementary schools (Evangelio et al., 2018) as the most frequent levels studied. These findings are supported by studies (Ntoumanis and Standage, 2009; Van den Berghe et al., 2014) which report that older students, when participating in a SE program, are likely to develop personal and social skills. Furthermore, Layne and Hastie (2016) reported that in very young students the implementation of an SE season requires greater teacher preparation, presenting itself as a potential limitation when studying early grade levels.

Consistent with the previous reviews of (Araújo et al., 2014; Chu and Zhang, 2018; Hastie et al., 2011), the majority of studies in this review investigated team sports in SE programs (70%). This has the potential of undervaluing the possibility of different results in individual sports. As such, it is imperative to conduct further studies in individual and performance sports given that research has shown that students engaging in SE seasons of involving these activities are more likely to participate in these sports more regularly, and that participation may extend to adulthood (Tammelin et al., 2003).

From this systematic review, the personal and social variables that appeared more often were the same as those considered to be crucial for learning in PE irrespective of the teaching approaches. These included enjoyment and satisfaction (n=26), enthusiasm and engagement (n=25) and motivation (n=15) as the most prevalent. Findings suggested high levels of enjoyment and satisfaction in SE (e.g. Alexander and Luckman, 2001; Curtner-Smith, 2004; Menéndez and Fernandez-Rio, 2017; Meroño et al., 2015; Sinelnikov and Hastie, 2008), increases in enthusiasm and engaged participation (e.g. García-López et al., 2012; Grant, 1992; Hastie, 1996; Meroño et al., 2016; Mesquita

et al., 2016; Smither and Xihe, 2011), and enhanced feelings of motivation (e.g. Burgueño et al., 2017; Hastie et al., 2014; MacPhail et al., 2008; Pill, 2010; Sinelnikov and Hastie, 2010). These results could be associated to the structural features of SE such as longer seasons, consistent team membership, and a significant amount of time allocated to game play, as well as features such as competition, festivity, and the presence of a culminant event. Further, the diversity of students' roles within the team (playing and non-playing roles) as well their opportunity to make decisions may have a strong influence on enthusiasm and engagement. With regard to the more specific variables strongly foregrounded with SE, due to its own structure and pedagogical principles, the personal and social variables mostly studied were responsibility (n=18), affiliation and ownership (n=16), inclusion, peer support and equity (n=16), teamwork, cooperation and compliance (n=14), autonomy (n=13), empathy and friendship (n=12). Fair-play (n=8), empowerment, problem-solving and decision-making (n=7), leadership (n=4), trust and confidence (n=4), self-determination (n=3), assertiveness (n=2) were also present.

The theme of responsibility was found in a number of studies (e.g. Browne et al., 2004; Brunton, 2003; Fernandez-Rio and Menéndez-Santurio, 2017; Hastie, 1996; Hastie and Buchanan, 2000; Sinelnikov and Hastie, 2008). Students' ability within SE to take on roles (e.g. referee, coach, and statistician) and the opportunities to solve problems were identified as key points to the perceptions of greater levels of responsibility developed by students. Nevertheless, in the study of Mowling et al. (2006) involving fourth grade students, a minimal representation of roles and responsibilities were noted. The author attributed this finding to the early age of the students who sought victory as their primary agenda. However, it should be noted that this study did find that students placed a strong focus on affiliation and festivity.

Studies gathered to this review highlighted the value of team affiliation in developing students' ownership within a SE experience (e.g. Curtner-Smith and Sofo, 2004; Farias et al., 2018; Gutierrez Diaz del Campo et al., 2014; Hastie, 1998; Hastie and Sinelnikov, 2006; MacPhail et al., 2008). In a similar vein, a sense of cooperation, teamwork and compliance within the teams were all reported as important outcomes of participation in a season of SE. This feature was seen as crucial to ensuring the success and maintenance of team affiliation during the season (e.g. Alexander et al., 1996; Brunton, 2003; Fernandez-Rio and Menéndez-Santurio, 2017; Mesquita et al., 2016).

The focus of SE in promoting inclusion, equity and peer support was also suggested in a number of studies (Alexander and Luckman, 2001; Browne et al., 2004; Curtner-Smith and Sofo, 2004; Gutierrez Diaz del Campo et al., 2014; Hastie, 1998; Menéndez and Fernandez-Rio, 2017; O'Donovan, 2003; Pill, 2010). Here, the importance given to all team members (regardless of a student's gender or skill level), the opportunities provided for inclusion participation and the emphasis on "doing your best" were highlighted. Nevertheless, in the Alexander et al. (1996) study, the analysis of female students' journals indicated that they did not perceive such equitable participation as

players in coeducational SE learning environments. However, in subsequent studies of gender inequity and marginalization (e.g. Alexander and Luckman, 2001; Hastie, 1998; Hastie and Sinelnikov, 2006) girls did not consider these inequities as problematic as they continued to feel a useful part of their teams, and continued to prefer SE over traditional models.

This review also showed that an enhanced level of autonomy was perceived by students, teachers and athletes as a result of their participation in SE (e.g. MacPhail et al., 2008; Méndez-Gimenez et al., 2015; Meroño et al., 2015; Romar et al., 2016; Smither and Xihe, 2011). Autonomy was seen as deriving from allowing students to select their teams, choosing the roles they wished to take within their team, as well as establishing and managing their own practices and games. The study of Cuevas(2015), however, provided evidence on only minor (but not significant) improvements in students' autonomy after experiencing a SE season. The main argument for this finding was that students with higher social status tended to restrain more introverted students' behaviors, thereby limiting their perceptions of autonomy.

Some studies also reported the development of perceived empowerment by students mostly due to the opportunities of SE to solve problems, make decisions and take control over their learning environment (e.g. Gil-Arias et al., 2017; Hastie and Buchanan, 2000; Romar et al., 2016; Sinelnikov and Hastie, 2008). Furthermore, students and teachers recognized that SE provides an excellent training for leadership capacity given the students' ability to take on roles within the various activities in a season (e.g. Alexander et al., 1996; Clarke and Quill, 2003; Hastie and Sharpe, 1999). Similarly, there is empirical evidence with respect to the impact of pedagogical strategies used in SE seasons (e.g., particular roles students such as coach or reporter) on the development of students' trust, resilience and self-confidence (e.g. Ang and Penney, 2013; Carlson and Hastie, 1997; MacPhail et al., 2004). The increases of students' self-determination were also reported in some studies due to the features of SE (e.g. team affiliation and an affective game play rubric) (Cuevas et al., 2016; Perlman, 2011; Perlman and Goc Karp, 2010).

The findings also reported enhanced feelings of empathy and friendship among students in their experience with SE, producing positive changes in classmates' perceptions (Fernandez-Rio and Menéndez-Santurio, 2017; Hastie and Sinelnikov, 2006; Menéndez and Fernandez-Rio, 2017; Wallhead and Ntoumanis, 2004). Nonetheless, the different interests and motivations among students that occur throughout the SE season can lead some students to adopt more egocentric positions, and not to put themselves in the place of the other. This was highlighted in the studies of e García-López et al. (2015; 2012) where they reported that empathy has decreased maybe due to large number of situations that occur within a SE season in which there is a clash of interests between students.

Regarding fair-play, studies with SE mentioned improvements including respect for oneself, others, adults and rules (e.g. Calderón et al., 2016; Clarke and Quill, 2003; Méndez-Gimenez et al., 2015), and decreases in the number of negative sporting behaviors (Perlman and Goc Karp, 2010; Vidoni and Ward, 2009).

The development of students' assertiveness was only examined in two studies García-López et al. (2015; 2012). In the earlier study (García-López et al., 2012), students' assertiveness did not increase. It was suggested that for this to occur, specific strategies related with assertiveness need to be deliberately implemented within the SE season design. Following this recommendation, in the García-Lopez (2015) study, findings suggested that SE proved to be a useful instructional model for improving students' assertiveness.

Concerning the designs of the reviewed studies, almost half used a qualitative approach (47%) and a non-experimental design (53%) using multiple qualitative tools (35%). These tools included interviews, diaries and/or field notes, focus group interviews and participant observation. These findings are consistent with the reviews of Hastie et al. (2011) and Pozo et al. (2016). However, the most recent reviews of SE (Chu and Zhang, 2018; Evangelio et al., 2018) have indicated that significantly more studies in SE are following a quantitative (Chu and Zhang, 2018) or mixed method research approach (Evangelio et al., 2018). This divergence can be explained with the fact that Chu and Zhang's (2018) review focused specifically on motivation. Nevertheless, due to the preponderance of qualitative studies in SE focusing on the development of personal and social competencies, new studies might begin to consider including mixed and quantitative methods, as these might provide objective and controlled measures and allow for their findings to be more widely generalized.

In quasi-experimental designs (47%), previously created class groups have always been used because it is very difficult to randomly distribute students in a school setting. However, when multiple classes are used it is important that the appropriate unit of analysis is used. Research has shown that usually the articles disregarded the unit of analysis and most of the articles applied the interventions to classes/groups, but used individual students as unit of analysis (Li et al., 2017).

Although the recommended length for a SE season is a minimum of 20 lessons (Siedentop, 1994) most studies (61%) did not comply with this principle. According to Siedentop (1994), seasons need to be long enough to allow for meaningful experiences, particularly since SE has more to accomplish. Specifically, when sport is taught more completely and authentically, it takes more time for students to develop the different roles and capabilities promoted by the model. Therefore, considering the main assumptions of the model, and the findings that development of social skills needs time (Ang and Penney, 2013; Farias et al., 2017; Hastie and Mesquita, 2016), in order to succeed and ensure more reliable results, future research must prioritize appropriate planning and design of the SE seasons themselves before any investigation of dependent measures is considered.

Fidelity of the implementation refers to the degree to which an intervention is delivered as intended and it is critical to successful translation of evidence-based interventions into practice (Carroll et al., 2007). Hastie and Ca-

sey (2014) consider that for an accurate and complete understanding of a study's results, the methods section should include a rich description of the curricular elements of the unit, a detailed validation of model implementation, and a detailed description of the program context. Even though the research on SE highlights the importance of reporting the fidelity of the model implementation (Hastie and Casey, 2014; Ko et al., 2006), only 37% of the studies were in compliance with this aspect of design. This lack of model fidelity is consistent by with those of O'Donnell and Carol (2008) who state that fidelity of a model implementation is rarely reported in educational studies. The evaluation of the model implementation fidelity is essential because (a) it allows readers to moderate the relationship between an intervention and its outcomes, and (b) its assessment may also prevent potentially false conclusions.

Conclusion

Research concerning the impact of SE on students' personal and social development has shown unequivocal results. In particular, the most examined personal and social variables within SE tend to be related with more general variables, which are crucial for learning in PE in all teaching approaches (p.e. enjoyment, satisfaction, enthusiasm and engagement). However, the interest of knowing the effect on variables strongly foregrounded with SE, due to its own structure and pedagogical principles (p.e. affiliation, ownership, peer support and fair-play) has been growing and becoming more specific (p.e. assertiveness, self-determination, compliance). In order to reinforce the positive impact of SE on the personal and social competencies it would be important that research consider other cultures, samples (e.g. coaches, athletes, disabled students), contexts (sport club setting) and types of sports (e.g. individual sports). A more equitable balance of research designs (mixed and quantitative methods), longer units with an effective planning of the SE season itself, as well as report of model fidelity is critical in future studies, as they might provide more robust and objective findings that can possibly be generalized.

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Key points

- Considering the development of social and personal competencies, the majority of SE research took place in Spain and USA in a co-educational PE context (high school).
- Enjoyment/satisfaction, enthusiasm and engagement were the predominant outcome measures, using a non-experimental design and multiple qualitative tools in more than half of the studies.
- Few studies established the fidelity of the model implementation.
- Future studies should consider other samples, contexts, cultures, types of sports and longer units seeking to reinforce the positive impact of SE on the personal and social competencies.

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