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Published in the USA

European Journal of Contemporary Education
E-ISSN 2305-6746
2023. 12(2): 365-384
DOI: 10.13187/ejced.2023.2.365
<https://ejce.cherkasgu.press>

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**European Journal of
Contemporary Education**



ELECTRONIC JOURNAL

Hellison's Model of Personal and Social Responsibility in the Educational Context: A Systematic Review

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Abstract

In recent years there has been an increase in violent behaviour among students. Numerous research studies support the power of appropriate pedagogical guidance through Physical Education as a great opportunity to tackle this problem. In this sense, the aim of this study was twofold: 1) To carry out a systematic review to analyse the effects on students of the interventions carried out through Hellison's Personal and Social Responsibility Model in the subject of Physical Education; and 2) To describe and analyse these interventions. For this purpose, the guidelines provided in the PRISMA Declaration were followed and five databases were searched: Web of Science, SPORTDiscus full text, SCOPUS, ERIC and PsycINFO. After multiple screens, a total of 12 reports were included, all of which met the proposed eligibility criteria. The results provided scientific evidence on the successful application of the Hellison's Model, producing positive changes in a multitude of variables, highlighting those related to the satisfaction of Basic Psychological Needs, behavioural patterns, understanding of feelings and the development of educational values in students. In short, the teaching of Physical Education based on the MRPS could have a strong potential to develop more responsible individuals in their daily lives, providing interesting training possibilities for teachers and coaches.

Keywords: values, physical education, pedagogical models, primary education, secondary education.

1. Introduction

Concern about students' violent behaviour in schools has increased in recent years (Medina, Reverte, 2019). Schools are crucial in reducing these disruptive behaviours and promoting pro-social behaviours (López et al., 2012), and the subject of physical education is seen as a great

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opportunity for the promotion of personal and social values and skills (Van der Mars, 2020). However, this educational influence through the subject of Physical Education will depend on the approach with which it is implemented (Bloom, Smith, 1996), since the educational aspect is not connected to the practice of exercise, but to the guidelines given to it, and it is necessary to provide this practice with the corresponding educational nuances (Ruiz et al., 2015). Therefore, the role of the teacher will be crucial, as it is the teacher who decides the pedagogical orientation of the teaching-learning process (Andersson, 2019).

The implementation of intervention programmes in the context of Physical Education, and the analysis of the effects they have on the development of values, as well as personal and social competences in students, has become a topic of growing interest for numerous researchers (Gutiérrez-Marín et al., 2019). Thus, some investigations have focused on the analysis of the effects produced by the application of pedagogical models such as Sport Education (Bessa et al., 2020), Cooperative Learning (Engels, Freund, 2020), the Intercultural Movement Education programme (Grimminger-Seidensticker, Möhwald, 2020), or the Delphi programme (Cecchini et al., 2008). Among these models, Hellison's (1995) Teaching Personal and Social Responsibility (TPSR) stands out, which is considered to be one of the main approaches in the development and promotion of social learning through physical education (Wright, Walsh, 2020), as well one of the aspects related to responsibility and the acquisition of life skills (Hellison et al., 2000). Although it was originally created to promote values through physical activity and sport in young people at risk of exclusion (Hellison, 2011), over the last few years it has been used to promote psychosocial skills such as respect, empathy, self-control, effort and cooperation in different areas (sport, competitive or extracurricular), with students and athletes from different socio-economic and socio-demographic contexts (Carreres-Ponsoda et al., 2021). The main aim of this model is to make young people responsible for their own well-being and that of others, while incorporating strategies to exercise control over their daily lives, so that they can be effective in their social context (Hellison, 2003), trying to transfer these acquired behaviours and attitudes to the context of the home or community, so that they can take control of their lives (Hellison, 2011).

In order to achieve this purpose, the TPSR proposes five levels of responsibility: (1) Respect for the rights and feelings of others; (2) Self-motivation (Participation and effort); (3) Self-direction (Personal autonomy); (4) Empathy and social relations (Helping others and leadership); and (5) Transfer to other social contexts (Hellison, 2011). In some studies carried out with primary school students, the results showed improvements in self-regulation, with a decrease in delinquent behaviour and a greater number of responsible behaviours (Escartí et al., 2010), while increasing self-motivation and respect for one's own feelings and those of others (Pascual et al., 2011). As for Secondary Education, significant improvements were obtained, both in intrinsic motivation and in the self-control area, observing a decrease in anti-sports behaviours during Physical Education classes (Cecchini et al., 2003), fostering values of respect, effort, goal setting and leadership skills (Ward et al., 2012). Furthermore, other interventions found positive changes in the behavioural patterns of the participants, decreasing aggressive and disruptive behaviours (Escartí et al., 2006), developing more socially and personally responsible levels (Wright et al., 2010).

In relation to the systematic reviews performed on the TSPR, the following stand out: Pozo et al. (2018), which included studies prior to 2015; Baptista et al. (2020), who conducted a review of the application of the TSPR in the extracurricular context; and Sánchez-Alcaraz et al. (2020), which focused on the implementation of the TSPR, both in the educational and sports context, although studies prior to 2017 were included. Therefore, as far as we know, no systematic review has been performed on the effects of the implementation of TSPR in the context of physical education in Primary and Secondary Education including research carried out in the last 5 years. Accordingly, the questions guiding the review were the following: Which variables have been the most studied in the implementation of the TPSR; What are the main effects of TSPR on boys and girls in Primary and Secondary Education; What are the main effects of TSPR on boys and girls in Primary and Secondary Education? Thus, the objectives of this research were: 1) To carry out a systematic review to analyse the effects on students of the interventions carried out through Hellison's Personal and Social Responsibility Model in the subject of Physical Education; and 2) To describe and analyse these interventions.

2. Method

For this systematic review, the guidelines of the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement (Page et al., 2021) were followed, as well as the corresponding practical guide for systematic reviews with or without meta-analyses (Moher et al., 2015).

Eligibility criteria

The inclusion criteria applied in this study were: a) research articles published in international peer-reviewed journals; b) papers including the implementation of the TPSR-based programme, as well as the analysis of its effect; c) studies carried out in Physical Education classes at the Primary and Secondary Education stages; d) publication date of the studies between 2018 and 2022; e) written in Spanish, English or Portuguese; f) research studies with control and experimental group intervention; g) inclusion of pre-test and post-test measures; h) being an experimental, quasi-experimental study or a randomised controlled trial; and finally, i) reports had to be available in full text. In terms of exclusion criteria, the following were proposed: a) studies based on systematic or literature reviews; b) manuscripts designed as opinion articles, theses, conference proceedings, books or book chapters; c) interventions delivered to students outside the Primary or Secondary Education stages; and, finally, d) articles not available in full text.

Information sources and search strategies

The search was undertaken until May 2022 in the following databases: Web of Science, SPORTDiscus, SCOPUS, ERIC, and PsycINFO. The search phrase was composed of four clearly differentiated blocks: (1) Hellison's Model OR Personal and Social Responsibility; (2) AND Physical Education; (3) AND Primary School OR Secondary School; (4) AND Intervention OR Experimental OR Quasi-experimental OR Randomized Controlled Trial.

Study selection and data extraction process

An analysis of the title and abstract of the manuscripts was executed, after which a total of 8 articles were selected for review. Additionally, after analysis of the reference lists of the selected papers, 29 reports were found and analysed, out of which 4 articles were added to the review. Finally, a total of 12 articles were included for data collection. In order to reduce selection bias, studies were independently reviewed by two researchers. In case of discrepancies, these were resolved in consultation with the third researcher.

Quality assessment

The Standard Quality Assessment Criteria for quantitative and qualitative studies (Kmet et al., 2004) was used to assess the quality of the papers. Two researchers assessed the quality of the studies independently. In case of discrepancies, these were solved in consultation with the third researcher.

3. Results

Selection of studies

A total of 4,094,844 studies were identified in the initial search. Once the filters were applied to each database in relation to the proposed eligibility criteria, a total of 3,707 articles remained for study. Finally, after performing the analysis of the documents, 12 articles were included for review (see Figure 1).

Quality assessment

Item quality scores were expressed as percentages, ranging from 0 to 100 %, varying from .75 to .88 (see Table 1). Inter-rater agreement was calculated using the intra-class correlation coefficient, yielding a score of .671 ($p < .05$), indicating a substantial degree of agreement (Landis, Koch, 1977). After implementing inter-rater agreement, a conservative cut-off point was agreed upon for the selection of evaluators, including those studies with scores of no less than 75 % ($> .75$). The overall scores assigned by the first observer ranged from .75 to .88, while those of the second observer ranged from .77 to .83.

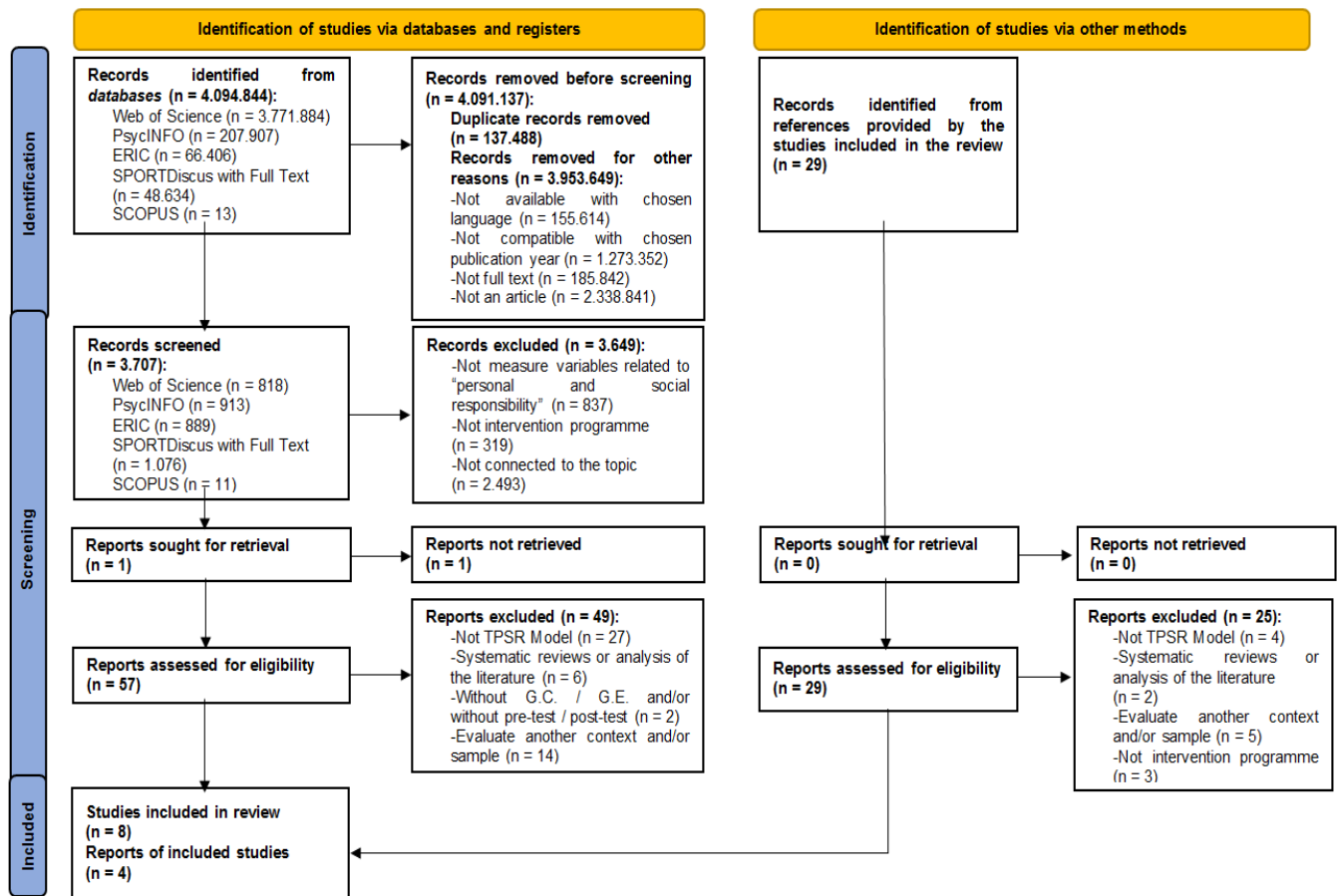


Table 1. Assessment of the studies' quality

Studies	Observer 1	Observer 2
Pozo et al. (2022)	.88	.83
Manzano-Sánchez et al. (2021)	.83	.77
Sánchez-Alcaraz et al. (2021)	.87	.80
García-García et al. (2020)	.79	.77
Merino-Barrero et al. (2020)	.75	.80
Pérez-Ordás et al. (2020)	.85	.79
Manzano-Sánchez, Valero-Valenzuela (2019a)	.83	.80
Manzano-Sánchez et al. (2019)	.83	.77
Manzano-Sánchez, Valero-Valenzuela (2019b)	.81	.77
Prat et al. (2019)	.77	.77
Sánchez-Alcaraz et al. (2019)	.77	.77
Buišić, Dordić (2018)	.87	.83

Characteristics of the studies

The main characteristics of the selected studies are presented below (see [Tables 2 and 3](#)).

Table 2. Characteristics and duration of the study, participants, assessment instruments and intervention protocol

Studies	Country	Study duration	N (Gender) N (CG and EG)	Subjects age	Participant characteristics	Instruments/ Variables	Protocol	
							CG	EG
Manzano-Sánchez et al. (2021)	Spain	8 months NR	257 (106 girls) (151 boys) CG: 67 EG (EF): 100	12-16 years old M=15,28 SD=3,20	Secondary school students from a low-middle socio-economic background with no previous experience with the TPSR	Personal and Social Responsibility variable: Spanish version of the Personal and Social Responsibility Questionnaire (PSRQ). Variable Basic Psychological Needs: Spanish version of the Psychological Need Satisfaction in Exercise (PNSE) scale Motivation variable: Spanish version of the Échelle de Motivation en Éducation (EME) (Núñez et al., 2005). Variable social behaviours: Spanish version of the Teenage Inventory of Social Skills (TISS) (Inderbitzen and Foster, 1992; Ingles et al., 2003). Perception of violence variable: Spanish version of the Questionnaire on School Violence (CUVE) (Álvarez et al., 2013). Classroom social environment variable: Cuestionario para Evaluar el Clima Social Escolar (CECSE) (Trianes et al., 2006). Resilience variable: Spanish version of the Resilience Scale (RS-14) (Sánchez-Tennel et al., 2015)	NR	TPSR (Hellison, 1978)
Pozo et al. (2022)	Spain	8 months weekly sessions of 55 minutes each A total of 56 sessions	210 (110 girls) (100 boys) CG: 107 (55 Girls; 52 boys) EG: 103 (55 girls; 48 boys)	10-12 years old M= 11.04 SD= .497	Prim. Ed. students with marginalisation and delinquency problems with no previous experience with the TPSR	Empathy variable: Spanish version of the Bryant's Empathy Index (Del Barrio et al., 2004) Emotional intelligence variable: Spanish version of the Trait Meta-Mood Scale (Fernández-Berrocal et al., 2004).	NR	TPSR (Hellison, 1995)

García-García et al. (2020)	Spain	<p>5 months</p> <p>2 weekly sessions of 55 minutes each</p> <p>A total of 29 sessions</p>	<p>57 (25 girls) (32 boys)</p> <p>CG: 31 (15 girls; 16 boys) EG: 26 (10 girls; 16 boys)</p> <p>11-14 years old</p> <p>M = 11.93 SD = .73</p>	<p>Primary and secondary school students, with similar socio-demographic profiles.</p>	<p>No previous experience with the TPSR</p>	<p>Personal and social responsibility variable: (PSRO) (Escartí et al., 2011).</p> <p>Prosocial and antisocial behaviour variable: (TISS) (Underbitzen, Foster, 1992; English et al., 2003).</p> <p>Empathy variable:</p> <p>Spanish version of the Interpersonal Reactivity Index (IRI) scale (Pérez-Albeniz et al., 2003).</p> <p>School violence variable: Spanish version of the California School Climate and Safety Survey (CSCSS) (Fernández-Baena et al., 2011).</p> <p>Physical activity level perception variable: Spanish version of the Physician-based Assessment and Counselling for Exercise (PACE) (Martínez-Gómez et al., 2009).</p>	<p>Traditional teaching, using the teaching technique: Direct Instruction</p>	<p>TPSR (Hellison, 1978; 2003; 2011)</p>
Sánchez-Alcaraz et al. (2021)	Spain	<p>1 month</p> <p>2 weekly sessions of 60 minutes each</p> <p>8 sessions</p>	<p>672</p> <p>NR</p> <p>CG: 334 EG: 338</p> <p>13-15 years old</p> <p>(M ± SD= 14 ± 2 years old)</p>	<p>Secondary school students from schools with middle-level socio-demographic profiles with no previous experience of the TPSR</p>	<p>Violent behaviours variable: Ad hoc instrument designed by Anguera et al. (2012) and validated for the Spanish context by Sánchez-Alcaraz et al. (2018).</p>	<p>Teacher's usual methodology</p>	<p>TPSR (Hellison, 2011)</p>	

<p>Pérez-Ordás et al. (2020)</p>	<p>Spain</p>	<p>8 months 2 weekly sessions of 55 minutes each A total of 56 sessions</p>	<p>210 (110 girls) (100 boys) CG: 107 (55 girls; 52 boys) EG: 103 (55 girls; 48 boys) 10-12 years old M = 11.04 SD = .497</p>	<p>Prim. Ed. students with marginalisation and delinquency problems (112 from upper-middle socio-economic backgrounds; 98 from lower-middle socio-economic backgrounds) with no previous experience of the TPSR</p>	<p>Physical and verbal aggression variable: Spanish version of the Physical and Verbal Aggression Scale (Del Barrio et al., 2001). Social responsibility behaviours variable: Video recording of two sessions following the instructions of Escartí et al. (2006) and a recording sheet.</p>	<p>Teacher's usual methodology</p>	<p>TPSR (Hellison, 1995)</p>
<p>Merino-Barrero et al. (2020)</p>	<p>Spain</p>	<p>5 months 2 weekly sessions of 55 minutes each A total of 29 sessions</p>	<p>72 (34 girls) (38 boys) Prim. Ed.: 40 Sec. Ed.: 32 11-13 years old M = 12.05 SD = 1.12</p>	<p>Primary and secondary school students, with intermediate socio-demographic profiles and no previous experience with the TPSR.</p>	<p>Personal and social responsibility variable: (PSRQ) (Escartí et al., 2011). Variable Basic Psychological Needs: Spanish version for school contexts of the Basic Psychological Needs in Exercise Scale (Moreno-Murcia et al., 2008). Motivation variable: Motivation Questionnaire for Physical Education (Sánchez-Oliva et al., 2012). Sportsmanship variable: Spanish version of the Multidimensional Sportsmanship Orientation Scale (MSOS) (Martin-Albo et al., 2006). Intention to be physically active variable: Spanish version of the Intention to be Physically Active Scale (IPAS) (Moreno-Murcia et al., 2007). Physical and verbal aggression variable: Spanish version of the Physical and Verbal Aggression Scale (Del Barrio et al., 2001). Social responsibility behaviours variable: Video recording of two sessions following the instructions of Escartí et al. (2006) and a recording sheet.</p>	<p>Teaching technique: Direct instruction</p>	<p>TPSR (Hellison, 2011)</p>

Manzano-Sánchez, Valero-Valenzuela (2019b)	Spain	7 months NR	272 (139 girls) (133 boys) Prim. Ed.: 207 Sec. Ed.: 65 9-14 years old M=11.13 SD = 1.78	Primary and secondary school students, from two public schools with a similar average socio-economic level. No previous experience with the TPSR	Personal and social responsibility variable: (PSRQ) (Escartí et al., 2011). Basic Psychological Needs variable: (PNSE) (Moreno-Murcia et al., 2008). Motivation variable: Spanish version of the Motivation Toward Education Scale (Nuñez et al., 2005). Social behaviours variable: (TISS) (Inderbitzen, Foter, 1992; Inglés et al., 2003). Perception of violence variable: (CUVE) (Álvarez et al., 2013). Classroom social climate variable: (CECSE) (Trianes et al., 2006)	Teaching technique: Direct instruction	TPSR (Hellison, 2011)
Manzano-Sánchez et al. (2019)	Spain	8 months NR	85 (45 girls) (40 boys) CG: 50 (28 girls; 22 boys) EG: 35 (17 girls; 18 boys) 14-18 years old M=16.22 SD = .41	Secondary school students with similar socio-demographic profiles with no previous experience with the TPSR	Motivation variable: Motivation in Physical Education Questionnaire (CMEF) (Sánchez-Oliva et al., 2012). Personal and social responsibility variable: (PSRQ) (Escartí et al., 2011). Basic Psychological Needs variable: (PNSE) (Moreno-Murcia et al., 2008) Intention to be physically active variable: (IPAS) (Moreno-Murcia et al., 2007). Satisfaction with life variable: Spanish version of the Satisfaction with Life Scale (Aienza et al., 2003)	NR	TPSR (Hellison, 2011)
Manzano-Sánchez, Valero-Valenzuela (2019a)	Spain	4 months NR	25 (11 girls) (14 boys) CG: 11 (2 girls; 9 boys) EG: 14 (9 girls; 5 boys) 9-11 years old M= 9.96 SD = .84	Prim. Ed. students with similar socio-demographic and socio-cultural characteristics No previous experience with the TPSR	Personal and social responsibility variable: (PSRQ) (Escartí et al., 2011). Variable Basic Psychological Needs: Subscale referring to autonomy (PNSE) (Moreno-Murcia et al., 2011). Motivation variable: (EME) (Nuñez et al., 2005). Self-concept variable: Self-Concept Questionnaire (AF5) validated for the Spanish context by García and Musitu (1999). Classroom social climate variable: Cuestionario de Evaluación del Clima Social en el Aula (Pérez et al., 2009). Educational values variable: Semi-structured interview based on Patton's slogans (2002)	NR	TPSR (Hellison, 2011)

Buišić, Dordić (2018)	Serbia	2 months 3 weekly sessions of 45 minutes each A total of 24 sessions	100 (46 girls) (54 boys) CG: 55 (23 girls; 32 boys) EG: 45 (23 girls; 22 boys) 8-10 years old NR	Prim. Ed. students from two schools in the city of Sombor (Serbia) NR	Personal and Social Responsibility Variable: (PSQR) (Li et al., 2008) Motivational orientations: Self-Regulation Questionnaire (Ryan, Connell, 1989; Goudas et al., 1994). Athletic competence, social acceptance and behavioural patterns variable: Subscales of the Self-Perception Profile for Children (SPPC) (Harter, 1985a). Peer support variable: Support Scale for Children (Harter, 1985b) Motor skills variable: Observation and completion of a rubric. Teacher's usual methodology	TPSR (Hellison, 2003)
Sánchez-Alcaraz et al. (2019) *Study no. 2	Spain	4 months 2 weekly sessions of 60 minutes each A total of 32 sessions	563 (240 girls) (323 boys) NR 12-15 years old. M= 13,73 SD = 1,83	Primary Ed. students (6th grade) and Secondary Ed. students (3rd grade) from Spanish public schools. NR	Personal and social responsibility variable: Spanish version of the Personal and Social Responsibility Questionnaire (PSQR) (Escartí et al., 2011). Sportspersonship variable: (MSOS) (Martín-Albo et al., 2006). School violence variable: (CSCSS) (Fernández-Baena et al., 2011)	TPSR (Hellison, 2011)
Prat et al. (2019)	Spain	3 months NR	44 (21 girls) (23 boys) CG: 22 EG: 22 14-15 years old M=13,95 SD =1,08	Secondary school students in the third year of a public secondary school in the province of Lleida (Spain) NR	Basic Psychological Needs variable: Spanish version for school contexts of the Basic Psychological Needs in Exercise Scale (BPNES) (Moreno-Murcia et al., 2008). Self-determined motivation variable: (CMEEF) (Sánchez-Oliva et al., 2012). Sportspersonship variable: (MSOS) (Martín-Albo et al., 2006). Intention to be physically active variable: (IPAS) (Moreno-Murcia et al., 2007). Lifestyle variable: Corto Krece Plus Test (Serro et al., 2003)	TPSR (Hellison, 1985; Hellison, 2003)

N: Sample size; M: Mean; SD: Standard deviation; Prim. Ed.: Primary Education; Sec. Ed.: Secondary Education; PE: Physical Education; CG: Control Group; EG: Experimental Group; TPSR: Teaching Personal and Social Responsibility; NR: Not reported.

Table 3. Objective, design, intervention programme and main research results

Studies	Studies' purpose	Design	Intervention programme		Main results
			Control G.	Experimental G.	
Pozo et al. (2022)	The aim of the study was twofold: (1) to research the effects of a TPSR-based programme on empathy and perceived emotional intelligence in PE; and (2) to compare the results obtained among primary school children from medium-low and medium-high socio-economic backgrounds.	Quasi-experimental, with pre-test and post-test measures (2 CG/2 GE). Quantitative analysis of intervention data	NR	The TPSR adapted to the context of the participants was implemented following the guidelines of Escartí et al. (2005) and Marín (2011). Each session followed this structure: (1) Awareness talk: Reminder about the levels of responsibility and goals proposed in the session; (2) Responsibility in action: Strategies were taught for the development of responsibility; (3) Reflection time: Teacher and students shared perceptions about the session; and (4) Self-assessment: Learners self-evaluated their responsibility development within the session. The strategies used in the programme to develop	The intervention was more effective in participants' understanding of feelings in the medium-high background group. Improvements were found in the factors of feelings of sadness, emotional intelligence, attention and repair in the lower-middle background group, compared to the upper-middle background group. The TPSR was particularly useful for improving emotional intelligence in more vulnerable socio-economic contexts.

				accountability were based on Wright and Craig (2011).	
Manzano-Sánchez et al. (2021)	To implement the TPSR to assess its impact on psychological and contextual variables in Secondary School students, comparing the differences between a EG applying it to several subjects other than PE, another EG applying it exclusively to PE, and a CG.	Quasi-experimental, with pre-test and post-test measures (1 CG/1 GE). Quantitative analysis of intervention data	NR	Each delivered session followed the format proposed by Hellison (1978), although it was modified by combining the fourth and fifth parts. At the end of each session, teacher and students shared perceptions of the session, and students self-evaluated their responsibility developed within the session. In the sessions delivered, different tasks were designed to develop the levels of responsibility, following the guidelines of Manzano-Sánchez et al.)	Improvements were found in the variables of self-determination, classroom social climate and prosocial behaviours of students belonging to the EG. These changes were more significant in the female gender
Sánchez-Alcaraz et al. (2021)	To implement a programme in PE classes based on the Teaching of Personal and Social Responsibility (TPSR), to investigate the effects on disruptive behaviour in secondary school students.	Quasi-experimental, with pre-test and post-test measures (1 CG/1 EG). Quantitative analysis of intervention data	The teacher's usual methodology was followed, structuring the session in three parts: (1) Warm-up; (2) Physical activity lesson; (3) Relaxation.	The TPSR was implemented. Each session delivered followed a five-part format, proposed by Hellison (2011): (1) Relational time: Teacher-student interaction for bonding during the sessions; (2) Awareness talks: Objectives and values to be developed in the session are presented; (3) Physical activity plan: Strategies for the development of student responsibility are carried out; (4) Group meeting: At the end of each session teacher and students shared insights about the session; and (5) Reflection/self-evaluation: Students self-evaluated their responsibility developed within the session.	A decrease in violent behaviours (physical aggression, verbal aggression and disruptive behaviours) developed in the EG after the intervention. The implementation of the TPSR was effective for improving school coexistence, decreasing violent behaviours (physical and verbal aggression) and undisciplined behaviours (classes with continuous interruptions) in adolescents.
García et al. (2020)	To analyse, in a Teaching personal and social responsibility programme (TPSR), the perceptions of students and their families in relation to responsibility, pro-social behaviour, empathy, perception of violence and levels of physical activity.	Quasi-experimental, with pre-test and post-test measures (1 CG/1 EG). Quantitative analysis of intervention data	The traditional teaching methodology was followed. The session was structured in three parts: (1) Warm-up: Joint mobility exercises; (2) Main part: Technical exercises; (3) and Relaxation: Stretching	The TPSR was implemented. Each session delivered followed the format proposed by Hellison (1978; 2003; 2011), although it was modified, by combining the fourth and fifth parts in the same session.	Positive effects were found in the variables of personal responsibility, as well as a positive trend in the perception of the levels of physical activity performed, both in the CG and the EG. However, on the other hand, increases in antisocial behaviour and perception of violence were found in both groups (CG and EG), showing contradictory results.
Merino-Barrero et al. (2020)	The objective of the study was twofold: (1) to assess the impact of a teaching programme for personal and social responsibility in PE classes; and (2) to extend the study of the TPSR, assessing its effects on responsibility, motivation, satisfaction of Basic Psychological Needs, sportspersonship and intention to be physically active outside school, in Primary and Secondary School students.	Quasi-experimental, with pre-test and post-test measures (1 CG/1 EG). Quantitative analysis of intervention data	The direct instruction teaching technique based on Rosenshine's (1983) and Metzler's (2011) instructions was implemented. The students were not allowed to make decisions and the teacher kept full control of the class.	The TPSR was conducted with five levels of responsibility (Escartí et al., 2012). Each session delivered followed the following format (Hellison, 2011): For the implementation of the programme, general and specific strategies were undertaken, as well as strategies for resolving conflicts, both individual and collective (Escartí et al., 2013).	Significant improvements developed in EG participants in terms of personal and social responsibility, self-determined motivation, satisfaction of Basic Psychological Needs (competence, autonomy and social relationships), sportspersonship and intention to be physically active outside school. The TPSR was especially useful for the improvement of self-determined motivation and the generation of positive psychosocial behaviours.
Pérez-Ordás et al. (2020)	The objective of the study was twofold: (1) to research the results of a TPSR-based programme on the variables of aggression and social responsibility; and (2) to compare the effects produced by this model in primary schoolchildren from medium-low and medium-high socio-economic backgrounds.	Quasi-experimental, with pre-test and post-test measures (2 CG/2 EG). Quantitative analysis of intervention data	The teacher's usual methodology was followed	Each session delivered followed this structure: (1) Awareness talk: Reminder about the levels of responsibility and aims proposed in the session; (2) Responsibility in action: Strategies were taught for the development of responsibility; (3) Reflection time: Teacher and students shared perceptions about the session; and (4) Self-evaluation: Students self-evaluated their responsibility developed within the session.	Significant improvements were found in the variables of physical and verbal aggression, with a greater decrease in the female gender of the EG belonging to the medium-low socioeconomic context. On the other hand, social responsibility behaviours improved in both socioeconomic contexts (lower-middle and upper-middle). TPSR was effective when it came to improving

					aggressive and prosocial behaviours in Primary Ed. students from low-performing schools.
Manzano-Sánchez, Valero-Valenzuela (2019a)	To apply the TPSR to a group of 4th year Primary Ed. students, in order to assess its effects on responsibility, autonomy, motivation, self-concept and classroom social climate, as well as to test its potential for application in other subjects, in addition to PE.	Quasi-experimental, with pre-test and post-test measures (1 CG/1 EG). Mixed Method (qualitative and quantitative analysis)	NR	The TPSR was implemented. Each delivered session followed the format proposed by Hellison (2011), although it was modified by combining the fourth and fifth parts. At the end of each session, teacher and students shared perceptions of the session, and students self-evaluated their responsibility developed within that session. For the implementation of the programme, general and specific strategies were implemented, as well as strategies for resolving conflicts, both individual and collective (Escartí et al., 2013).	Improvements were found for the EG in the variables of autonomy, social responsibility, intrinsic and introjected motivation, self-concept and classroom social climate. However, no significant changes were observed in the personal responsibility variable.
Manzano-Sánchez et al. (2019)	To analyse the implementation of the TPSR in Secondary School students, in order to assess its effects on responsibility, Basic Psychological Needs, motivation, life satisfaction and intention to be physically active, as well as to test its differences based on gender.	Quasi-experimental, with pre-test and post-test measures (1 CG/1 EG). Quantitative analysis of intervention data	NR	The TPSR was conducted following Hellison's (2011) guidelines. For the implementation of the programme, general and specific strategies were carried out, as well as strategies for resolving conflicts, both individual and collective (Escartí et al., 2013).	Improvements were found in all variables, being more significant in the female gender, where higher levels of personal and social responsibility, development of Basic Psychological Needs (BPN) and intrinsic motivation in PE classes were observed.
Manzano-Sánchez, Valero-Valenzuela (2019b)	Implement a programme based on the TPSR in Primary and Secondary Education, to analyse the effects on responsibility, satisfaction of the BPN, motivation, prosocial behaviour, violence and classroom climate, and to compare its application with other subjects.	Quasi-experimental, with pre-test and post-test measures (1 CG/1 EG). Quantitative analysis of intervention data	The teaching technique of direct instruction was applied, where everything was organised and decided by the teacher, making the teacher the centre of the learning process, keeping full control over the class at all times.	The TPSR was used. Each session delivered followed the format proposed by Hellison (2011), although it was modified by combining the fourth and fifth parts. After each session the teacher and students shared perceptions of the session, and the students self-assessed their responsibility developed within that session.	Improvements were found for the EG in the variables of personal and social responsibility, self-determined motivation and satisfaction of the BPNs. In addition, there was a positive trend towards prosocial behaviours, classroom climate, as well as a decrease in antisocial behaviours.
Prat et al. (2019)	To analyse an implementation of the TPSR in the field of PE in order to show the impact it has on classroom dynamics, physical activity levels and lifestyle in secondary school students.	Quasi-experimental, with pre-test and post-test measures (1 CG/1 EG). Quantitative analysis of intervention data	The teaching technique of direct instruction (homework assignment) was used. Everything was organised and controlled by the teacher, leaving little participation to the students in the development of the session.	The TPSR was implemented. Each session followed the format proposed by Hellison (2003). For the implementation of the programme, strategies were carried out for the development of affective relationships and social competences, the opportunity to make decisions and the possibility of transferring these attitudes to the everyday context (Tarín-Moreno et al., 2013).	Significant improvements were observed in terms of participation in the PE classes of the students belonging to the EG, leading to a development of their BPN, levels of sportspersonship in free time, intention to be physically active, motivation towards PE, as well as an increase in their levels of active lifestyle.
Sánchez-Alcaraz et al. (2019) *Study no. 2	To apply the TPSR in PE classes, to students in primary and secondary education, in order to determine the changes produced in terms of the acquisition of personal and social responsibility, levels of sportspersonship and school violence.	Quasi-experimental, (Montero and León, 2007), with pre-test and post-test measures (2 CG in Prim. Ed./2 EG in Second. Ed.) Quantitative analysis of intervention data	The teacher's usual methodology was followed. The sessions followed the classic format: (1) Warm-up; (2) Main part; and (3) Cool down.	The TPSR was conducted with five levels of responsibility (Hellison, 2011), being level 5 (transfer to other social contexts) involved from the beginning throughout the programme. General and specific strategies (Hellison, 2011), as well as strategies aimed at resolving conflicts, both individual and collective, were carried out for the implementation of the programme.	Improvements were found for the EG in the variables of personal and social responsibility, commitment to sports participation, concern and respect, both for the established rules and for their teammates and opponents in the game, predicting positively sportspersonship and negatively violent behaviour in the students.
Buišić, Dordić (2018)	To analyse the effectiveness of the TPSR in the context of PE, specifically in the Primary Education stage, in order to verify its influence on students' personal and social responsibility, motivational	Quasi-experimental, with pre-test and post-test measures (1 CG/1 EG). Quantitative	The teacher's usual methodology was followed. The sessions did not encourage	The TPSR was implemented. The programme followed the format proposed by Hellison (2003), although it was modified by maintaining four of its five levels of responsibility: (1) Self-monitoring; (2) Effort; (3) Self-regulation; and	Significant improvements in the EG were found in line with the variables of effort and progress, control of one's own behaviour, mutual respect and setting individual achievement

orientations, self-assessment of sport competences, social competence and behavioural control, peer support, as well as on the acquisition of motor skills.	analysis of intervention data	students to behave responsibly, nor did they implement strategies to develop personal and social responsibility in students.	(4) Support. Each session was structured as follows: (1) Beginning with an introductory assembly, setting the objectives for the session; and (2) Closing the session with a group meeting/self-evaluation, where perceptions of the session were shared, and students self-evaluated their responsibility developed within the session. To implement the programme, specific teaching strategies were used (Hellison and Walsh, 2002).	goals, producing most outstanding improvements in motor learning mastery, responsibility and self-determined motivation.
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Prim. Ed.: Primary Education; Sec. Ed.: Secondary Education; PE: Physical Education; CG: Control Group; EG: Experimental Group; TPSR: Teaching Personal and Social Responsibility; BPN: Basic Psychological Needs; NR: Not reported.

4. Discussion

The objectives of this study were: 1) To conduct a systematic review to analyse the effects on students of interventions using Hellison's Personal and Social Responsibility Model in Physical Education; and 2) To describe and analyse, in turn, these interventions.

In terms of the context of application of the investigations, all the studies were conducted within the subject of Physical Education, at the Primary and Secondary Education stages. The studies in Primary Education (6-12 years old) amounted to a total of 4/12 studies (Buišić, Dordić, 2018; Manzano-Sánchez, Valero-Valenzuela, 2019a; Pérez-Ordás et al., 2020; Pozo et al., 2022), as did those carried out in Secondary schools (12-16 years old) (Manzano-Sánchez et al., 2019; Prat et al., 2019; Manzano-Sánchez et al., 2021; Sánchez-Alcaraz et al., 2021). The same number of studies (4/12) were performed in both educational stages (Manzano-Sánchez, Valero-Valenzuela, 2019b; Sánchez-Alcaraz et al., 2019; García-García et al., 2020; Merino-Barrero et al., 2020; García-García et al., 2021; Prat et al., 2021; Prat et al., 2021).

Regarding the instruments used in the different research studies, for those which conducted a quantitative analysis of the data, the use of questionnaires and scales based on values of responsibility and behavioural patterns was most common (11/12), with the Spanish version of the Personal and Social Responsibility Questionnaire (PSRQ) (Escartí et al., 2011) being the most widely used instrument to measure these variables, adapted to the educational sphere. It should also be noted that other instruments were used to measure different variables. Some of them were: (1) Satisfaction of the BPN, being the Spanish version of the Psychological Need Satisfaction in Exercise (PNSE) scale, validated in the educational context by Moreno-Murcia et al. (2011), the most widely used for this purpose; (2) Sportspersonship, using the Spanish version of the Multidimensional Sportspersonship Orientation Scale (MSOS) (Martín-Albo et al., 2006); (3) Intention to be physically active, through the Spanish version of the Intention to be Physically Active Scale (IPAS) (Moreno-Murcia et al., 2007); and (4) Quality of life, through the Spanish version of the Satisfaction with Life Scale (Atienza et al., 2003).

According to the intervention protocol followed in the different control groups, a total of 4/12 studies used traditional teaching, based on the direct instruction teaching technique (Prat et al., 2019; García-García et al., 2020; Manzano-Sánchez, Valero-Valenzuela, 2019b; Merino-Barrero et al., 2020). In addition to using direct instruction, in other research studies (4/12) the teacher's usual methodology was applied (Buišić, Dordić, 2018; Pérez-Ordás et al., 2020; Sánchez-Alcaraz et al., 2019; Sánchez-Alcaraz et al., 2021). On the other hand, 4/12 studies did not report information on the intervention programme followed by the control group of their research (Manzano-Sánchez, Valero-Valenzuela, 2019a; Manzano-Sánchez et al., 2019; Manzano-Sánchez et al., 2021; Pozo et al., 2022). Regarding the methodology used in the experimental groups, all the studies used a teaching based on the TPSR, however, some research (3/12) implemented this model following the original structure of the session proposed by Hellison (2011) divided into parts, while in other interventions (9/12) parts (4) and (5) were combined (Buišić, Dordić, 2018; Manzano-Sánchez, Valero-Valenzuela, 2019a; Manzano-Sánchez, Valero-Valenzuela, 2019b; Prat et al., 2019; Sánchez-Alcaraz et al., 2019; García-García et al., 2020; Pérez-Ordás et al., 2020; Manzano-Sánchez et al., 2021; Pozo et al., 2022; Manzano-Sánchez et al., 2022).

Taking into account the results obtained in the different investigations, it was found that the implementation of the TPSR produced improvements in four main aspects: (1) Behaviour; (2) Emotions; (3) Psychological variables; and (4) Development of values.

Firstly, with regard to behavioural patterns, the studies carried out by Pérez-Ordás et al. (2020) and Manzano-Sánchez et al. (2021), who obtained positive changes corresponding to behavioural patterns, which were more significant in the female gender, stand out. In contrast to these data, the intervention by Sánchez-Alcaraz et al. (2013) achieved higher levels of personal and social responsibility in students in the experimental group, although these were significant in the male gender in both educational stages. Similar results were drawn from the studies by Jung and Wright (2012) in adolescent students at risk of exclusion, although no differences by gender were established, positive improvements were found in terms of the development of personal and social responsibility behaviours, thus decreasing different undisciplined behaviours. On the other hand, in the research carried out by Sánchez-Alcaraz et al. (2021), in addition to obtaining a decrease in aggressive and disruptive behaviours after teaching the sessions based on the TPSR, respect and empathy were fostered, thus improving the school coexistence of the students participating in school. In line with these results were the findings of the research carried out by Gordon (2010), Buckle and Walsh (2013), and Manzano-Sánchez et al. (2020). Nevertheless, the study conducted by García-García et al. (2020), offered contradictory results as an increase in antisocial and violent behaviours was perceived in both the control group and the experimental group.

Secondly, concerning the findings on emotional variables, Pozo et al. (2022) compared two schools from different socio-economic backgrounds (lower-middle and upper-middle). The results indicated positive improvements related to the understanding of feelings, being more significant in the experimental groups belonging to the medium-high context. Nonetheless, they found significant improvements in emotional intelligence variables in the experimental groups belonging to the most vulnerable contexts. These results are in line with those reported by Balderson and Sharpe (2005), who found a development in the levels of social values, positive emotional and social behaviour in students, and improvements in conflict resolution during the lessons taught.

Thirdly, regarding the results related to psychological variables, Prat et al. (2019) and Merino-Barrero et al. (2020) found significant improvements in students in the experimental group in terms of levels of personal and social responsibility, self-determined motivation and the satisfaction of BPN, as well as the intention to be physically active outside the school context, which is consistent with the findings of Hayden et al. (2012). Nevertheless, Manzano-Sánchez and Valero-Valenzuela (2019a) found positive changes in all of the variables named above, except for levels of personal responsibility. Furthermore, in the research conducted by Manzano-Sánchez and Valero-Valenzuela (2019b), there was an increase in integration, empathy and classroom social climate in the students belonging to the experimental group, with these results standing out more positively in the female gender (Manzano-Sánchez et al., 2019). In contrast, Martínez and Gómez-Mármol (2017) obtained more favourable results for the male gender, although no significant differences were detected in terms of the variables of social responsibility, fun and participation. Buišić and Dordić (2018) meanwhile found significant improvements in the experimental group, related to the variables of effort and progress, behavioural self-control, mutual respect and the establishment of achievement goals, with the most important improvements developing in the variables of motor learning mastery, responsibility and self-determined motivation. These data are consistent with those found by Balderson and Martín (2011).

Finally, regarding the results obtained in the variables corresponding to values education, Sánchez-Alcaraz et al. (2019) reported positive changes in the development of educational values, such as commitment, concern and respect, both for the established rules and for their classmates, positively predicting sportspersonship and negatively predicting violent behaviour in the students belonging to the experimental group. These data are in line with those obtained in other studies such as those of Cecchini et al. (2007).

In general, it was observed that there were no significant differences in the variables studied in relation to the educational stage. However, the results seem to be more favourable and to be developed to a greater extent in Primary School students, which is consistent with the findings of Sánchez-Alcaraz et al. (2014).

The results obtained in this systematic review should be treated cautiously, due to the existence of some limitations which should be taken into account. Firstly, although most of the studies reported positive improvements in students, there was a certain lack of unanimity, as some

of them presented contradictory data (Manzano-Sánchez, Valero-Valenzuela, 2019a; García-García et al., 2020). One reason for this might be the inclusion of few longitudinal studies in which long-term implementation is carried out (Hellison, Walsh, 2002). On the other hand, most of the research studies included in this review were conducted in Spain, and the studies assessed a wide variety of variables, with disparate objectives and results, making it difficult to compare the findings drawn from them. Future lines of research could focus on the implementation of the TPSR and analyse its transfer to other contexts such as Early Childhood Education. The analysis of the implementation process of TPSR-based programmes could also be addressed. Additionally, future studies could examine the effectiveness of the Model after a period of time, in order to analyse the maintenance of the effects in the medium/long term.

5. Conclusion

In order to answer the questions raised at the beginning of the manuscript, one should underline that the studies implementing the TPSR analyse variables such as personal and social responsibility, satisfaction with the BPN, followed by those variables measuring levels of sportspersonship and intention to be physically active. Emotional intelligence, lifestyle, resilience and classroom social climate are also studied, but to a lesser extent. On the other hand, the results of the interventions reveal that Hellison's TPSR produces, both in Primary and Secondary students, positive changes in terms of behavioural and psychological variables, understanding of one's own and others' feelings, as well as a high development of educational values in the person, such as empathy, effort or cooperation, in addition to other aspects related to self-control, self-esteem, autonomy and leadership goals. Likewise, this model can become a reference for the promotion and encouragement of fair play or sportspersonship, as improvements are obtained in terms of respect, both for the rules of the game and for their own teammates and opponents. Moreover, these improvements are developed in a more significant way in students belonging to the Primary Education stage.

These findings, although cautiously, in view of the need for further research, may be useful for both teachers and coaches when creating school environments where the development of responsibility and respect, as well as positive behaviours and values in students is a priority.

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