

## Achieving greater sportsmanship and decreasing school violence through responsibility and sport practice

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### Abstract

This study aims to determine the prediction levels of personal and social responsibility in sportsmanship and violence, and the levels of violence, sportsmanship and responsibility in schools after the application of the Personal and Social Responsibility Model in physical education classes. Two studies have been conducted. The first, made up of a sample of 737 adolescent students aged between 12 and 15 ( $M = 14.03$ ;  $SD = 2.14$ ), which measured personal and social responsibility, sportsmanship and school violence. In Study two, the same dimensions were measured in 573 adolescent students aged between 12 and 15 ( $M = 13.73$ ;  $SD = 1.83$ ), in two phases (pre and post-test). The structural equation analysis revealed that personal and social responsibility perception predicts sportsmanship positively and violent attitudes negatively. The application of the Responsibility Model in this study produced improvements in personal responsibility, social responsibility, commitment toward sport participation, social conventions in sport.

**Keywords:** physical education, school violence, education in values, intervention programs, adolescent.

Physical and sporting activities are ways to develop values such as: respect, self-control, effort, autonomy and leadership (Courel, Sánchez-Alcaraz, Gómez-Mármol, Valero-Valenzuela and Moreno Murcia, 2019). Intervention programmes based on physical activity are often oriented toward values transmission as well as autonomy promotion and decision making capability (Martinek, Shilling and Johnson, 2001). In this sense, motivation can be a key point in success when transmitting values through physical and sporting activities since it is a psychological mechanism which contributes directly to human commitment (Iso-Ahola and St. Calir, 2000), because it sets the direction, intensity and persistence of conduct. Motivation establishes the goals that people choose to follow through their effort and persistence in time, becoming the axis of behavior that modulates the beginning and engagement of physical activity as well as the decrease in sport dropout (Belando, Ferriz-Morell and Moreno-Murcia, 2012).

The coexistence problems such as social relationship among peers and the students socialising with the teachers, next to school violence have now become a subject of debate within several countries of the European Union (Cangas, Gázquez, Pérez-Fuentes, Padilla and Miras, 2007). A recent research conducted which included 288 students aged between 11 and 15 years old reported that 85.4% of them admitted to having participated in violent episodes within the previous two years, as abuser, observer or vic-

tim (Paz, Teixeira, Pratesi and Gandolfi, 2015). Hopefully, youth behaviour can often be predictable and therefore preventable. So, the last decade has witnessed steady growth in school-based programmes focusing on reducing the factors that give rise to youth violence and delinquency (Barnes, et al., 2014; Kuhn, Ebert, Gracey, Chapman and Epstein, 2015; Torregó, 2001; Wilson and Lipsey, 2007).

Physical education classes can be an ideal way to tackle these problems, in that they enable students to have open interpersonal relations with their peers and with teachers (Wright and Li, 2009). Hellison's Teaching Personal and Social Responsibility Model (TPSR) is one of the programmes which is most used and has obtained the best results in developing personal and social responsibility and sports behaviours, such as effort, respect, team work, and sportsmanship (Belando et al., 2012; Cecchini, Montero and Peña, 2003; Hellison, 2011). The nucleus of the TPSR Model is that the students, in order to be successful individuals in their social environment, have to learn to be responsible developing positive values such as cooperation, problem solving, conflict management, and reciprocal relationships with peers and teachers (Goudas and Giannoudis, 2010; Pascual, et al., 2011).

The TPSR Model has been implemented in different grades in primary and secondary education, and in different contexts, during physical education classes as part of the academic curriculum and in out-of-school sport and

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extended day programmes (Hellison and Martinek, 2006). There are studies that have pointed out how the application of the TPSR has developed aspects related to personal and social responsibility such as effort (Li, Wright, Rukavina and Pickering, 2008), respect, self-control, self-concept (Escartí, Gutiérrez, Pascual and Marín, 2010), sensation of well-being (Sánchez-Alcaraz, Gómez-Mármol, Valero, De la Cruz and Esteban, 2012), emotional stability, and autonomy (Martinek and Hellison, 1997), as well as an improvement in sportsmanship and fair play (Cecchini et al., 2003; Cecchini, Montero, Alonso, Izquierdo and Contreras, 2007) and a decrease in aggressiveness and violence (Cecchini et al., 2009; Sánchez-Alcaraz, Gómez-Mármol, Valero, De la Cruz, and Díaz, 2014). These three variables (i.e., sportsmanship, violence and personal and social responsibility) have been related to studies in physical education classes and in school sports, showing how encouraging sportsmanship or personal and social responsibility can prevent violent behaviour (Gimeno, Sáenz, Vicente and Aznar, 2007). According to Al-Yaaribi and Kavussanu (2018) and Kavussanu and Boardley (2009), sportsmanship is positively related to pro-social behavior involving colleagues, and negatively to antisocial behaviour. In this way, Gómez-Mármol, De la Cruz and Valero (2014) applied the TPSR Model on 570 students over three months and observed an increase in sportsmanship levels assessed using questionnaires; and Sánchez-Alcaraz et al. (2014) implementing the TPSR Model there was a decreased level of observed and suffered violence on 404 students during physical education lessons.

Given this need to decrease students' aggressive behaviour in schools and to improve school coexistence (Barnes et al., 2012), the first study was aimed at finding out the correlation among personal and social responsibility, sportsmanship and school violence and the second study aimed to find out the effects of applying the TPSR Model to these variables. Likewise, in line with the studies reviewed above, it is expected that responsibility will predict school violence negatively and will predict sportsmanship positively and that the application the TPSR will improve the levels of these variables in pupils.

## Study 1. Methodology and methods

### Ethical Clearance Number

Ethical approval for the study was granted by the Ethical Committee of the University of Murcia with the number R-593/2009.

### Participants

The sample was made up of 737 adolescent students (416 boys and 321 girls) aged between 12 and 15 ( $M = 14.04$ ;  $SD = 2.15$ ), from 16 public schools with students of different social backgrounds in a southern region of Spain, Murcia.

### Measures

- **Personal and Social Responsibility.** To measure participants' personal and social responsibilities, the Spanish translation (Escartí, Gutiérrez and Pascual, 2011) of the Personal and Social Responsibility Questionnaire was used. The questionnaire was made up of 14 items, divided between two factors - 7 items each: personal responsibility and social responsibility. The participants had to respond on a 6 point Likert scale, from (1) totally disagree to (6) totally agree. The internal consistency obtained was .67 for personal responsibility and .82 for social responsibility.
- **Sportsmanship.** To measure the level of sportsmanship, the Spanish version (Martín-Albo, Núñez, Navarro and González, 2006) of the Multidimensional Sportsmanship Orientation Scale was used. This scale was made up of 25 items structured into five subscales that evaluating the following dimensions: concern and respect for one's full commitment toward sport participation, social conventions in sport, concern and respect for rules and officials, concern and respect for one's opponent and negative approach toward sport participation. The responses are given on a five point Likert scale, from (1) totally disagree, to (5) totally agree. The internal consistency obtained for the various scales was between .61 and .78. Given that few items for some scales were above .70, which could be explained by the age of participants (younger than Martín-Albo, et al., 2006, whose had a mean age of 21 years old), the internal consistency obtained was considered acceptable (Hair, Anderson, Tatham, and Black, 1998).
- **School violence.** The Spanish adaptation (Fernández-Baena et al., 2011) of California School Climate and Safety Survey (CSCSS) was administered. This instrument was made up of 14 items divided into two scales: violence experienced (e.g. "I've been punched and kicked") and violence observed (e.g. "students get into fights"). Answers are scored on a five option Likert scale, which goes from 1 (never) to 5 (always). The internal consistency obtained was the following: violence experienced ( $\alpha = .84$ ) and observed ( $\alpha = .84$ ).

### Procedure

The study design was quantitative empirical research, in other words, a descriptive study of populations by means of surveys with transversal probability sampling (Montero and León, 2007). The access to participants was achieved through the voluntary participation of 16 schools in a research project about education in values through physical education classes, carried out in a southern region of Spain with over 1.474.000 inhabitants. After receiving the families' and schools' consent, students completed the personal and social responsibility, sportsmanship and school violence questionnaires collectively, voluntarily and anonymously during school hours. At least one researcher was present in the classroom during the sur-

vey delivery, and none of the students reported any problems at the time of answering the instruments.

### Data analysis

Firstly, the descriptive statistics (i.e., means and standard deviations) of all the target variables were calculated. Internal consistency for each factor was analysed using Cronbach's Alpha and bivariate correlations. Likewise, a structural equations model was carried out to analyse the hypothesised relations between the study variables. A two-step approximation proposed by Anderson and Gerbing (1988) was followed. First, a measurement model was calculated which would give construct validity to the dimensions, and secondly, a structural equation model was made which analyzed the predictive relations between personal and social responsibility, sportsmanship and violence. Data analysis was conducted using SPSS 21.0 and AMOS 21.0. software.

## Study 1. Results

### Descriptive analysis and bivariate correlations

Social responsibility correlated negatively with negative approach toward sport participation, violence experi-

enced and violence observed. Personal responsibility correlated negatively with social conventions in sport. Concern and respect for one's commitment toward sport participation and social conventions in sport correlated positively with each other and with concern and respect for rules and officials and concern and respect for one's opponent. Furthermore, concern and respect for one's commitment toward sport participation correlated negatively with negative approach toward sport participation and social conventions correlated negatively with personal responsibility. Concern and respect for rules and officials and concern and respect for one's opponent correlated positively with each other and with concern and respect for one's commitment toward sport participation and social conventions in sport. Negative approach toward sport participation, violence experienced and violence observed correlated positively with each other and negatively with social responsibility. Likewise, negative approach correlated negatively with concern and respect for one's commitment toward sport participation (Table 1). In this sense, following Thomas and Nelson (2007), these correlations should be considered with regard to their strength (Under .30: low; .31-.60: moderate; over .61: strong).

**Table 1**

*Descriptive statistics and Correlations of All the Variables*

Variables	M	SD	$\alpha$	R	1	2	3	4	5	6	7	8	9
Social responsibility	5.21	.79	.82	.740	-	.62**	-.03	-.07	-.02	.04	-.09*	-.13**	-.15**
Personal responsibility	5.00	.82	.67	.408	-	-	-.06	-.08*	-.01	.05	-.06	-.04	-.06
Concern and respect for one's full commitment toward sport participation	4.40	.62	.51	.203	-	-	-	.16**	.10**	.04	-.04	-.05	-.06
Social conventions in sport	4.35	.83	.78	.337	-	-	-	-	.16**	.10**	.04	-.04	.01
Concern and respect for rules and officials	4.35	.71	.67	.312	-	-	-	-	-	.13**	-.02	-.02	-.01
Concern and respect for one's opponent	3.43	1.00	.62	.317	-	-	-	-	-	-	-.06	-.02	.04
Negative approach toward sport participation	3.63	.99	.58	.250	-	-	-	-	-	-	-	.14**	.09*
Violence experienced	1.56	.65	.84	.385	-	-	-	-	-	-	-	-	.47**
Violence observed	2.28	.93	.84	.321	-	-	-	-	-	-	-	-	-

Note: \*  $p < .05$ ; \*\*  $p < .001$ ; M = Mean; SD = Standard deviation;  $\alpha$  = Cronbach's Alpha; R = Range.

### Structural equation analysis

First, a measurement model was made, which gave constructive validity to the dimensions and corresponded to a confirmatory factor analysis (CFA) based on the nine measures observed and the three latent constructs that correlated freely (Anderson and Gerbing, 1988). The model was reduced to maintain some degrees of reasonable freedom (Cecchini et al., 2007; Ntoumanis, 2001), in which case, the items that made up the different scales were divided homogeneously into two groups (Marsh, Richards, Johnson, Roche, and Tremayne, 1994). In this way, responsibility was supported by social responsibility and personal responsibility. Sportsmanship was made up of five observed

measures: concern and respect for one's full commitment toward sport participation, social conventions in sport, concern and respect for rules and officials, concern and respect for one's opponent and negative approach toward sport participation. Violence was substantiated by violence experienced and violence observed. The maximum likelihood estimation method was used together with the bootstrapping procedure, since the Mardia coefficient result was 40.30, which indicated a lack of multivariate normality of data. The indices obtained were adequate:  $\chi^2$  (30, N = 732) = 85.55,  $p = .00$ ;  $\chi^2/d.f. = 3.56$ ; CFI = .95; NFI = .97; TLI = .92; RMSEA = .06; RMSR = .04.

The second step consisted of testing the structural model and the measurement model simultaneously, which

made it possible to focus on the conceptual interactions between the latent factors: personal responsibility and social responsibility, sportsmanship and violence. The results for this model showed appropriate fit indices:  $\chi^2(29, N = 732) = 88.83, p = .00; \chi^2/d.f. = 3.55; CFI = .95; NFI = .93; TLI =$

$.92; RMSEA = .06; RMSR = .05$ . The results from the structural equation model established that personal and social responsibility predicted sportsmanship positively and violence negatively. Explained variances of 50% for sportsmanship and 41% for violence were obtained (Figure 1).

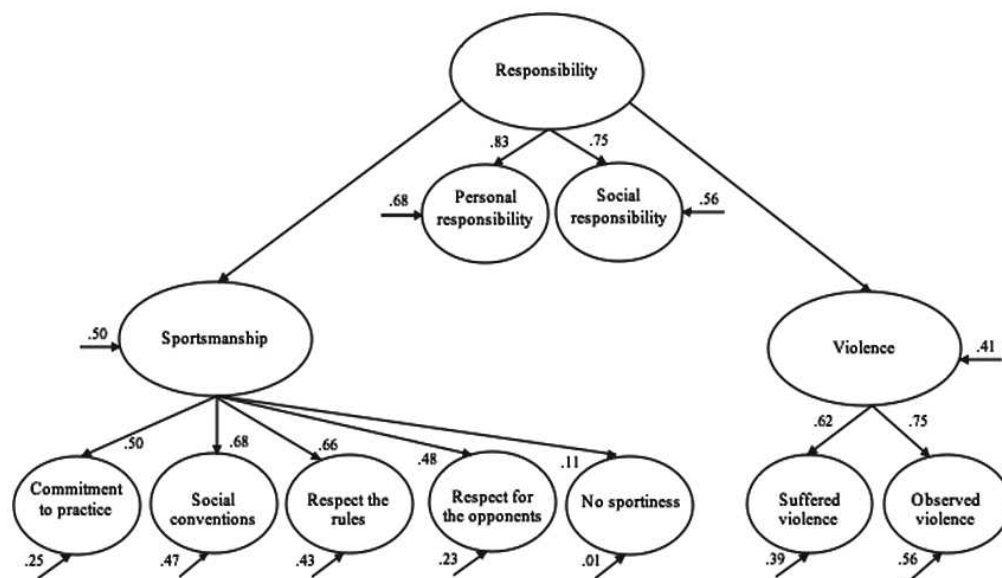


Figure 1. Structural equation model (SEM) which shows the relations between social responsibility and personal responsibility, sportsmanship and violence. All regression weightings are standardized and statistically significant ( $p < .05$ )

## Study 2. Methodology and methods

### Participants

The sample was made up of 563 teenage students (323 boys and 240 girls) aged between 12 and 15 ( $M = 13.73; SD = 1.83$ ) from 16 Spanish schools. The implementation of the TPSR Model was carried out by 16 teachers (11 men and 5 women), aged between 31 and 55 ( $M = 42.37; SD = 8.13$ ).

### Measures

- Fidelity in implementing the TPSR Model.** To verify the correct application of the TPSR by the teachers, an adaptation of the Spanish version (Escartí, Gutiérrez, Pascual and Wright, 2013) of the Tool for Assessing Responsibility-based Education (TARE) was used. It is a self-report reflection instrument to be filled out by teachers once every four sessions of physical education. This questionnaire consisted of 13 items related to the structure of the TPSR session, the levels of responsibility and the teaching strategies which favor the students' learning with regards to personal and social responsibility (e.g. "Leadership: The teacher allowed students to be in charge of a group of classmates"). The tool was introduced by the sentence "To what extent have you fulfilled each one of the following statements in the last four sessions of physical education?"

Answers were scored on a five option Likert scale, which goes from 1 (never) to 5 (always).

- Personal and social Responsibility.** The same questionnaire from Study 1 was used; the internal consistency values of each factor before and after the implementation were calculated. All the reliability coefficients showed values above .70.
- Sportsmanship.** The same questionnaire from Study 1 was used. The internal consistency values of each factor were calculated. Most of the reliability coefficients showed values above .70, before and after the implementation except for one's full commitment toward sport participation, for the concern and respect for rules and officials dimension, for concern and respect for one's opponent and for negative approach toward sport participation with some values between .70 and .60. Following Thomas and Nelson (2007), .70 or above is considered an acceptable value for internal consistence, although in those scales composed by few items, .06 values or above are also acceptable (Hair et al., 1998).
- School violence.** The questionnaire applied in the study was the same as the one used in Study 1. The

internal consistency values of each factor before and after the implementation were calculated. All the reliability coefficients showed values above .80.

### Procedure

Following the classification by Montero and León (2007), a quasi-experimental study was conducted using quantitative empirical research methods, with a pre-test and post-test applied to two groups.

- **Selection of participants.** The selection of schools was made according to the territorial division provided by the CPR ("Centros de Profesores y Recursos" - Teacher and Resource Centres) of the Community to be analysed, in such a way that each of the CPRs counted on the participation of two centres belonging to its area – a primary school and a secondary school. In each of the Centres two groups (around 20 students per group), were selected at random, both from the same school year (6<sup>th</sup> in Primary and 3<sup>rd</sup> in Secondary), in which case the selected Centres had to give two stages of education (Primary and Secondary).
- **Teacher training.** Once the Centres and the control and experimental groups were selected, the 16 teachers responsible for the application of Hellison's Personal and Social Responsibility Program were given 30 hours training, distributed across five sessions. The course was taught by experts in the TPSR Model. The content of the training program was as follows: the five levels of TPSR, the structure of the PE session, pedagogical tools necessary to adapt the contents of the PE sessions to the TPSR, conflict resolution strategies and activities to enhance the values of each TPSR level. Once the training course was completed, a test was performed to ensure that the contents had been properly assimilated. This test was made up of 40 multiple choice questions about the contents of the training program. A result of 80% correct answers was necessary to participate in the study. Only two teachers failed the exam, so they had to pass it in the second call.
- **TPSR Implementation.** Once the students completed the pretest, the 16 teachers of the experimental groups applied the TPSR Model over a period of four months (two physical education sessions per week of sixty minutes). The daily format of the session was structured in four parts: awareness talk, responsibility, group meetings and evaluation and self-evaluation (Hellison, 2011). The teachers' performances were based on implementing the PE session according to the TPSR standards, prioritising one of the levels of responsibility and involving the highest amount of categories representing the teaching strategies to be developed by the teacher, along with the guidelines on conflict resolution which were provided during the training session. Three general strategies on conflict resolution

were provided: self-reflection (Hellison and Templin, 1991), reflection-in-action (Schon, 1987), including a solution bank (Orlick, 1980) and fattening your bag of tricks (Hellison, 2011).

During the implementation, four ongoing support sessions were held in order to find out about the difficulties encountered by the teachers, revise the contents of the PE lessons to adjust them to the TPSR values and levels, and provide different feedback and strategies to continue its implementation. Meanwhile the teachers of the control groups followed their usual methodology with the session structured into warm-up, the physical activity lesson and cool down. The teachers' behavior during PE classes was analysed by the completion of a self-assessment questionnaire. Although fidelity was defined in terms of the adherence to essential aspects of the model, there was room for flexibility in its implementation so as to fit situational needs. In this sense, each teacher adapted his/her teaching units to TPSR while still respecting their sport contents (e.g., football, basketball, handball, volleyball, traditional games, among others). Once the implementation phase was finalised, a post-test, consisting of the delivery of personal and social responsibility, school violence and sportsmanship questionnaires, was carried out.

### Data analysis

In order to calculate the results of the TPSR implementation and to ensure that the independent variables like sex and students' school year had the least influence possible on the research results, we carried out average weighting by means of binary logistic regression. Subsequently, we eliminated extreme values by calculating a new variable through a focused weighting test and we performed non-parametric tests, specifically "Wilcoxon", in order to observe the treatment's influence on each of the groups (control and experimental group) and on each of the variables. Data analysis was conducted using SPSS Statistical software (SPSS 21.0 and AMOS 21.0).

## Study 2 - Results

### Preliminary analysis

We conducted a multivariate analysis of variance (MANOVA) per group (control and experimental) considering the dependent variables of personal and social responsibility, sportsmanship and school violence. No differences in group-sex interaction were observed (Wilks'  $\Lambda = .99$ ,  $F(11,128) = 1.20$ ,  $p > .05$ ). However, having checked the inter-subject tests, we found differences in violence observed in favour of boys in the experimental group ( $F(1, 8.077) = 9.16$ ,  $p < .01$ ).

### Effects of the TPSR application

The results showed improvements in the experimental groups in personal responsibility ( $p = .013$ ), social responsibility ( $p = .005$ ), commitment to doing sport ( $p = .001$ ), social conventions ( $p = .034$ ), respect for rules ( $p = .030$ )

and respect towards opponents ( $p = .015$ ). Violence experienced and observed decreased, but not significantly. We did not observe improvements in any of the variables in the control group (Table 2).

**Table 2**

*Effects of the Application of the Personal Responsibility model in Sportsmanship, Daily School Violence and Personal and Social Responsibility*

Variables	Group	Control		Experimental	
		M	SD	M	SD
Personal responsibility	Pretest	5.04	.72	5.12 *	.83
	Post-test	5.10	.83	5.30	.81
Social responsibility	Pretest	5.19	.78	5.02 **	.66
	Post-test	5.26	.82	5.36	.41
Violence observed	Pretest	2.07	.85	2.38	.93
	Post-test	2.12	.99	2.29	.98
Violence experienced	Pretest	1.54	.62	1.64	.70
	Post-test	1.50	.64	1.56	.73
Sportsmanship-commitment toward sport participation	Pretest	4.40	.59	4.43 *	.64
	Post-test	4.55	.57	4.59	.57
Sportsmanship-social conventions in sport	Pretest	4.41	.78	4.33 *	.80
	Post-test	4.54	.72	4.51	.70
Sportsmanship-concern and respect rules and officials	Pretest	4.39	.70	4.37 *	.63
	Post-test	4.45	.66	4.47	.61
Sportsmanship-concern and respect for one's opponent	Pretest	3.48	.96	3.43 *	.97
	Post-test	3.57	.95	3.62	.99
Sportsmanship-negative approach toward sport participation	Pretest	3.72	1.03	3.63	.96
	Post-test	3.72	1.07	3.68	1.10

Note: \*  $p < .05$ ; \*\*  $p < .001$ ; M = Mean; SD = Standard dev

## General discussion

The goal of this research project was to determine the prediction level of personal and social responsibility in sportsmanship and violence, and the levels of violence, sportsmanship and responsibility in schools after the application of the TPSR Model. Results showed that personal and social responsibility predicted sportsmanship positively and violence negatively. This joint result of the structural model for predicting responsibility is in line with previous research (e.g., Cecchini et al., 2003; De la Fuente, Peralta and Sánchez, 2009; Gutiérrez, Escartí and Pascual, 2011; and Mestre, Samper and Frías, 2002). Therefore, this study not only gives a global explanation of individual relations between variables (which in other investigations have been used independently to predict responsibility in students) but, according to the structural model proposed, it also provides a new type of analysis extending previous research that supports theory development.

The descriptive results have shown some gradually higher values for social responsibility in contrast to personal responsibility, coinciding with the study by Sánchez-Alcaraz, Gómez-Mármol, Valero and De la Cruz (2013). Likewise, the sportsmanship values students presented are

middle-high; the dimensions with the best scores being concern and respect for one's commitment toward sport participation, social conventions in sport and concern respect for rules and officials, which are similar results to those in the study by Gómez-Mármol et al. (2011) in a sample of young sports people.

Results referring to the effect of the TPSR application in physical education classes showed improvements for the experimental groups in the sportsmanship and personal and social responsibility variables, in line with other studies that have used TPSR in physical education classes (Escartí et al., 2011; Sánchez-Alcaraz et al., 2013; Wright and Burton, 2008; Wright, Li, Ding and Pickering, 2010) or school sports (Cecchini et al., 2009; Hellison and Wright, 2003), which highlights the importance of the TPSR as a programme for improving values and a cordial and positive school coexistence in terms of social relationship among peers and with socializing agents as teachers.

From a developmental psychology perspective, these results show how the implementation of the TPSR Model has led to an improvement of responsibility, which makes up for the lack of social skills. This improvement is associated, on one hand, to an increase of sportsmanship levels that

leads to a sport practice based on pro-social values and, on the other hand, to a decrease in violence that results in a more peaceful coexistence (Gutiérrez et al., 2011). In this sense, and from an applied point of view, knowledge of the psychological variables which predict personal and social responsibility is a preliminary step for designing intervention programmes to improve coexistence in schools and the positive development of adolescents (Gutiérrez et al., 2011; Lerner, Schwartz and Phelps, 2009). Likewise, teaching interventions established under the premise of the TPSR in an organised, and positive schools environment, taking into consideration the anti-social and violent behaviour of young students, as well as a task designed to promote cooperative learning, participation of individual effort and the use of conflict resolution strategies, and teaching styles which favour decision making and could contribute to the improvement of personal and social responsibility in students and sportsmanship and a decrease in school violence (Agbuga and Xiang, 2008; Buluc, 2006; Morgan, Kingston and Sproule, 2005).

### Limitations and future research

The present study, despite the interesting results, have some limitations that should be mentioned. One of them it is the problem of the equivalent models that occur in the structural equation technique (Hershberger, 2006), and for this reason the model established in this study is assumed to have multiple possibilities. Furthermore, fidelity in imple-

menting the TPSR was assessed using only a self-report instrument. Although the duration of the application period was similar to other studies which implemented the TPSR (Jung and Wright, 2012; Wright et al., 2010), a longer application period will be necessary in future research, as well as different samples, such as disadvantaged youngsters or those at risk of exclusion, or in contexts such as camps, afterschool activities, sports schools, etc. Finally, given that we have based this study on data collected through questionnaires, it would be of interest for future research to apply behavioural observations in the school context. This could allow us to assess the effect of the model on the behaviours which worsen coexistence in physical education classes, the possible transference of these behaviors to other educational, sports or family contexts, not accounting only for teacher implementation of various strategies but also for students' enactment of responsibilities.

### Conclusions

The structural equation analysis revealed that personal and social responsibility predicted sportsmanship positively and predicted violence negatively. The application of the Personal and Social Responsibility Model during physical education classes produces improvements in personal responsibility, social responsibility, commitment toward sport participation, social conventions in sport, concern and respect for rules and officials and concern and respect for one's opponent.

### Lograr una mayor deportividad y disminuir la violencia escolar a través de la responsabilidad y la práctica deportiva

#### Resumen

Este estudio tuvo como objetivo determinar los niveles de predicción de la responsabilidad personal y social en la deportividad y la violencia, y los niveles de violencia, deportividad y responsabilidad tras la aplicación del Modelo de Responsabilidad Personal y Social en las clases de educación física. Se llevaron a cabo dos estudios. El primero, compuesto por una muestra de 737 estudiantes adolescentes de entre 12 y 15 años ( $M = 14,03$ ;  $DT = 2,14$ ), que midió la responsabilidad personal y social, el espíritu deportivo y la violencia escolar. En el segundo estudio, se midieron las mismas dimensiones en 573 estudiantes adolescentes de entre 12 y 15 años ( $M = 13,73$ ;  $DT = 1,83$ ), en dos fases (pre y post test). El análisis de regresión estructural reveló que la percepción de la responsabilidad personal y social predice la deportividad positivamente y las actitudes violentas negativamente. La aplicación del Modelo de Responsabilidad en este estudio produjo mejoras en la responsabilidad personal, la responsabilidad social, el compromiso con la participación deportiva y las convenciones sociales en el deporte.

**Palabras clave:** educación física, violencia escolar, educación en valores, programas de intervención, adolescencia.

### Atingir maior esportividade e diminuir a violência escolar por meio da responsabilidade e prática esportiva

#### Resumo

O objetivo deste estudo foi determinar os níveis de predição de responsabilidade pessoal e social no desportivismo e na violência, e os níveis de violência, desportivismo e responsabilidade após a aplicação do Modelo de Responsabilidade Pessoal e Social nas aulas de educação física. Foram realizados dois estudos. A primeira, composta por uma amostra de 737 adolescentes entre 12 e 15 anos ( $M = 14,03$ ;  $TD = 2,14$ ), mediu responsabilidade pessoal e social, esportividade e violência escolar. No segundo estudo, as mesmas dimensões foram medidas em 573 adolescentes entre 12 e 15 anos de idade ( $M = 13,73$ ;  $TD = 1,83$ ), em duas fases (pré e pós-teste). A análise de regressão estrutural revelou que a percepção de responsabilidade pessoal e social prediz positivamente o desportivismo e negativamente atitudes violentas. A aplicação do Modelo

de Responsabilidade neste estudo produziu melhorias na responsabilidade pessoal, responsabilidade social, compromisso com a participação esportiva e convenções sociais no esporte.

**Palavras chave:** educação física, violência escolar, educação de valores, programas de intervenção, adolescência.

## References

- Agbuga, B., and Xiang, P. (2008). Achievement goals and their relations to self-reported persistence/effort in secondary Physical Education: a Trichotomous achievement goal framework. *Journal of Teaching in Physical Education (JTPE)*, 27(2), 179-191. <https://doi.org/10.1123/jtpe.27.2.179>
- Al-Yaaribi, A., and Kavussanu, M. (2018). Consequences of prosocial and antisocial behaviors in adolescent male soccer players: The moderating role of motivational climate. *Psychology of Sport and Exercise*, 37, 91-99. <https://doi.org/10.1016/j.psychsport.2018.04.005>
- Anderson, J., and Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423.
- Barnes, T. N., Smith, S. W., and Miller, M. D. (2014). School-based cognitive-behavioral interventions in the treatment of aggression in the United States: A meta-analysis. *Aggression and Violent Behavior*, 19, 311-321.
- Belando, N., Ferriz-Morell, R., and Moreno-Murcia, J. A. (2012). Personal and social improvement through the promotion of responsibility for physical and sporting activity. *RICYDE. Revista Internacional de Ciencias del Deporte*, 8(29), 202-222. DOI: <http://dx.doi.org/10.5232/ricyde2012.02902>
- Buluc, B. (2006). An analysis of classroom rules in secondary schools in Turkey. *Educational Research Quarterly*, 29(3), 30-51.
- Cangas, A., Gázquez, J., Pérez-Fuentes, M. C., Padilla, D., and Miras, F. (2007). Assessment of school violence and its personal effect on a sample of European students. *Psicothema*, 19(1), 114-119.
- Cecchini, J. A., Montero, J., and Peña, J. V. (2003). Consequences of the intervention programme for developing Hellison's Personal and Social Responsibility on fair-play and self-control behaviours. *Psicothema*, 15(4), 631-637.
- Cecchini, J. A., González, C., and Montero, J. (2007). Participation in sport and fairplay. *Psicothema*, 19(1), 57-64.
- Cecchini, J. A., Montero, J., Alonso, A., Izquierdo, M., and Contreras, O. (2007). Effects of personal and social responsibility on fair play in sports and self-control in school-aged youths. *European Journal of Sport Science*, 7(4), 203-211. <http://dx.doi.org/10.1080/17461390701718497>
- Cecchini, J. A., González, C., Alonso, C., Barreal, J. M., Fernández, C., García, M., et al. (2009). The after effects of the Delfos Program on the levels of aggressiveness in sport and other contexts of daily life. *Apunts. Educación Física y Deportes*, 96, 34-41.
- Courel-Ibáñez J, Sánchez-Alcaraz BJ, Gómez-Mármol A, Valero-Valenzuela A, and Moreno-Murcia JA (2019) The moderating role of sportsmanship and violent attitudes on social and personal responsibility in adolescents. A clustering classification approach. *PLoS ONE* 14(2): e0211933. <https://doi.org/10.1371/journal.pone.0211933>
- De la Fuente, J., Peralta, F. J., and Sánchez, M. D. (2009). Personal self-regulation and perceived maladjusted school behaviors. *Psicothema*, 21(4), 548-554.
- Escartí, A., Gutiérrez, M., Pascual, C., and Marín, D. (2010). Application of Hellison's Teaching Personal and Social Responsibility Model in Physical Education to improve Self-efficacy for Adolescents at Risk of Dropping-out of School. *The Spanish Journal of Psychology*, 13(2), 667-676. DOI: 10.1017/S113874160000233X
- Escartí, A., Gutiérrez, M., Pascual, C., and Wright, P. M. (2013). Observation of the strategies that physical education teachers use to teach personal and social responsibility. *Revista de Psicología del Deporte*, 22(1), 159-166. <http://www.redalyc.org/articulo.oa?id=235127552046>
- Escartí, A., Pascual, C., and Gutiérrez, M. (2011). Psychometric properties of the Spanish version of the Personal and Social Responsibility Questionnaire in Physical Education Context. *Revista de Psicología del Deporte*, 20(1), 119-130. <http://www.redalyc.org/articulo.oa?id=235119302009> ISSN 1132-239X
- Fernández-Baena, F. J., Trianes, M. V., De la Morena, M. L., Escobar, M., Infante, L., and Blanca, M. J. (2011). Psychometric properties of a questionnaire to assess daily peer violence in schools. *Anales de Psicología*, 27(1), 102-108.
- Gimeno, F., Sáenz, A., Vicente, J., and Aznar, M. (2007). Sportsmanship and violence in feeder football teams: an evaluation and prevention programme for high risk matches. *Revista de Psicología del Deporte*, 16(1), 103-118. <http://www.rpd-online.com/article/view/25>
- Gómez-Mármol, A., Sánchez-Alcaraz, B. J., García, J. A., López, G. F., López, L., and De la Cruz, E. (2011). Sportsmanship level in tennis and football players. *Revista E-coach (RFET)*, 12, 37-42.
- Gómez-Mármol, A., De la Cruz, E., and Valero, A. (2014). *Educación en valores en la escuela a través de la actividad física*. [Values education in school through physical activity]. Saarbrücken: Publicia.
- Goudas, M. and Giannoudis, G. (2010). A qualitative evaluation of a life-skills program in a physical education context. *Hellenic Journal of Psychology*, 7, 315-334.
- Gutiérrez, M., Escartí, A., and Pascual, C. (2011). Relationships among empathy prosocial behavior aggressiveness self-efficacy and pupils' personal and social responsibility. *Psicothema*, 23(1), 13-19.



- Hair, J. F., Anderson, R. E., Tatham, R. L., and Black, W. C. (1998). *Multivariate data analysis*. Upper Saddle River NJ: Prentice-Hall.
- Hellison, D. (2011). *Teaching responsibility through physical activity* (3<sup>rd</sup> ed). Champaign IL: Human Kinetics.
- Hellison, D., and Martinek, T. (2006). *Social and individual responsibility programs*. In D Kirk, D McDonald and M O'Sullivan (Eds.). *The handbook of physical education* (pp. 610-626). Thousand Oaks: CA, Sage.
- Hellison, D., and Templin, T. J. (1991). *A reflective approach to teaching physical education*. Champaign, IL: Human Kinetics.
- Hellison, D., and Wright, P. M. (2003). Retention in an urban extended day program: a process-based assessment. *Journal of Teaching in Physical Education*, 22(4), 369-381. <https://doi.org/10.1123/jtpe.22.4.369>
- Hershberger, S. L. (2006). The problem of equivalent structural models. In GR Hancock and RO Mueller (Eds). *Structural equation modeling: A second course* (pp. 13-42). Greenwich CT: Information Age Publishing.
- Iso-Ahola, S. E., and St. Clair, B. (2000). Toward a theory of exercise motivation. *Quest*, 52(2), 131-147. <http://dx.doi.org/10.1080/00336297.2000.10491706>
- Jung, J., and Wright, P. (2012). Application of Hellison's responsibility model in South Korea: a multiple case study of 'at-risk' middle school students in physical education. *Ágora para la Educación Física y el Deporte*, 14(2), 140-160.
- Kavussanu, M., and Boardley, I. D. (2009). The prosocial and antisocial behavior in sport scale. *Journal of Sport and Exercise Psychology*, 31(1), 97-117. DOI: 10.1123/jsep.31.1.97
- Kuhn, T. M., Ebert, J. S., Gracey, K. A., Chapman, G. L., and Epstein, R. A. (2015). Evidence-based interventions for adolescents with disruptive behaviors in school-based settings. *Child and Adolescent Psychiatric Clinics of North America*, 24(2), 305-317.
- Lerner, R. M., Schwartz, S.J., and Phelps, E. (2009). Problematics of time and timing in the longitudinal study of human development: theoretical and methodological issues. *Human Development*, 52(1), 44-68. DOI: 10.1159/000189215
- Li, W., Wright, P. M., Rukavina, P., and Pickering, M. (2008). Measuring students' perceptions of personal and social responsibility and its relationship to intrinsic motivation in urban physical education. *Journal of Teaching in Physical Education (JTPE)*, 27(2), 167-178. <https://doi.org/10.1123/jtpe.27.2.167>
- Marsh, H. W., Richards, G. E., Johnson, S., Roche, L., and Tremayne, P. (1994). Physical self-description questionnaire: psychometric properties and a multitrait-multimethod analysis of relations to existing instruments. *Journal of Sport Exercise Psychology*, 16(3), 270-305. <https://doi.org/10.1123/jsep.16.3.270>
- Martín-Albo, J., Núñez, J. L., Navarro, J. G., and González, V. M. (2006). Validity of the Spanish version of the Multidimensional Sportspersonship Orientations Scale. *Revista de Psicología del Deporte*, 15(1), 9-22.
- Martinek, T., and Hellison, D. (1997). Fostering resiliency in underserved youth through physical activity. *Quest*, 49(1), 34-49. <http://dx.doi.org/10.1080/00336297.1997.10484222>
- Martinek, T., Shilling, T., and Johnson, D. (2001). Transferring personal and social responsibility of underserved youth to the classroom. *The Urban Review*, 33(1), 29-45. <https://doi.org/10.1023/A:1010332812171>
- Mestre, M. V., Samper, P., and Frías, M. D. (2002). Cognitive and emotional processes as predictors of pro-social behaviour and aggressive conduct: empathy as a modulating factor. *Psicothema*, 14(2), 227-232.
- Montero, I., and León, O. A. (2007). Guide for naming research studies in Psychology. *International Journal of Clinical and Health Psychology*, 7(3), 847-864.
- Morgan, K., Kingston, K., and Sproule, J. (2005). Effects of different teaching styles on the teacher behaviours that influence motivational climate and pupils' motivation in physical education. *European Physical Education Review*, 11(3), 257-285. DOI: 10.1177/1356336X05056651
- Ntoumanis, N. A. (2001). Self-determination approach to the understanding of motivation in physical education. *British Journal of Educational Psychology*, 71, 225-242.
- Orlick, T. (1980). *In pursuit of excellence*. Champaign, IL: Human Kinetics.
- Paz, I. M., Teixeira, A. S., Pratesi, R., and Gandolfi, L. (2015). Prevalence of various forms of violence among school students. *Acta Paulista de Enfermagem*, 28 (1), 54-59. <http://dx.doi.org/10.1590/1982-0194201500010>.
- Pascual, C., Escartí, A., Llopis, R., Gutiérrez, M., Marín, D., and Wright, P. M. (2011). Implementation fidelity of a program designed to promote personal and social responsibility through physical education: A comparative case study. *Research Quarterly for Exercise and Sport*, 82(3), 499-511. doi: 10.5641.027013611X1327519144406
- Sánchez-Alcaraz, B. J., Gómez-Mármol, A., Valero, A., and De la Cruz, E. (2013). Implementation of a program to improve personal and social responsibility in physical education lessons. *Motricidad European Journal of Human Movement*, 30, 121-129.
- Sánchez-Alcaraz, B. J., Gómez-Mármol, A., Valero, A., De la Cruz, E., and Díaz, A. (2014). The development of a Sport-based Personal and Social Responsibility Intervention on Daily Violence in Schools. *American Journal of Sports Science and Medicine*, 2(6A), 13-17. DOI: 10.12691/ajssm-2-6A-4
- Sánchez-Alcaraz, B. J., Gómez-Mármol, A., Valero, A., De la Cruz, E., and Esteban, R. (2012). Model of Personal and Social Responsibility in the quality of student's life. *Cuadernos de Psicología del Deporte*. 12, 13-18.
- Schon, D. A. (1987). *Educating the reflective practitioner*. San Francisco: Jossey-Bass.
- Torrego, J. C. (2001). Regulatory models of coexistence. *Cuadernos de Pedagogía*, 304, 20-28.

- Thomas, J. R., and Nelson, J. K. (2007). *Métodos de investigación en actividad física* [Researching methods in physical activity]. Paidotribo: Barcelona.
- Wilson, S. J., and Lipsey, M. W. (2007). School-based interventions for aggressive and disruptive behavior: Update of a meta-analysis. *American Journal of Preventive Medicine*, 33, S130–S143.
- Wright, P. M. and Burton, S. (2008). Examining the implementation and immediate outcomes of a personal-social responsibility model program for urban high school students. *Journal of Teaching in Physical Education*, 27, 138-154.
- Wright, P. M., and Li, W. (2009). Exploring the relevance of positive youth development in urban physical education. *Physical Education and Sport Pedagogy*, 14(3), 241-251. <http://dx.doi.org/10.1080/17408980801974978>
- Wright, P. M., Li, W., Ding, S., and Pickering, M. (2010). Integrating a Personal-Social Responsibility Program into a Lifetime Wellness Course for Urban High School Students: assessing Implementation and Educational Outcomes. *Sport Education Society*, 15(3), 277-298. <http://dx.doi.org/10.1080/13573322.2010.493309>