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Implementation of the Personal and Social Responsibility Model to Improve Self-Efficacy during Physical Education Classes for Primary School Children

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Abstract

This study analyzes the application of personal and social responsibility (TPSR) model to primary school physical education classes during an academic year, in order to evaluate its relevance as a method of teaching responsibility and to measure its effects on the pupils' self-efficacy. The participants were 42 students (11 and 12 years old). The intervention group and the comparison group were two intact physical education classes, located in the same area. The teacher in charge of delivering the intervention participated in an in-depth interview. The Multidimensional Scales of Perceived Self-Efficacy were administered to each of the participants before and after the program. The results showed that the TPSR model was an effective teaching instrument that helped teachers to structure classes and promoted the learning of responsibility behavior by the students. A significant increase was observed in the self-regulatory efficacy of intervention group participants. The implications of this study are discussed.

Key words: school-based intervention programs, positive youth development, adolescence, physical education.

Resumen

El estudio analiza la aplicación del modelo de Enseñanza de Responsabilidad Personal y Social (TPSR) en las clases de educación física en Educación Primaria, durante un año académico, para evaluar su relevancia como método de enseñanza de la responsabilidad y medir sus efectos sobre la auto-eficacia de los alumnos. Los participantes fueron 42 estudiantes de 11 a 12 años de edad. El grupo de intervención y el de comparación fueron dos grupos intactos de educación física, situados en la misma localidad. Al profesor encargado de desarrollar la intervención se le aplicó una entrevista en profundidad. La Escala Multidimensional de Percepción de Auto-eficacia fue administrada a cada participante antes y después del programa. Los resultados muestran que el TPSR fue un instrumento efectivo de enseñanza que ayudó a los profesores a estructurar las clases y promovió el aprendizaje de comportamientos de responsabilidad de los alumnos. También se observó un incremento significativo de la auto-eficacia auto-regulatoria en los participantes del grupo de intervención. Los resultados se discuten en el marco de sus posibles aplicaciones prácticas.

Palabras clave: intervención en la escuela, desarrollo positivo, adolescencia, educación física.

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Working with children to strengthen adaptive skill to face the future has become a relevant topic in today's psychology, and linked to the concept of positive youth development (PYD). This concept is relatively recent, and refers to an approach whose objective is to develop programs for children and young people that promote the learning of abilities that allow the individual to adapt successfully to the different challenges of life (Goudas, Dermitzaki, Leondari, & Danish, 2006; Larson, 2000; Lerner, 2004; Pittman & Fleming, 1991; Pichardo, García, Justicia, & Llanos, 2008; Pittman, Irby, Tolman, Yohalem, & Ferber, 2001). In the sport context positive youth development is a broad notion that includes the development of diverse competencies that can help a young person in sport, in their current life and/or in their future (Gould & Carson, 2008). Gootman (2002) has outlined a provisional list of eight setting features that are hypothesized to promote PYD: physical and psychological safety, clear and consistent structure and appropriate supervision, supportive relationships, opportunities to belong, positive social norms, support for efficacy, opportunities for skill building, and integration of family, school, and community efforts.

Several reviews on the topic of youth development bear testimony to the effectiveness of positive youth development (PYD) programs in schools in increasing personal and social skills, improving academic achievement, and reducing risk behaviors such as drug abuse and unsafe sex (Catalano, Arthur, Hawkins, Berglund, & Olson, 1998; Eccles & Gootman, 2002; Weisberg, Kumpfer, & Seligman, 2003). The professionals in physical education, sport psychology and youth development are interested in using sport as a vehicle for developing life skills in young people. A number of large scale intervention programs have been or are currently being developed PYD (Collingwood, 1996; Danish, Forneris, & Wallace, 2005; Ennis, 1999; Hellison, 2003; Martinek & Hellison, 1997; Tessier, Sarrazin, & Ntoumanis, 2008). Most of these programs are based on sport and are carried out as extracurricular activities or in summer camps. Very few programs have been incorporated into physical education classes that constitute a formal part of the school curriculum. One exception is the Teaching Personal and Social Responsibility (TPSR). This model was designed by Hellison (1985, 2003) as an alternative approach to physical activity programming whose objective is to teach personal and social responsibility to urban youth often placed at risk due to social circumstances such as poverty, violence, drugs and family problems. In the United States, several schools have recognized its utility and have successfully applied it in several schools as an integrated part of physical education classes at both the primary and secondary levels (Oslin, Collier, & Mitchell, 2001; Wright & Burton, 2008).

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 for themselves and with others and to incorporate strategies that allow them to exercise control over their lives. The model interprets responsibility as a moral position or obligation with respect to oneself and others. In this sense, the values related to personal responsibility are effort and autonomy. The values related to social responsibility are respect for the feelings and rights of others, empathy, and social sensibility. Social responsibility is conceived more than altruism, as an identification of oneself with others, an attitude that results in behavior that favors the common good (Gallay, 2006). The basic premise of

the TPSR model is that responsible behavior can be taught to pupils through the goals or levels that they gradually achieve.

The model is organized around the following five levels of responsibility: *Respect the rights and feelings of others*, *Effort, Self-direction, Helping others, and Outside the gym*. The objective of the first level is that children learn empathy, self-control and the ability to solve conflicts peacefully. The aim of the second level is to develop in children an intrinsic motivation and interest in a job well done. In the third level, pupils are encouraged to manage their time, plan their own learning, and to set short- and long-term goals for themselves. Level fourth teach to children to help others and being sensitive and responsive. In level fifth, pupils are encouraged to apply their learning in the course of the program to other contexts.

The TPSR model uses physical activity as a vehicle for teaching responsible behavior. The model aligns with established criteria for youth development programs: 1) build on the strengths that the youth already possesses; 2) emphasize competence and mastery; and, 3) focus on the whole person (the emotional, social, cognitive and physical dimension of the self), empower youth, provide a physically and psychologically safe environment, maintain a local connection, and provide significant contact with a caring adult. The program leader is crucial to making all of these things happen and must have a genuine interest in the children of whom he/she is in charge and support them continuously (Hellison, 1985).

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 extended day programs (Hellison & Martinek, 2006). Some authors (Siedentop, 1994; Wright & Burton, 2008) consider the TPSR model to be an ideal framework for designing physical education classes and the rest of the school curriculum. Others highlight its utility as a method for teaching values to special groups, in particular children and young people at risk (Pangrazi, 2001; Rink, 1993). The most exhaustive review of the efficacy of the TPSR model has been provided by Hellison and Walsh (2002). They reviewed 26 studies that investigated the impact of the TPSR model on positive youth development. The results of their evaluation indicated that 19 of the 26 studies demonstrated that the implementation of the TPSR model improved respect, effort, autonomy and the capacity for leadership among participants. The methodology used in nine of these studies was exclusively qualitative, using interviews, case studies, and discussion groups as their primary data sources. The authors concluded by affirming the necessity of conducting research with mixed methodologies to evaluate the effectiveness of the TPSR model. As explained by Hellison and Martinek (2006), many of the initial studies of the TPSR model were of a philosophical and applied orientation and did not employ typical social science research methods. Therefore, while the base of empirical evidence continues to grow, there remains a lack of quantitative studies that evaluate the model (Li, Wright, Rukavina, & Pickering, 2008).

This study presents results obtained from the implementation of the TPSR model to primary school children through physical education classes over the course of a full school year. The study's aim was to find answers to three questions: Will the teacher

perceive that the TPSR model has helped him to improve his teaching practices?; Will the teacher that implements the model perceive changes in responsible behavior of the students?; Will exposure to the TPSR model during physical education classes help the students to improve their self-efficacy?

While the research literature indicates a number of benefits to the personal and social development of students in TPSR programs, the current study focused specifically on the construct of *self-efficacy*, which is defined as the beliefs of a person about his/her capacity to perform an activity successfully and to manage in an efficient way toward different activities (Bandura, 1977). In this study, we assumed the hypothesis that the TPSR model teaches children responsibility behaviors that allow them to be more efficient in their environment, to resolve problems, and to make decisions with success, all of which will have the potential to influence their self-efficacy. Through TPSR Model teachers learn to use teaching strategies that the literature indicates that favor the development of self-efficacy (to use modeling with peers, give power and voice to students, give them feedback on their performance, encouraging autonomy and strengthening the effort (Margolis & McCabe, 2006). Specifically, we see potential influence on the following dimensions: Social self-efficacy (the skill of communicating effectively with others); Self-assertive efficacy (the skill of expressing one's own opinions and rights); and Self-regulatory efficacy (the ability to resist the negative pressure of peers). These three dimensions have been used in previous works to evaluate personal and social development (Anderson, Sabatelli, & Trachtenberg, 2007; Sabatelli, Anderson, & Lamotte, 2001).

The conception of the present study was based on previous reports that have used the TPSR model and which have contributed to extending this body of knowledge (Hellison & Martinek, 2006; Hellison & Walsh, 2002). Firstly, although the model is well-known and cited by many authors (Gould & Carson, 2008), there remains a shortage of empirical evidence that supports it. Along these lines, some researchers have highlighted the necessity of using more statistically rigorous designs in order to arrive at definitive conclusions about its utility (Newton, Sandberg, & Watson; 2001). Secondly, although the TPSR model was developed and most often applied to underserved youth in alternative settings, the aim of the present study was to evaluate its relevance as a teaching method in physical education classes. School-based physical education is underrepresented in the literature; however, it is the setting in which children and youths can most benefit from the advantages of the TPSR model (Hellison, 2003; Wright & Burton, 2008). Thirdly, this study presents activities and teaching strategies that may be useful for applying the TPSR model through other subjects within the school curriculum.

Methods

Participants and Setting

The participants were 42 students (22 males, 20 females) between the ages of 11 and 12 years old. The intervention group consisted of 21 pupils (11 boys and 10

girls) in a 6th grade class from a public school in a city of the Comunidad Autonoma Valenciana (España) of approximately 5,000 inhabitants. The comparison group was a pre-existing 6th grade class from another primary school located in the same city. This group also consisted of 21 students (12 boys and 9 girls). The intervention group teacher was a 32 year old male who had six years of teaching experience as a specialist in physical education. He was also a civil servant with a permanent teaching position at the time of this study. The comparison group teacher was a 35 year old male who had 8 years of teaching experience.

The schools which the intervention and comparison group participants attended were similar in both size (21 class sections for students ranging in age from 11 to 12 years old) and the socio-economic characteristics of the area in which they were located. The socio-economic level of the families of both schools is working-middle class. To obtain the socio-economic index of the families of the participants, the indicators used were educational levels and parental occupations. Ten percent of the students come from immigrant families (Ecuatorians and Morroccans). Both schools were recently constructed and their facilities and equipment are of a good quality. For physical education classes, both schools have an indoor gymnasium, athletics track and open areas with grass and trees.

Procedure

The TPSR model was implemented during one school year at the intervention group. The subjects of the physical education classes of the comparison group were the ones recommended by the education Government for their ages: physical condition, soccer and volleyball (from September to October), jockey skates and acrogym (November to March), and theatre and dance (April to May). The comparison group teacher was not given any specific training related with the TPSR model.

The implementation of the TPSR model took place over the course of an academic year, two hours per week during two physical education classes that lasted 60 minutes each. The instructor was a physical education teacher that volunteered to collaborate in our research. He was selected by our research group based on his professional qualities, availability, and desire to collaborate in the project.

Teachers training. During the first weeks of September, the program instructor was given an intensive course of 30 hours of training on the theoretical foundation, objectives, and instructional methods of the TPSR model by members of our research group. The theory and aims of the TPSR model have been touched on briefly in the introduction of this manuscript (for a more exhaustive review in English see Hellison, 2003; and in Spanish see Escartí, Pascual, & Gutiérrez, 2005). Throughout the school year, the teacher met with the research group twice a month. These ongoing training sessions were oriented so that the teacher received detailed and concrete instructions with respect to the implementation of the TPSR. These sessions had two objectives: to continue the training and ongoing support of the teacher and, to assess the implementation of the model. Teaching personal and social responsibility involves several aspects: the purpose of the curriculum should include taking personal responsibility; the teacher should

be capable of recognizing and respecting students' strengths, individuality, voices, and autonomy; the teacher must master two sets of content -physical activity and personal-social responsibility- and integrate them into each lesson; the teacher must enable the empowerment of his or her students; and the teacher should gradually introduce the concept of transferring these responsibilities and life skills to other settings.

Program description. The daily format of the program was as follows: *Awareness talk* (5 min) -this takes place when the students arrive at the gym, during the first five minutes of the class when the personal and social responsibility behaviors to be practiced that day are reviewed, in order to make clear the expectations of the teacher; *Lesson* –this was the physical education subject matter, the students have to put the responsibility into action; *Group meeting* (7-10 min) -at the end of the class the adolescents sit together in a circle with the program leader. The students share opinions, feelings and ideas about the program in general and the session in particular. The main goal was to provide a chance to reflect on the responsibility levels; *Reflection time* (2-3 min) -still seated in a circle, the daily session concludes with each youth giving written self-evaluations.

Program activities. All the activities of the physical education classes during one school year were adapted to promote the goals of the TPSR model. The activities which we introduced into the program were:

1) *Elaboration of the norms*. In the first eight sessions, students themselves established the norms to be followed during the program.
2) *Bat and field game*. This activity was introduced in the program for two reasons: a) being enjoyable, it increases children's motivation, and b) being a highly competitive activity it has the potential to produce conflicts and emotionally charged reactions. These situations gave us the opportunity to teach the children to resolve their conflicts in a peaceful manner, which was working goal number 1.
3) *Juggling*. This was also a game, so it was appealing to children. However, this type of skill requires the development of level 2 of the model (effort).
4) *Learning to Skate*. This activity had different levels of difficulty. Children could choose the level at which they wanted to start, and which level they wanted to aim to reach. This was an exercise of responsibility related with goal 3.
5) *Acrogym*. This activity had a cooperative character, which was why we incorporated it into the program. To fulfill the objectives of this activity it was necessary to employ all the previously practiced responsibility behaviors and those of goal 4 (to worry about the safety of others).

Strategies applying TPSR model. In the TPSR program, the teacher must have systematic and direct ways of integrating personal and social responsibility in the content of their physical education classes. They must gradually give control to the pupils, promote individual and group thinking, and talk about transference. The following specific Strategies were employed by the teacher in this study's implementation of the TPSR model: Stop (time out) to analyze difficult situations; Group meetings to change the game; Modeling team (group) work; Each team (group) designs an activity; Children establish the goals to be pursued in each session; Each child volunteers to prepare and direct a game; Contract of good intentions and Peace bench to resolve conflicts.

Data collection and Measures

We conducted a single hour-long semi-structured interview with the instructor in charge of implementing the TPSR model. Questions included were: What do you think of the TPSR model after using it over a year?, How did you feel during the classes as you participated in the program?, What effects has the TPSR model produced in your teaching practice?, What have the pupils learned?, What changes have been produced during this academic year?, and, To what measure have they (the changes) been produced by the TPSR model?

The Multidimensional Scales of Perceived Self-Efficacy (MSPSE; Bandura, 1990, 2001) were administered individually to each of the participants (intervention and comparison group) in October, before initiating the program, and in June, when the program had terminated. Every subscale comprises items rated on a 7-point Likert-type scale (1= not well at all; 3= not too well; 5= pretty well; 7= very well). We used three Children's Self-efficacy Scales related to the subject of our research: 1) Perceived Social Self-efficacy, which measures the beliefs of the student in his/her capacity to relate with others and to work in a team. A sample item was, "How easily do you become friends with other children"; 2) the four-item Self-Assertive Efficacy Scale measures the perception of the pupil regarding his/her capacity to express opinions and manage problematic situations. (e.g., "How well can you express your opinions when other classmates disagree with you?"; 3) The Self-Regulatory Efficacy Scale which evaluates a student's perception of his/her capacity to resist peer pressure when conduct of risk is proposed (e.g; How well can you resist peer pressure to do things in school that can get you into trouble?"). These scales have been used extensively in research, and their reliability and validity are well established. All have previously been shown to have alpha reliabilities ranging from .79 to .85 (Anderson *et al*., 2007; Miller, Coombs, & Fuqua, 1999).

Data analysis

The quasi-experimental design of the present study included quantitative analysis of data from the intervention and the comparison groups. This aspect of the study was combined with qualitative methods, which contextualize and enhance the validity of the quantitative findings (Tashakkori & Teddlie, 1998). We conducted two sets of analyses. The first analysis examined the results of the interview conducted with the instructing teacher and thereafter we carried out an "individual case study". We then categorized the content of the interview (Patton, 1990) in three wide topics: 1) Benefits perceived by the teacher after applying the TPSR model in PE classes, 2) Difficulties perceived by the teacher when implementing the TPSR Model during PE classes, 3) Improvements observed by the teacher in the responsibility behavior of the students.

The second set of analyses involved the total sample of participants in the intervention group and the youths who formed the comparison group. Specifically, pre-test and post-test responses of both groups to the measures administered at the beginning and the end of the program were examined and contrasted using repeated measures with pre-test and post-test scores as the within subjects-factor and group membership

(intervention/comparison) as the between-subjects factor. Analyses of variance were calculated with SPSS 15. Eta squared (η^2), a measurement of size effect, was calculated for each effect in the statistical model. The measurement of effect size is particularly interesting in this case given the small sample size. Cohen (1977) characterizes effect size as small (η^2= 0.01), medium (η^2= 0.06) and large (η^2= 0.13).

RESULTS

With regard to qualitative results, the teacher perceived benefits after applying the TPRS model in physical education classes. The instructing teacher indicated that applying the program had been very simple given that the daily format of the program was similar to how a physical education class should be structured. The following quotes are examples of this statement:

1. The phases, and the whole program, are very similar in form to how we deliver physical education.
2. It has not been difficult at all to implement the program because my way of working is more or less like that, although on this occasion I had to do things in a more structured way.

In addition, the daily format of the TPSR program allowed the teacher to work in a more systematic way, with long and short term objectives as shown in the following paragraph:

1. […] having to work in a systematic way is a very positive thing.
2. [...] it is a very structured and studied method, and the teacher is conscious of what he/she is doing and what he/she is attempting to achieve.

The TPSR model is structured on five levels of responsibility that the students must reach for their own good and the good of others. The levels of responsibility were useful to the teacher because they permit him/her to set pupils concrete responsibility goals ("...working with levels and breaking them down has helped me to structure better the class").

The application of the program has represented a professional development for the teacher. It has made him more conscious of his task as a teacher ("…it makes you improve and be more conscious of your teaching function"). It also has led him to reflect about his own teaching practice. The following quote is an example of this activity:

1. [...] Participating in a program with this philosophy makes me feel a great responsibility. The application of the program requires working with a great coherence in everything we do and say. We must represent a reference point for our pupils and this is not always easy. In addition, participating in the program implementing the TPSR model has improved the professional self-esteem of the teacher as he describes in this quote.
2. [...] on the other hand, the satisfaction that you feel when you get the feeling that what you are doing has a positive effect on your pupils, and even more so when your co-

> lleagues recognize the professionalism with which you carry out your functions, your self-esteem is boosted and you feel satisfied.

The principle obstacle that the teacher found when beginning the implementation of the program was making its structure fit into 60-minute classes. ("[...] it is a program that encourages talking and reflection, and we had a limited time").
Also, when initiating the program, the teacher met a certain amount of resistance from the pupils in accepting the structure of the TPSR model as they encountered certain difficulties in adapting themselves to the program's system. In the forthcoming paragraphs we show two examples backing this idea:

1. [...] the expectations of the pupils from physical education classes are practice, practice and nothing else (.../...) and the teacher can feel uncomfortable because really (.../...) you are more interested in practical objectives than in making a big effort to achieve other things and not interacting correctly with the pupils.
2. [...] I think that the problem is that, at the beginning, I tried to talk a lot and take time from the practical part of the class, and that went against what a child expects, a priori, from a PE class.

However, as the teacher became familiar with the structure of the program, he felt that the children were more and more motivated ("My motivation grew. The children were also motivated because they saw that their PE teacher no longer rewarded whoever ran faster or whoever controlled the ball best. They got the sensation that a determined type of behavior was rewarded. They liked the change of vision, and that is what made them increasingly motivated").

The teacher highlighted the need to involve the whole educational community in order to obtain more consistent results, given the limited time the pupils spend in PE classes ("[...] the time they spend with me is very little out of the time they spend at school" or "[...] it is utopian to think that only with PE classes are we going to modify a whole system of values that already surround children...").

One of the important aspects highlighted by our teacher is that for the TPSR model to function, the instructor that implements the program needs to feel motivated to carry it out ("...I think that, without a high level of commitment on the part of the teacher, the program loses effectiveness").

In the same way, he stressed that, in order to obtain greater educational benefits, it is recommended that the rest of the teachers in the school are involved in supporting the objectives of the TPSR model:

> "I think that it would be better if physical education was not the only subject implicated in the TPSR, because, at some points, I have felt that I was not coordinated with my colleagues at the school. There could arise contradictions in some orientations."

The program has helped the students to relate to one another in a more positive manner, it has taught them to solve conflicts in a more mature and responsible way as the teacher highlights in the following quotes:

1. [...] They are learning, in particular, to relate to each other.
2. […] they have improved especially in the way they solve problems in a peaceable way.

The youth that have participated in the program have learned to reflect about their behavior and understand the point of view of others (empathy). On this point the teacher stated:

> "[...] Basically they have learned to listen to themselves and to understand that the people that surround them feel the same as they do. They have realized that their actions have a direct repercussion on their environment, on their classmates."

They have improved their capacity for maintaining a dialogue with others as teacher reflects in the following example:

> "[...] the children are learning to be more open individuals, are more willing to enter into a dialogue, to help, to forgive or to ask for forgiveness if necessary, more open to friendship...and I think that all this has improved their responsibility."

It has encouraged the children to be more conscious of the value of their actions as teacher commented:

1. [...] I think they know, are more conscious of when they are doing something well or badly, and I think that is important.
2. [...] it induces the children to be more conscious of doing something well or badly.

To the teacher, the program induced children to look for peaceful answers to conflictive situations. This is an example:

> "[...] it has made them much more conscious of their behavior, it has helped them to look for solutions when there are conflicts, it helps them to reflect about what they are doing and I think that is the most positive thing."

With respect to transferring the learning of the TPSR model to other contexts, the teacher expressed the necessity of teachers and parents working together which is expressed in the following quotes:

1. [...] in a way, goals are achieved, because you do achieve goals in physical education class. But then they leave class and I am not sure that they are doing it well...
2. [...] the first level of the program, that of respect, has been reached in my class pretty well, although I have not seen that this has been transmitted outside my class. Speaking to the form tutor (classroom teacher) and seeing behaviour in other sessions, I know that they have not taken it on board completely, but at least they understand and make an effort in PE class to respect others and avoid aggression.

Relative to quantitative results, Table 1 shows mean scores and standard deviations for the three dependent variables: self-regulatory efficacy, social self-efficacy, and assertive self-efficacy for both the control and intervention groups.

As illustrated in Table 2 and Figure 1, a significant two-way interaction was found between group status and time in the reported levels of Self-Regulatory Efficacy (F1,40= 4.165, p= 0.048, η^2= 0.094). The pattern of mean scores depicted in Table 2 reveals that the largest increase in reported levels of Self- Regulatory Efficacy occurred among the youth participating in the TPSR model. It is interesting that reported levels of self-regulatory efficacy were maintained over time in the comparison group and increased in the intervention group. Social Self-Efficacy scores also changed with time (F1,40= 7.478, p= 0.009, η^2= 0.156) in both groups. We found significant differences in the Social Self-Efficacy score between the youths participating in the TPSR model and those making up the comparison group, with both groups improving their score over time. No changes were found in the students participating in the TPSR model or the comparison group in terms of Self-Assertive Efficacy, and no consistent differences were observed between the two groups.

Table 1. Descriptive statistics of the variables in pre-test (Time 1) and post-test (Time 2).

Source	Time 1		Time 2	
	M	*SD*	*M*	*SD*
Self Regulatory Efficacy				
Intervention group	26.19	6.69	29.10	1.18
Comparison group	27.81	1.91	27.71	1.45
Social Self-Efficacy				
Intervention group	16.19	1.80	17.52	2.82
Comparison group	16.76	2.30	17.57	2.46
Assertive Self-Efficacy				
Intervention group	17.29	2.23	17.38	1.91
Comparison group	17.29	2.51	18.14	2.26

Table 2. ANOVAs results for Self-Efficacy dimensions F statistics and effect size (η^2).

Source	*F*	*df*	*p*	η^2
Self Regulatory Efficacy				
Time	3.65	1, 40	.063	.084
Group	0.02	1, 40	.887	.001
Time x Group	4.16	1, 40	.048*	.094
Social Self-Efficacy				
Time	7.47	1, 40	.009**	.158
Group	0.25	1, 40	.620	.006
Time x Group	0.44	1, 40	.508	.011
Assertive Self-Efficacy				
Time	1.54	1, 40	.221	.037
Group	0.43	1, 40	.512	.011
Time x Group	0.99	1, 40	.326	.024

*p < .05, **p < .01.

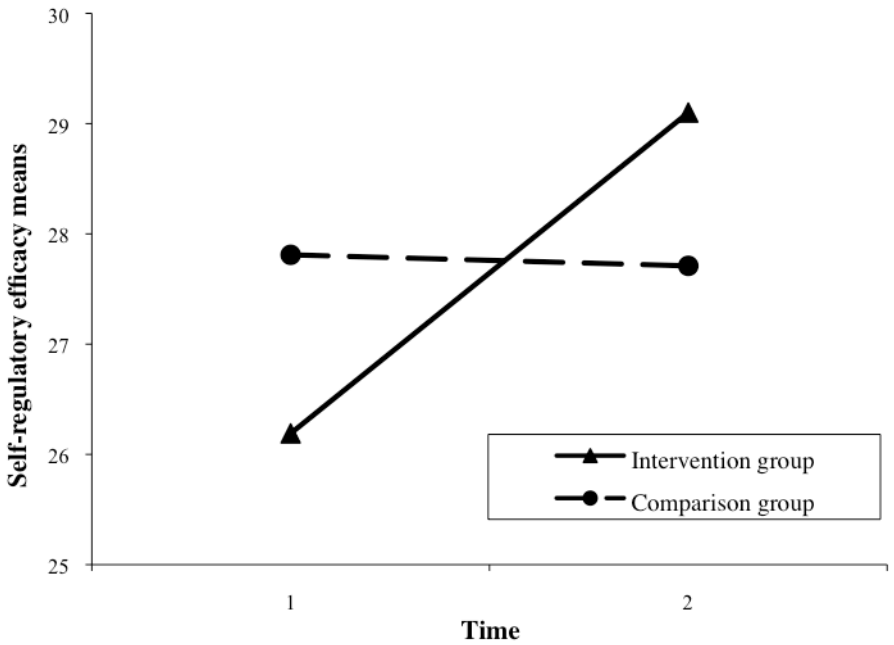

Figure 1. Estimated marginal means of self-regulatory efficacy.

Discussion

This study analyzed the application of Hellison's (2003) personal and social responsibility (TPSR) model to primary school physical education classes during an academic year in order to evaluate its relevance as a method of teaching responsibility and to measure its effects on the pupils' self-efficacy. We hypothesized that the TPSR model teaches children's responsibility behaviors that allow them to be more efficient in their environment, to resolve problems, and to make decisions with success, all of which will have the potential to influence their self-efficacy.

Several conclusions can be drawn from our evaluation of the TPSR model. Firstly, the teacher found his participation in the application of the model to be a very positive experience for him and his pupils. When asked to retrospectively report on his year's experience with the program, he reported that using the TPSR model during his physical education classes had been a very positive experience from both a professional and personal point of view. The teacher declared that the daily format of the program helped him to organize his lessons and to introduce instructional strategies that promoted the learning of responsibility among his pupils. These results confirm the beliefs of some authors that highlight the utility of the TPSR model as an effective teaching instrument that helps teachers to structure classes and promotes the learning of responsibility behavior by the students (Hellison, 2003; Oslin *et al*., 2001). Our teacher recognized that, after a year of applying the TPSR model, he could detect improvements in the behavior

and attitudes of his pupils, especially regarding level 1 of the model. Thus, in a similar way to other studies, we found that the TPSR fostered a positive learning environment and influenced students' behavior (Hellison & Wright, 2003; Wright & Burton, 2008). However, no evidence has been found to support the transfer of program goals outside the gym; although the teacher reported that the children eventually behaved in accordance with the goals of the program during the classes of physical education, they did not seem to change their behavior in other contexts. This aspect of TPSR requires future development, as argued by Hellison (2003) and Wright and Burton (2008). To make possible the transfer to other contexts of that learned in the gymnasium, we propose the integration of the TPSR model in the rest of the school curriculum, with the objective that the whole educational community promotes similar values and behaviors.

The intervention group showed a significant increase in their self-regulatory efficacy. The ability to resist peer pressure to engage in antisocial behavior is an essential skill by which young people can deal with a variety of developmental contexts, including family, peers, community and the broader society (Benson, 2003; Eccles & Gootman, 2002; Moreno, Estévez, Murgui, & Musitu, 2009). The intervention group did not report significant changes with respect to the comparison group in Social Self-Efficacy and Self-Assertive Efficacy, although both groups showed a significant improvement in these levels by the end of the school year. These results can be explained by the fact that the program was implemented during PE classes of children without special educational needs, which implies that the effects of the TPSR in our study sample are less evident than when the program is applied to youth at greater risk of antisocial behavior, which is the population with which Hellison and his colleagues have traditionally worked (Martinek & Hellison, 1997; Martinek, Schilling, & Johnson, 2001). Some authors have highlighted that youth program participants' that showed the most changes were those who were least competent before the program began (Anderson *et al*., 2007). However, we can conclude that the current findings are consistent with those of studies of other types of youth development programs in which a safe environment, stimulating activities, opportunities for youth involvement and leadership have been associated with positive developmental outcome (Eccles & Gottman, 2002; Mandigo, Holt, Anderson, & Sheppard, 2008; Roth, Brooks-Gunn, Murray, & Foster, 1998).

Some limitations to the study should be noted. One is that follow-up data on the youths that participated in the program evaluation are not available, so it has not been possible to determine if the positive changes reported in the participants lasted. Another limitation is that, to measure the positive youth development that participation in the TPSR model produces, it is necessary to employ more assessment scales; there are a growing number of available effective measures, but more are needed to expand this line of research (Catalano et al, 1998; Silliman, 2004; Watson, Newton, & Kim, 2003; Li *et al*., 2008).

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