Original Article

Promotion of physical sports adherence among adolescents through physical education classes: analysis of psychosocial variables

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Abstract:

The generation of physical-sports habits that last throughout life is one of the main challenges that physical education teachers experience during their classes; thus, it is important to know what factors affect the generation of these habits. Therefore, the objectives of this research are: (1) to analyse which aspects of the theory of planned behaviour (TPB) exhibit a higher level of correlation with the intention of students to be physically active once they finish their academic training and (2) to determine whether the environment of physical-sports practice by students (fathers, mothers, siblings, and friends) as well as other related factors affect this intention. Thus, a sample of 230 middle and high school students with an average age of 15.79 (SD = 1.05) years old was analysed using a questionnaire with previously validated scales as the measurement instrument. The results indicate that all TPB variables are correlated in a positive and significant way ($p < 0.05$) with the intention of being physically active; athletic identity exhibits greater correlation ($r = 0.79$) followed by the control of perceived behaviour ($r = 0.40$); siblings are the most influential element of the students' environment, and both their activity and that of parents and their equals cause the existence of significant differences in some variables related to the continuity of sport. Finally, a number of practical implications are proposed for physical education teachers, which provide relevant information for the education and sport field.

Key Words: theory of planned behaviour, physical education, physically active, secondary school, adolescence, social environment

Introduction

At present, the sedentary lifestyle of developed societies is generating great concern, as this is a risk factor for major health problems (Beltrán, Beltrán, Moreno, Cervelló and Montero, 2016). Furthermore, specifically in the adolescent stage, physical inactivity entails a major current and future public health problem, so it is vitally important to create strategies that generate healthy habits in adolescents (Bonnema, Coetzee and Lennox, 2020; Mayorga-Vega, Saldías and Vicianá, 2019). This is due not only to the numerous benefits at a physical, physiological and cognitive level that the physical practice of sports presents, but also to the fact that it is during this stage that a great part of the healthy habits that will be carried out in the adult stage are established and consolidated (Berrios, Latorre, and Pantoja, 2017).

Sport and physical activity are considered an important tool for the personal development (Fernandez Rivas and Espada, 2020). In relation to the physiological improvements caused by sports practice, it has been proven that this practice boosts the body's improvement in terms of response to insulin and processes of vascularization and fat oxidation (Fiuza-Luces, Garatachea, Berger, and Lucia, 2013). With regard to cognitive benefits, improving academic performance has become one of the main reasons for promoting physical activity in adolescence, since good levels of physical activity are associated with improvements in behavior and learning processes (Mora, Ventura-Vall-Llovera, Hernandez Mosqueira, 2019; Paz-Navarro, Roldán, and González, 2009; Rosa, 2016; Valach, Vašíčková, Frömel, Jakubec, Chmelík and Svozil, 2020). In addition, such practice helps them to reduce anxiety and stress levels (Gashi, Zivkovic, Gjorgoski, Gontarev and Azemi, 2020) and improve empathy towards their peers (Ruiz, SevaLarrosa, and Bastías, 2016), thus also generating positive moods (Jiménez, Martínez, Miró, and Sánchez, 2008). Therefore, the improvement of physical activity levels implies improvements on several levels of the person, being considered an important element for the integral formation of adolescents (Moreno-Murcia, Huéscar, and Cervelló, 2012).

Therefore, within the practice of physical-sports activity in adolescence, special attention should be paid to the teaching hours of the subject of Physical Education (PE), since they are a way of creating and maintaining these healthy habits in the population in a stable manner (Vílchez, 2013). This is because, in many cases, these school hours are the only physical-sports practice of adolescents, and therefore, when they finish their schooling,

they may stop doing it. So, extracurricular sports practice is a perfect complement to the few school hours dedicated to PE, which is of great importance (Codina, Pestana, Castillo, and Balaguer, 2016), as well as ensuring the continuity of physical sports practice once students finish their compulsory secondary schooling. Therefore, knowing what factors can influence a young person to be physically active after finishing his or her compulsory secondary schooling or high school is of great interest in order to design interventions for the generation of physical-sports practice habits in the classes of PE with the aim of making them more effective in increasing the level of adherence to physical-sports practice among adolescents (Vidal-Conti, 2016).

Within the behavioral theories directed in this sense, the most extended and used is the Theory of the Planned Behavior (TPB) (Ajzen, 1991). This theory defends that the intention expressed by students to practice physical activity is a good indicator of their motivation towards such practice. Therefore, adolescents who have a positive attitude towards physical activity and feel that they want to be involved in it and that others expect them to do so will be much more likely to engage in physical activity and establish healthy habits (Martin et al., 2005). This implies that extracurricular physical-sports practice can be motivated by different aspects, including the influence of the adolescent's close environment (parents, siblings and friends), athletic identity and aspects such as their perceptions of behaviour.

Extracurricular sports practice and planned behaviour theory

The Royal Decree 1105/2014, marks in the curriculum of Physical Education, as a main objective for all the Autonomous Communities in Spain, to establish the habits of a healthy lifestyle in schoolchildren and teach them to lead an active lifestyle. For this reason, physical-sports practice should not be restricted to the academic environment, but should be encouraged to practice physical activity outside of school in such a way that it complements the hours established in the academic curriculum. This will allow, on the one hand, adolescents to benefit from the positive aspects of physical activity and, on the other hand, will increase the probability that they will be able to establish healthy habits in a sustained manner, since adolescence is a fundamental period for the acquisition and transfer of these habits in the adult stage (Hellín, Hellín, and Moreno, 2004).

In fact, within the occupation of daily time that can be found in the lives of young people, extracurricular activities would be framed within leisure activities (Gil-Calvo and Menéndez, 1985), with the debate on the correct use of leisure time by adolescents due to the increase in sedentarism and the appearance of problems such as obesity. This debate sometimes goes beyond the analysis of what they occupy their time and reaches the concern of what the use of free time by young people should be (Nuviala, Juan, and Montes, 2003), acquiring importance in this context the physical-sports practice. Therefore, despite the fact that the school and extracurricular environments are different, both practices are carried out at the same educational stage, so they contribute to the overall improvement of students and are part of the same overall educational reality in charge of the formation of students. However, in practice there is a great lack of coordination between the formal academic environment and the extracurricular environment (Rivera and Izquierdo, 2011) so they can not take advantage of all the potential that the situation allows.

To this end, knowing which variables affect the acquisition of physical and sports habits outside the school environment can help to improve this coordination between the two areas. In fact, the Theory of Planned Behavior (TPB) developed by Ajzen (1991) has been one of the most widespread theories for predicting human behavior. This theory, defends that behavior needs a certain planning, being this the one that will predict such behavior intention. It is composed of three antecedents (Ajzen, 1991): the attitude towards behavior and the control of perceived behavior which are internal or personal variables, and the subjective norms which are a more external variable.

Firstly, in relation to the internal variables, the attitude towards behaviour consists of the evaluation, favourable or unfavourable, that a person makes of the behaviour in question, in this specific case of physical sports practice, through behavioural beliefs and evaluations of these consequences. The control of the planned behavior which refers to the perceived ease or difficulty of the subject to carry out a performance based on previous experiences, in this case would be the ease or difficulty to adopt the behavior of physical sport practice on a continuous basis. It is also necessary to emphasize within these, although it does not form part of this theory, the athletic identity, since it has been used as an important internal factor of the subject that influences the intention of physical sport practice according to several previous studies (Theodorakis, 1994; Theodorakis, Bagiatas and Goudas, 1995). This refers to the way in which a person constructs the role of his or her behavior, as for example mother, father, teacher, but in this concrete case, as a sportsman or executor of an important part of what he or she is (Therry, Hogg and White, 1999).

Finally, in relation to the social background of the TPB, it is worth highlighting the subjective norms, since it corresponds to the social influences (subjective norm) to carry out or not certain actions. These subjective norms are based on the fact that the social influence of groups close to the individual will mark a series of behavioural expectations that will influence the actions carried out by that individual (Ajzen, 1991). In relation to this social aspect, the following details the relationship of influence that is established between the practice of sports in the environment and the levels of sports practice of adolescents.

Social factors influencing physical and sports practice among adolescents

Different factors can have an important influence on the student's physical-sports practice, such as the lifestyle of the closest social groups, or the particularities of the environment in which the adolescents live (Gargallo, 2015). Authors such as Castro-Sánchez, Zurita-Ortega, Martínez-Martínez, Chacón-Cuberos, and Espejo-Garcés (2016), indicate the fundamental role of the family in establishing healthy habits. According to Ferrando (2006), the fact that parents are physically active is the most influential element in their children being active, this idea being supported by other more recent contributions such as those of Revuelta, García, and Rey-Baltar (2017) or Aguayo et al. Based on the above, parents should be aware that their actions transmit a series of values that will largely determine the establishment of healthy habits in their children (Diez and Guisasola, 2002). Likewise, other studies establish that, at older ages, those adolescents who have friends who practice physical activity also show higher levels of activity (Voorhees et al., 2005).

According to Gargallo (2015), students base these practice actions on three well-differentiated social contexts: family, peers and school. However, it should be noted that the importance of the different contexts varies according to the stage of development in which the child is (Greendorfer and Bruce, 1991), with the great influence of the family in the early years being relegated to peers during adolescence. Regardless of these influences, the role of the school in promoting and encouraging physical activity in and out of school is very important for the initiation and maintenance of healthy living habits (Rivera and Izquierdo, 2011). Along the same lines, Serra Puyal (2008) explains that there is a change in the factors that influence adolescent sports practice, showing a greater vulnerability at early ages to the influence of adults and that this is different as they get older, with the most influential groups being the group of friends or peers and the figure of the mother.

Numerous investigations show that the physical-sports practice of the adolescents is widely influenced by the attitudes and behaviors in front of the sport of the nearest environment of the subject. According to Swaminathan, Thomas, Yusuf, and Vaz (2013), if the parents' life habits are healthy, there is a high probability that their children's life habits are also healthy. More specifically, Sánchez-Miguel et al. (2015) state that the practice of sport by parents has a significant positive relationship with that of their children. For this reason, it is necessary for parents to be aware of the great influence they can have on the transmission of life habits, as well as on the voluntary sporting participation of their children (Diez and Guisasola, 2002). Therefore, the objectives of this study are (1) to analyze which variables of the theory of planned behavior (TPB) and athletic identity present a greater level of correlation with the intentions of students to be physically active once they complete their academic training and (2) to find out if the physical-sports practice of the students' environment (fathers, mothers, siblings and friends) influences this intention and the other variables related to it.

Material & methods

Participants

An intentional or convenience probability sample was used, selecting students who were about to finish their compulsory schooling (3rd and 4th year of ESO) and high school (1st and 2nd year of Bachillerato). Therefore, the sample is composed of 230 secondary and baccalaureate students, 60.90% of whom were male and 39.10% female, with an average age of 15.79 (SD = 1.05) years. Of these, 89.10% were in secondary school (3rd and 4th grades) and the remaining 10.90% were in high school. 83.20% practiced sport outside the school setting, while the remaining 16.80% did not practice sport outside the school setting.

Instruments

A questionnaire composed of the different scales was used as an instrument to collect the information: Exercise Identity Scale (EIS-E): this scale was extracted from ModronoPascual, GuillénGarcía, and González Henriquez (2010), and is the Spanish version of the Exercise Identity Scale (EIS) by Anderson and Cychosz (1994). This scale is composed of nine items that measure students' identification with physical activity practice, and presented a Cronbach's alpha of .91. To measure the items, a 5-point ascending Likert scale is used where 1 meant completely disagree and 5 completely agree. Measurement of Intentionality to be Physically Active (MIFA): this scale was extracted from Hein, Müür, and Koka (2004), and was later translated into Spanish and validated by Moreno, Moreno, and Cervelló (2007). It consists of five items that measure the personal intention to be physically active at the end of schooling, with a Cronbach's alpha of .79. To measure this intention, a 5-point ascending Likert scale was used, where 1 means completely disagree and 5 completely agree. Planned Parenthood Theory Questionnaire: This scale was taken from (González, López, Marcos, and Rodríguez-Marín, 2012). This scale is composed of four items that measure the subjective norm construct (Cronbach's alpha = .84), seven items that measure control of perceived behavior (Cronbach's alpha = .82), and, another seven items that measure attitude toward behavior (Cronbach's alpha = .87). To measure the items, a 5-point ascending Likert scale is used where 1 meant completely disagree and 5 completely agree. Finally, it should be noted that a series of sociodemographic variables have also been introduced which have been considered of interest for the study, such as: the course, age and sex, and the physical sports practice of friends and family.

Procedure

The questionnaires were administered to as many ESO and Bachillerato students as possible from a school in the city of Valencia. To this end, the questionnaire was previously sent to the head teacher of the school to give informed consent, so that it could be administered to the students. Once the principal gave her

consent, and proceeded to inform the EF teacher, the questionnaires were administered to the students before the beginning of the PE classes. Throughout the process, students were informed of the anonymous nature of the questionnaire, as well as the voluntary nature of its completion, and the principles of the Declaration of Helsinki (World Medical Association, 2013) were followed for this type of research. The time required to answer the questionnaire was approximately 10-15 minutes.

Statistical analysis

In order to analyse the data obtained from the questionnaires, the database was first coded and cleaned. Subsequently, descriptive analyses of the sample were carried out (sex, age, physical sports practice of the students, physical sports practice of the father, mother, siblings and friends). Next, a Pearson correlation was made, in order to check the relationship between the variables under study and the intention to be physically active. Finally, t-tests were carried out for independent samples to find out whether the physical sports practice of the father, mother, siblings and friends influenced the psychological variables related to the intention to be physically active of the students at the end of their schooling. The size of the effect of these differences was taken into account by calculating Cohen's *d*. For this purpose, the SPSS version 23 statistical package was used.

Results

Firstly, a correlation analysis was carried out to find out which variables correlated directly with intentions to be physically active at the end of schooling. As can be seen in Table 1, all the variables analysed were correlated with the intention to be physically active, with the athletic identity ($r = .79$) being the most highly correlated, followed by the control of perceived behaviour ($r = .40$).

Table 1. Correlations of the intention to be physically active at the end of schooling with the TPB variables and the athletic identity

	1	2	3	4	5
Intention to be physically active (1)	1				
Subjective standard (2)	.32***	1			
Control of perceived behaviour (3)	.40***	.26***	1		
Athletic Identity (4)	.79***	.40***	.51***	1	
Attitude towards behaviour (5)	.32***	.20**	.19**	.39***	1

Note: ** $p < .01$; *** $p < .001$

Once the variables that were directly related to the intention of being physically active at the end of school were checked, we proceeded to analyse whether the physical practice of sport in the close environment of the students (fathers, mothers, brothers and sisters and friends) had a positive influence on these variables. In the case of the parents, more than half (63.30%) practiced physical sports activity, while less than half, in the case of the mothers (43.90%) practiced it. In relation to the physical sport practice of siblings and friends, more than three quarters of them practiced physical sport activity, specifically 81.10% and 89.50%, respectively.

Table 2. Percentage of fathers, mothers, brothers and friends of the students who practiced physical sport activity daily

	Yes (%)	No (%)
Father's sports practice	63.30	36.70
Mother's sports practice	43.90	56.10
Sports practice of the brothers	81.10	18.90
Sports practice of friends	89.50	10.50

In the first place, in relation to the father's physical sports practice, it can be observed that students whose fathers practiced physical activity presented higher averages than those who did not. However, statistically significant differences were only found in the subjective norm variable, with students whose fathers practiced sports having a score of 3.88 ($SD = 1.01$), and not a score of 3.61 ($SD = .97$), the size of the median effect being (Cohen's $d = .26$). These results are shown in Table 3 below.

Table 3. Mean differences between students whose parents practiced physical activity and those who did not.

	<i>F</i>	<i>p</i>	Yes □ (<i>SD</i>)	No □ (<i>SD</i>)	Cohen's <i>d</i>
Intention to be physically active	5.33	.200	4.38 (.65)	4.24 (.84)	-
Subjective standard	.01	.041	3.88 (1.01)	3.61 (.97)	.26
Control of perceived behaviour	.22	.834	4.49 (.77)	4.47 (.76)	-
Athletic Identity	6.16	.202	4.13 (.99)	3.93 (1.17)	-
Attitude towards behaviour	.09	.208	4.22 (.69)	4.08 (.76)	-

Secondly, taking into account the mothers' physical sports practice, it can be seen that, although in all the variables related to the adolescents' intention to practice physical sports, the students whose mothers practiced physical activity presented higher scores, none of these differences turned out to be statistically significant. The results are shown in Table 4 below.

Table 4. Mean differences between students whose mothers practiced physical activity and those who did not.

	<i>F</i>	<i>p</i>	Yes □ (<i>SD</i>)	No □ (<i>SD</i>)	<i>Cohen's d</i>
Intention to be physically active	6.37	.301	4.39 (.65)	4.29 (.79)	-
Subjective standard	.04	.841	3.79 (1.03)	3.77 (.98)	-
Control of perceived behaviour	.58	.556	4.52 (.73)	4.46 (.78)	-
Athletic Identity	4.23	.219	4.16 (.98)	3.99 (1.12)	-
Attitude towards behaviour	.66	.699	4.19 (.69)	4.16 (.74)	-

Thirdly, taking into account the physical-sports practice of the siblings, it can be observed that in all the variables the students whose siblings practiced physical-sports activity, they presented higher averages. These differences were statistically significant in the case of the subjective norm ($p = .026$), control of perceived behaviour ($p = .035$), athletic identity ($p = .026$) and attitude towards behaviour ($p = .022$).

In the case of the normative subjective variable, students whose siblings practiced physical-sports activity presented a mean of 3.89 ($SD = .94$), and those whose siblings did not practice physical-sports activity presented a mean of 3.39 ($SD = 1.22$), being the effect size medium (d of Cohen = .50). In relation to this second variable, the control of perceived behavior, students whose siblings practiced physical-sports activity presented a mean of 4.54 ($SD = .70$) while those whose siblings did not practice physical activity presented a mean of 4.14 ($SD = 1.02$), being also the size of the median effect (d of Cohen = .52).

On the other hand, regarding the variables athletic identity and attitude toward behavior, in the case of the former, students whose siblings practiced physical activity presented a mean of 4.13 ($SD = 1.04$), while those who did not present a mean of 3.69 ($SD = 1.05$), being the size of the median effect (Cohen's $d = .42$). In the case of this second variable, students whose siblings practiced physical-sports activity presented a mean of 4.23 ($SD = .69$), while those who did not present a mean of 3.93 ($SD = .80$), being also the size of the median effect (Cohen's $d = .42$).

Table 5. Mean differences between students whose siblings practiced physical activity and those who did not.

	<i>F</i>	<i>p</i>	Yes □ (<i>SD</i>)	No □ (<i>SD</i>)	<i>Cohen's d</i>
Intention to be physically active	3.26	.161	4.35 (.70)	4.15 (.87)	-
Subjective standard	8.71	.026	3.89 (.94)	3.39 (1.22)	.50
Control of perceived behaviour	8.57	.035	4.54 (.70)	4.14 (1.02)	.52
Athletic Identity	.08	.026	4.13 (1.04)	3.69 (1.05)	.42
Attitude towards behaviour	.54	.022	4.23 (.69)	3.93 (.80)	.42

Finally, in relation to the physical-sports practice of friends, it can be observed that those students who had physically active friends outside the school environment, presented higher averages than those students whose friends were not. However, these differences were statistically significant in the case of intention to be physically active ($p = .001$), and athletic identity ($p = .005$).

For this first variable, students whose friends were physically active had a mean of 4.40 ($SD = .68$), while those whose friends were not physically active had a mean of 3.70 ($SD = .92$), with the effect size being large (Cohen's $d = .99$). Regarding the second variable, students whose friends practiced physical-sports activity presented a mean of 4.14 ($SD = .99$), while those whose friends did not practice it presented a mean of 3.29 ($SD = 1.32$), being also the size of the effect large (d of Cohen = .87). The results are shown in Table 6.

Table 6. Mean differences between students whose friends practiced physical activity and those who did not.

	<i>F</i>	<i>p</i>	Yes □ (<i>SD</i>)	No □ (<i>SD</i>)	<i>Cohen's d</i>
Intention to be physically active	6.74	.001	4.40 (.68)	3.70 (.92)	.99
Subjective standard	1.19	.108	3.82 (.96)	3.47 (1.20)	-
Control of perceived behaviour	.16	.781	4.48 (.76)	4.44 (.84)	-
Athletic Identity	6.13	.005	4.14 (.99)	3.29 (1.32)	.87
Attitude towards behaviour	.40	.829	4.17 (.70)	4.14 (.85)	-

Dicussion

The main objective of Physical Education is not only to practice physical activity during its sessions, but also to create healthy lifestyles and habits in its students. However, there are authors who claim that the specific subject of PE does not have a great implication in the promotion of extracurricular sports practice and, consequently, in the adoption of physically healthy habits (Gil, Campos, Contreras, and Díaz, 2012). For this reason, it is necessary to investigate what factors influence the practice of sports and the creation and establishment of healthy life habits in the youngest, since various investigations affirm that there is a very high number of students who practice extracurricular physical-sports activities (ChacónCuberos et al., 2017).

In the present study, we analyzed the influence that agents close to the environment of young people and adolescents have on their physical-sports practice. Based on the results obtained, students whose parents engage in physical activity obtain significantly higher results in the subjective norm variable than young people whose parents do not engage in any type of sports practice, while the physical activity of the mothers does not have a significant influence on the sports practice of their sons and daughters. In the same line of these results, the Sports Habits Survey (2015) shows that 34.20% of the total Spanish persons who practice sports have a physically active mother or father, practicing some type of sport or physical activity, while in 65.80% of the remaining cases of active subjects, none of the parents practice physical activity or sports. However, in contrast to our results, Weiss (2000) states that the practice of sport by children and adolescents is influenced by the physical activity of the parents and the social relationship that the subject constitutes with his or her family, as well as (Ferrando, 2006), who states that the practice of sport by the parents is the variable that has the best prediction in the active life of their sons and daughters. The results obtained can be explained by the fact that the age of the sample is between 12 and 18 years, with adolescence being the stage in which children are distanced from their parents with respect to early childhood, which they act upon by imitating their closest environment, i.e., their parents.

On the other hand, if we take into account the physical activity of brothers/sisters and friends, there is a greater influence on the variables analysed. Young people whose brothers and sisters practice physical activity and sports have significantly higher results in the variables subjective norm, perceived behavioural control, athletic identity and attitude towards behaviour. This can be explained by Torres (1998), who reveals that the main socializing agent in boys is their group of friends, their father and also their older brother, while for girls it is the older sister.

Finally, adolescents whose friends are physically active have higher values of the intention to be physically active and the athletic identity variable than young people whose friends do not practice physical activity, in line with Voorhees et al. (2005) who state that levels of sports practice will be higher if the subject has physically active friends. This change in the influence of the environment may make sense, since during childhood the greatest factor of influence is the family, mainly the parents, while in the adolescent stage the peer group gains importance and influence to the detriment of the family, due to the fact that they spend more time outside the home and the interests and aspects in common during this period unite them more to the friends than to the parents.

Therefore, in addition to being very important to choose a social group that matches your hobbies and tastes, it is important that they are physically active. In addition to the above, you should also give your PE classes the importance they deserve. According to Juan and Piéron (2009), these classes should be used to generate and promote healthy sports habits by being an ideal setting to instill not only values but also a predisposition for movement and physical activity outside school hours. Hence, it is important, even necessary, to propose and carry out quality classes in which the perception of sport is improved. Therefore, despite the influence of parents, siblings and friends, the important role that teachers could have, in particular, the teachers of PE, should be highlighted, since they can be a reference point for sport and healthy lifestyle habits for all their students, trying to instill these habits through the improvement of their learning skills.

Conclusions

The acquisition of physical-sports habits during adolescence that will last a lifetime is one of the main objectives that PE seeks to achieve, presenting itself as an ideal setting to achieve this great goal. However, this is presented as a great challenge, since, until now, and despite the fact that work is being done on it, the hours of this subject in most communities of the Spanish state are scarce and insufficient to generate the benefits that the physical-sports practice generates and even to generate such sports habits. For this reason, it is necessary to investigate the different aspects or variables that can contribute to the creation of these habits outside the school environment and that will last after the end of the secondary schooling period and the baccalaureate for adolescents

One positive aspect is that the data from this study have shown that most of the students practice physical activity outside of school, but we should try to keep it up over time. Furthermore, the role played by the students' reference groups (family and friends) in the acquisition of such physical-sports practice habits has been highlighted. However, although more than half of the parents, siblings of the students and group of friends practice physical-sports activity, in the case of the mothers the opposite is true. It is mainly the brothers and sisters and friends who have the greatest influence on the creation of these physical-sports habits, the latter being

particularly noteworthy for their significant differences in the variable intention to practice physical sport at the end of schooling.

Finally, it should be noted that the present study presents a series of limitations which should be recognized and taken into account for future research. Among the main limitations found in the present study, it is worth highlighting the transversal design carried out, as well as the reduced sample, since only one educational centre has been analysed. However, it is necessary to emphasize that the present research is an approximation to the area of study, being important to propose diverse lines of future research. Bearing in mind these limitations, as future lines of research it would be interesting to increase the sample analysed and for it to be from different schools in order to be able to extract more representative results. Furthermore, it would also be interesting to carry out a comparison including variables such as the ownership of the centre or the analysis of different members of the school context such as teachers, a group that can be very influential in the process of acquiring healthy habits. Finally, another possible line of research would be to carry out a longitudinal study to see how the different variables analysed evolve after carrying out some specific intervention with the aim of improving adherence to physical-sports practice outside school hours and its continuity at the end of schooling.

The results of this study present a series of practical implications for PE teachers to achieve their ultimate goal, such as the creation of physical sports practice habits in their students outside the school environment. First of all, PE teachers should organize sports days and activities involving students' relatives (siblings, parents) as well as friends in order to try to encourage a positive attitude towards sports and to increase their levels of physical practice.

Another measure that could be used by these teachers is the improvement of the athletic identity of the students, which could be achieved through activities that encourage physical activity in the day-to-day life of the adolescents. For example, the use of activity bracelets to measure steps, and establish weekly challenges, or the encouragement of participation in sports events during out-of-school hours. Monitoring of perceived behavior should also be encouraged during PE classes, as this will also have a direct impact on the adolescents' physical-sports intentions. Therefore, in PE classes students should be given the tools and knowledge to learn how to create their own personalized training routines. Therefore, the creation of a sports routine diary under the supervision of teachers can be a good tool for this.

Finally, the attitude towards behaviour is also quite related to the intention of physical-sports practice at the end of schooling, so it should also be worked on in the PE classes. To do this, bringing athletes into the classroom to tell about their experiences, bringing professionals to present to students the benefits of physical activity, or attending some events where these are presented, can help improve the attitude towards physical activity. In addition, readings about the benefits of physical activity at all levels could help improve that attitude.

Conflicts of interest - The authors have no conflict of interest

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