

## Associations between the Perceived Importance of Physical Education and Group Cohesion in Secondary School Students

### Asociaciones entre la Importancia Percibida de la Educación Física y la Cohesión de Grupo en Estudiantes de Secundaria

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**Abstract.** Physical Education (PE) is seen as knowledge in practice, that is, knowledge acquired through active participation in social practices. The aim of this study is to know the association between the importance of Physical Education and group cohesion in Secondary Education students, analyzing the possible differences according to the gender. 310 students from Extremadura answered three sociodemographic questions, in addition to two other instruments: the Importance of Physical Education scale, consisting of 3 questions, and the Group Cohesion Evaluation Questionnaire, consisting of 9 questions. The Kolmogorov-Smirnov test was used to determine the assumption of normality. Finally, nonparametric tests were chosen because this assumption was not met. In this sense, the Mann-Whitney U test was used to examine gender and Spearman's Rho test was used to analyze the association between each of the instruments and gender. Reliability was assessed using Cronbach's alpha. Some statistical differences were observed between men and women. In addition, these differences may be due to the motivation that students have in the realization of sports practice, therefore, it would be interesting to develop future lines of research.

**Keywords:** Physical Education; importance of Physical Education, group cohesion, secondary education; gender; motivation.

**Resumen.** La Educación Física (EF) se considera un conocimiento en la práctica, es decir, un conocimiento adquirido a través de la participación activa en prácticas sociales. El objetivo de este estudio es conocer la asociación entre la importancia de la Educación Física y la cohesión grupal en estudiantes de Educación Secundaria, analizando las posibles diferencias en función del género. 310 alumnos extremeños respondieron a tres preguntas sociodemográficas, además de otros dos instrumentos: la escala de Importancia de la Educación Física, compuesta por 3 preguntas, y el Cuestionario de Evaluación de la Cohesión de Grupo, compuesto por 9 preguntas. Se utilizó la prueba de Kolmogorov-Smirnov para determinar el supuesto de normalidad. Por último, se eligieron pruebas no paramétricas porque no se cumplía este supuesto. En este sentido, se utilizó la prueba U de Mann-Whitney para examinar el género y la prueba Rho de Spearman para analizar la asociación entre cada uno de los instrumentos y el género. La fiabilidad se evaluó mediante el alfa de Cronbach. Se observaron algunas diferencias estadísticas entre hombres y mujeres. Además, estas diferencias pueden deberse a la motivación que tienen los estudiantes en la realización de la práctica deportiva, por lo que sería interesante desarrollar futuras líneas de investigación.

**Palabras clave:** Educación Física; importancia de la Educación Física, cohesión grupal, educación secundaria; género; motivación.

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Fecha recepción: 12-05-23 Fecha de aceptación: 24-10-23

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### Introduction

Physical activity (PA), according to the World Health Organization (WHO) (2022), is any skeletal muscle-driven motion that involves energy expenditure. In this sense, regular exercise has been found to aid in the prevention and management of non-communicable diseases such as diabetes, heart disease, stroke, and a number of cancers. Additionally, it lowers blood pressure, supports healthy weight maintenance, and enhances mental and physical wellbeing. Also, numerous studies (Roth et al., 2019; Warburton & Bredin, 2019) have demonstrated its value in the growth of the locomotor system, cardiovascular system, neuromuscular system, better control of anxiety and depression, contributing to social development and avoiding unhealthy behaviors as well as increased self-esteem, creating a positive effect on the well-being of people who practice it.

Therefore, the scientific evidence supports PA's benefits among young people in a comprehensive manner, affecting in all its areas: physical, psychological, and social (Mazereel et al., 2021; Tikac et al., 2022). However, the majority of adolescents globally do not engage in enough physical exercise to have a significant positive impact on their health, according to WHO (2022). For all these reasons and in order

to prevent non-communicable diseases, which are a health problem (Méndez Alonso et al., 2017), Physical Education (PE) is an area of importance since it also sets as one of its main goals for students to internalize and acquire autonomy to follow healthy life patterns that lead to and promote better personal and social development and acquire health habits for adult life (Pangrazi & Beighle, 2019).

Following this line, in order to reach the goal of reducing obesity and sedentary lifestyles, among other negative causes, it appears necessary to enhance the teaching hours of such subject (Méndez Alonso et al., 2017). However, it is important to keep in mind that quantity is not always a good indicator of quality and that, in addition to the goals listed above, PE should not overlook the significance of other benefits it offers, such as affective-motivational, social insertion, cognitive, or interpersonal relationships (Pérez-Pueyo et al., 2020). In this sense, given that adolescence is a stage that is crucial for the development of a healthy lifestyle that may last into adulthood, it is important to understand the motivation behind young people's practice in order to increase their commitment, as it appears that the practice of PA and active lifestyles among these adolescents declines with age (Planas et al., 2020).

Moreover, according to studies on enjoyment during

sports practice, the perception of success both individually and as a member of a team, as well as a sense of belonging and social identity within a group, all increase motivation and, as a result, maintain an inversely proportional relationship with sport abandonment, (Murray & Sabiston, 2022; Romanová & Sollár, 2019). It is important to note that young people with high intrinsic practice motives—defined as the desire to do something for a purpose that originates from within each person without taking into account external stimuli—will ensure a healthier lifestyle through sport to a greater extent (Fradejas Medrano & Espada Mateos, 2018). Being federated or not, due to the stimulation of the environment to defeat the opponent, is one of the elements that boosts extrinsic motivation, which is regarded to be the one that occurs when there is any form of external effect (Escamilla Fajardo et al., 2020). Similar to this, it's important to remember the role that self-efficacy plays in the actual formation of goals (Moradi et al., 2020; Tušák et al., 2022). In short, PE is assisted by using its mobilizing and motivational actions as a strategy to adapt its curriculum proposal to the interests and needs that the 21st century demands of the educational system and to go beyond the preparation of the human being for physical activity and athletic competition, choosing instead to develop purposes at the level of education and training of the human being (Guío Gutiérrez, 2022).

On the other hand, given its prominent prevalence in the exclusion and school failure processes, coexistence has been positioned as a key issue in the educational field (Carrabal Padilla & Fierro Evans, 2019). Several authors, believe that PE is directly related to concepts like cooperation, individual and social responsibility, respect, conflict resolution, and recognition of cultural diversity (Lleixà, 2017). As a result, it is vital to approach it from the PE, because it provides resources that support interpersonal interactions and encourage emotional and social growth (López Sánchez et al., 2022).

The primary performance metrics in training categories are Group Cohesion (GC), cooperation, and collective efficacy. GC has been the subject of study due to its multiple benefits in the teaching-learning process (Salgado-Santos et al., 2022). It is a crucial team process to maintaining unity of purpose in order to accomplish or improve the objectives (Carron et al., 2004) or to meet affective requirements (Huéscar Hernández et al., 2017). In this sense, GC can be fostered and developed through collaborative, values-based physical education lessons (López Nadal & Frutos Salvia, 2011).

Therefore, GC is the first skill that a teacher should instill in their class; by doing so, the students will learn how to cooperate with one another and begin to understand the benefits of doing so (Fernández-Río, 2017). Its primary goals include creating a trusting environment in the classroom, encouraging a sense of community, and putting the group in a position where they have the specialized knowledge and skills necessary to take on the brand-new cooperative activities they will begin

(Fernandez-Rio et al., 2018). This stage is crucial for watching group dynamics and making choices to modify the programming to reflect the group's reality. Activities should aim to provide students the chance to connect with all of their classmates at some point throughout the session (e.g., changes of pairs and subgroups), with the goal of starting to make contact, even if only seldom, with people they do not often interact with. Complex activities that need for several explanations should be avoided in order to create these modifications, and it is advised that they have a duration of between 5 and 10 minutes so that three or more may be introduced in the same session (Martín Martín & Jiménez Martín, 2021).

Due to the fact that in recent years there has been an increased interest in studying both the satisfaction and enjoyment that students report having during PE classes and the importance and usefulness they assign to this subject (Baños et al., 2017) as well as the benefits of GC in the teaching-learning process (Salgado-Santos et al., 2022), the present study aims to determine the association between the importance of PE and group cohesion in secondary school students, analyzing the possible differences according to the gender of the students.

## Materials and methods

### Participants

Three hundred and ten secondary school students in grades 1, 2, and 3 from Extremadura made up the sample. Table 1 displays the sociodemographic information of the subjects, who were selected using a non-probability convenience sampling technique (Salkind, 1999).

Table 1.  
Distribution of the sample (N = 310).

Variable	Categories	N/M	%/SD
Gender	Male	127	41
	Female	183	59
Course	First grade	145	46.8
	Second grade	142	45.8
	Third grade	23	7.4
Age		12.85	0.65

N: number, M: mean, %: percentage, SD: standard deviation.

### Procedure

After consulting the database of public schools in Extremadura (Spain) maintained by the Department of Education and Employment of the Regional Government of Extremadura, the e-mail addresses of the schools providing Compulsory Secondary Education were selected. Each educational center received an email addressed to the PE teachers outlining the purpose of the study, requesting parental agreement, and inviting their participation in the research. Schools that agreed to participate in the study were informed that they should obtain informed consents from the parents of PE students enrolled in the first cycle of compulsory secondary education. They were also instructed to set up an appointment by email so that a member of the research team would visit the school on the designated date to administer the questionnaires to those students. When a

member of the research team visited the educational facilities, he gave the pupils access to the URL for the questionnaire using a tablet that belonged to the research team. The researcher read aloud each item on the instrument before completing it, answering any questions that occurred, and making sure that each item was understood. All information was gathered and handled anonymously. The questionnaire received five minutes on average per response. The period of data collecting was September through December 2022. Therefore, this research is considered an observational, descriptive and cross-sectional study.

### Instruments

Three questions about the participants' gender, age, and educational level were included in the questionnaire for the sociodemographic characterization. In addition, two other instruments were used: "The PE Importance scale" (PEI) and "The Group Cohesion Evaluation Questionnaire" (GCEQ). The first one, the PEI, consists of three questions: 1: "I consider it important to receive PE classes", 2: "Compared to the rest of the subjects, I think PE is one of the most important" and 3: "I think that the things I learn in PE will be useful in my life". Responses used a Likert scale (1-4), with 1 being "totally disagree", 2 "quite disagree", 3 "quite agree", 4 "totally agree" (Moreno Murcia et al., 2009). Finally, the other instrument, the GCEQ consisted of nine questions: 1: "We get along well together", 2: "We feel good about our team", 3: "We enjoy helping each other", 4: "We stick together during the challenges", 5: "I feel like my group will keep me safe", 6: "We encourage each other in the challenges", 7: "I feel like I fit in my group", 8: "I want to work on more challenges with my group", 9: "We help each other on the challenges". In the Questionnaire each score obtained is also based on the Likert Scale (1-4) (Glass & Benshoff, 2002). It should be noted that the GCEQ was initially developed with 16 items, drawing inspiration from relevant literature and item types,

however it was determined that fewer items would make the instrument simpler for participants to comprehend and complete given the target population's age (Glass & Benshoff, 2002).

### Statistical Analysis

The data was processed using IBM SPSS statistical software for MAC, version 23 (Chicago, IL, USA). First, the assumption of normality in the data distribution of the continuous variables was investigated using the Kolmogorov-Smirnov test. It was discovered that this presumption was false, hence nonparametric statistical tests were chosen. The differences between the items of both scales and constructs were examined using the Mann-Whitney U test (Table 2 and Table 3). The level of statistical significance was established in  $p \leq 0.05$ . The link between the two measures was examined using Spearman's Rho test. The Mondragón-Barrera standards (Barrera, 2014) of 0.00 (no correlation), 0.01 to 0.10 (low correlation), 0.11 to 0.50 (medium correlation), 0.51 to 0.75 (considerable correlation), 0.76 to 0.90 (very high correlation), and 0.91 to 1.00 (perfect correlation) were used to interpret the correlation coefficients. Each of the instruments' reliability was examined using Cronbach's alpha. In order to understand the reliability test results, we used Nunnally Bernstein's reference ranges (Nunnally & Bernstein, 1994) of 0.70 (poor), from 0.71 to 0.90 (acceptable), and  $>0.91$  as a guide (excellent). Two data are provided as mean values, standard deviations, and percentages for categorical variables and continuous variables, respectively.

### Results

Table 2 shows descriptive information for each question of the GCEQ based on the mean (M) and standard deviation (SD) for each gender. It is observed that there are no significant differences.

Table 2.  
Descriptive analysis and differences by sex of the questionnaire items.

Item	Gender			p
	Total	Male	Female	
	M (SD)	M (SD)	M (SD)	
1. We get along well together	3.31 (0.81)	3.33 (0.69)	3.29 (0.89)	0.653
2. We feel good about our team	3.35 (0.81)	3.45 (0.74)	3.29 (0.85)	0.127
3. We enjoy helping each other	3.44 (0.72)	3.46 (0.63)	3.42 (0.77)	0.866
4. We stick together during the challenges	3.10 (0.88)	3.11 (0.83)	3.09 (0.92)	0.916
5. I feel like my group will keep me safe	2.97 (0.99)	2.98 (1.03)	2.96 (0.96)	0.684
6. We encourage each other in the challenges	3.04 (0.99)	3.03 (0.95)	3.04 (1.02)	0.797
7. I feel like I fit in my group	3.34 (0.93)	3.39 (0.96)	3.30 (0.90)	0.225
8. I want to work on more challenges with my group	3.41 (0.86)	3.37 (0.90)	3.44 (0.84)	0.492
9. We help each other on the challenges	3.16 (0.91)	3.20 (0.87)	3.14 (0.94)	0.711
GCEQ	3.23 (0.70)	3.25 (0.65)	3.21 (0.73)	0.959

Note: M = mean; SD = standard deviation. Note: The level of statistical significance was established in  $p \leq 0.05$ . Each dimension's score is determined using a Likert scale (1-4): 1 "Totally disagree", 2 "Quite disagree", 3 "Quite agree", 4 "Totally agree".

Table 3 presents descriptive information for each question of the PEI based on the mean (M) and standard deviation (SD) for each sex. It is observed that there are significant differences in item 1 ( $p=0.001$ ) and in the scale as a whole ( $p=0.033$ ).

Table 4 displays the correlations between the dimensions of the GCEQ and the PEI by means of Spearman's Rho test. It can be seen that there are significant differences ( $p < 0.001$ ).

Table 3.  
Descriptive analysis and gender differences of the survey items.

Item	Gender			
	Total	Male	Female	P
	M(SD)	M(SD)	M(SD)	
1. I consider it important to receive PE classes	3.52 (0.85)	3.72 (0.62)	3.38 (0.95)	0.001**
2. Compared to the rest of the subjects, I think PE is one of the most important	2.89 (0.92)	2.99 (0.89)	2.82 (0.94)	0.092
3. I think that the things I learn in PE will be useful in my life	3.22 (0.92)	3.28 (0.87)	3.18 (0.95)	0.444
PEI	3.21 (0.77)	3.33 (0.69)	3.12 (0.82)	0.033*

Note: M = mean; SD = standard deviation. Note: The level of statistical significance was established in  $p \leq 0.05$ . Each dimension's score is determined using a Likert scale (1-4): 1 "Totally disagree", 2 "Quite disagree", 3 "Quite agree", 4 "Totally agree".

Table 4.  
Correlation between scales.

Dimensions	PEI p (p)	PEI	
		Male	Female
GCEQ	0.28 (<0.001)	0.354 (<0.001) **	0.231 (<0.001) **

Note: The level of statistical significance was established in  $p \leq 0.05$ . Each dimension's score is determined using a Likert scale (1-4): 1 "Totally disagree", 2 "Quite disagree", 3 "Quite agree", 4 "Totally agree".

Finally, Table 5 shows the reliability results for each of the scales: "Group Cohesion Scale" = 0.93; "Importance of the PE Scale" = 0.83. The values were calculated based on Cronbach's alpha, considered excellent and acceptable according to Nunnally and Berstein (Nunnally & Bernstein, 1994).

Table 5.  
Reliability indicators

Dimensions	Cronbach's alpha
GCEQ	0.93
PEI	0.83

## Discussion

This project originated from the interest in knowing the association between the importance of PE and group cohesion in secondary school students. To achieve these results, these dimensions were examined using their corresponding instruments (PEI and GCEQ). Gender was also considered as a possible influencing factor.

As Fernández-Río et al. highlights (Fernandez-Río et al., 2018) along with preparing the group in terms of specific skills and abilities that will allow them to face the new cooperative activities they are about to start, GC creates a climate of trust in the classroom and builds a sense of belonging. With respect to GC a discrepancy is observed within the literature. A study with team sports it has been found that compared to men, women tend to show higher degrees of task-oriented cohesion. This means that in comparison to men, women engage in the pursuit of team goals to a larger extent (Nascimento Junior et al., 2019). It should also be noted that Ramírez and Cabeza (2020) conducted another study that revealed that high school students, particularly those of the male gender, had greater difficulty accepting sexual diversity in sports. Thus, this affects

the cohesiveness of the group. Contrarily, in a previously conducted research (Glass & Benshoff, 2002), the participants' gender did not significantly influence how they perceived the development of GC and in more recent one no significant differences in task cohesion were discovered either (Mosqueda et al., 2021). In our study, as in those mentioned above, the results obtained show that there are no significant differences between genders (Table 2).

On the other hand, knowing how much emphasis students place on PE is crucial because, according to the Self-Determination Theory (Ryan & Deci, 2000), motivation levels influence behavior and outcomes (Stover et al., 2017). Students must be motivated to engage in PA in order to enhance levels of physical practice both within and outside of the PE classroom (Aelterman et al., 2012). In addition, the students with the highest levels of self-determined motivation are those that value PE sessions the most (Moreno Murcia et al., 2013). In light of this, it is noted that the scores obtained by males in the motivating climate are higher in the few papers that disclose the means differentiating men and women (Chu & Zhang, 2019). Additionally, studies by Parra Plaza et al., (2018), Leytón Román et al., (2017) and Cordo Cabal et al., (2019) also support the finding that men experience higher levels of satisfaction than women. However, it is important to note that according to Mosqueda et al., (2021)'s findings, there were no significant variations in satisfaction with competence. In our study, there are significant gender differences in favor of men in item 1: "I consider it important to receive physical education classes" and in item 3: "I believe that the things I learn in physical education will be useful in life" (Table 3), although there are also significant differences at the general level of the scale. This can be corroborated with other recent studies such as those of Fernández Baños et al., (2017), Muñoz González et al., (2019) or Aznar Ballesta & Vernetta (2022), in which, despite the fact that both genders enjoy themselves, give importance to the subject and feel satisfaction in PE classes, females are more bored than males and show worse indices in these factors.

Consequently, as Table 4 shows, there is a significant and medium association (0.28) between PEI and GCEQ. In the case of men it is significant and has a medium correlation, but it is higher (0.354) than in the scale in general, and for women it is also significant and medium, but it is lower (0.231) than in the scale in general. This may be because students engage in PA for enjoyment, socialization and play; however, if the sessions include unattractive and unsatisfactory activities, it reduces the likelihood that they intend to actively participate in their daily lives (Zueck Enríquez et al., 2020). Accordingly, the gender of the students should be taken into consideration in order to understand their motivation for and emphasis placed on the subject, as well as to encourage their participation and instill healthy living practices (Muñoz González et al., 2019). In this sense, the role of the teacher is also important for the students of PE to value and consider the subject and for there to be GC. The teacher must create a climate that involves

them in the task and, moreover, in the activities that are organized, in the process rather than the result, in the search for mastery rather than performance, encouraging the intrinsic motivation of the student (Moreno Murcia et al., 2013). In turn, PE teachers can influence students' motivation to adhere to and develop healthy lifestyle habits outside of the classroom (Muñoz González et al., 2019). Therefore, if students enjoy the PE classes (Baena-Extremera et al., 2012; Gómez López et al., 2015; Jiménez-Castuera et al., 2007) and teachers support their students in developing healthy habits and participating in PA (Moreno & Cervelló, 2004; Nuviala et al., 2011), it will help students successfully achieve the curricular objectives proposed in the subject, among which the valuation of the beneficial effects of an active life and that of favoring the acquisition of healthy habits stand out (Muñoz González et al., 2019)

### Practical Implications

In general, this association between the PEI scale and the GCEQ has proven to be a reliable and useful instrument to determine the relationship between the GC and the importance given to PE in secondary school students. This relationship is very applicable in PE classes since it is possible to know the interests and affinities of the group and achieve greater motivation and satisfaction in PE classes with the advantages that this entails in all areas (educational, social, personal, psychological, physical-healthy). In addition, cohesion tasks can be encouraged to increase participation in activities inside and outside the classroom, play with the different groupings in the PE classroom to improve students' perception of PA, or even develop PA programs in the school environment to improve both the image of PE and GC.

On the other hand, thanks to this type of group dynamics based on the intrinsic and extrinsic motivation of the students (Muñoz González et al., 2019), it can be achieved that the students obtain sufficient autonomy and the necessary knowledge to give the importance that PE deserves and have the intention to participate actively in their daily lives (Zueck Enríquez et al., 2020)

### Limitations and future lines of research

Like other studies, this one has a number of limitations. First, since only high school students from Extremadura were included in the sample, factors such as age, sociodemographic and educational level may have influenced the results. Second, due to the sample was not chosen randomly, care must be taken in presenting the results. Finally, it is important to highlight the lack of previous studies assessing the association between group cohesion and the importance of PE. Some of the possible future lines of research would be to extend the sample to a national level in all educational stages, to examine whether age has an influence and why, since the primary physical, cognitive, and emotional

differences between men and women occur during adolescence, the sample may still be in the process of biopsychosocial development (Papalia, 2009). In addition, it would be convenient to find out why women from adolescence onwards are the ones who give less importance to PA. Likewise, it would be necessary to check whether, after carrying out content in the area of PE that is motivating and cooperative for both genders, there are still differences in the importance they attach to this subject. To this end, a consensus must be reached with other researchers in the different regions in order to collect all the necessary data. Furthermore, it should be borne in mind that the role of teachers in this type of activity is very important, as this can help students to be more motivated to take part in sport, improve interpersonal and intrapersonal social relations, improve their lifestyles, and consider sport as an important habit throughout their lives.

### Conclusions

This study underlines that the three psychological needs (autonomy, competence and relationship) influence satisfaction, which is related to motivation, and this derives in the importance given to PE. In addition, the latter is correlated with GC, hence the importance of teaching teamwork, collaboration and cooperation among them, to be able to promote cohesion tasks by increasing participation in activities inside and outside the classroom, play with the different groupings in the PE classroom to improve the students' perception of PA, or even develop PA programs in the school environment to improve both the image of PE and GC. The present study did not find significant differences in group cohesion when analyzing gender, but did find significant differences in the importance given to PE. At the same time, it was found that there is a significant and average association (0.28). a significant and average association (0.28) between PEI and GCEQ. In the case of men, it is significant and has a medium correlation, but it is higher (0.354) than in the scale in general, and for women it is also significant and medium, but it is lower (0.231) than in the scale in general. Therefore, it must be taken into account that students, depending on the gender to which they belong, mostly have different motivations, therefore, we must know them thoroughly to be able to perform sports activities in which all students feel involved and motivated to perform them. Therefore, it is necessary to know these motivations in order to adapt the educational methodologies to their preferences and for them to playfully discover both the benefits of PA and the improvement of social relations with their peers by working as a team. Here it is important that the role of teachers is important and that they act in these methodologies as a guide in the students' learning, giving them the opportunity to demonstrate their autonomy and to feel better about themselves. It is also essential to involve all governments, all members of schools and students' families in order to have more support and participation in the importance of this area, which offers many benefits to

society in general.

## References

- Aelterman, N., Vansteenkiste, M., Van Keer, H., Van den Berghe, L., De Meyer, J., & Haerens, L. (2012). Students' Objectively Measured Physical Activity Levels and Engagement as a Function of Between-Class and Between-Student Differences in Motivation Toward Physical Education. *Journal of Sport and Exercise Psychology*, 34(4), 457-480. <https://doi.org/10.1123/jsep.34.4.457>
- Aznar Ballesta, A., & Vernetta, M. (2022). Satisfacción e importancia de la Educación Física en centros educativos de secundaria. *Revista Iberoamericana de Ciencias de la Actividad Física y el Deporte*, 11(2), Article 2. <https://doi.org/10.24310/riccafd.2022.v11i2.15009>
- Baena-Extremera, A., Granero-Gallegos, A., Bracho-Amador, C., & Pérez-Quero, F. J. (2012). Spanish version of the sport satisfaction instrument (SSI) adapted to physical education. *Revista de Psicodidáctica*, 17(2), 377-396.
- Baños, R., Ortiz-Camacho, M. del M., Baena-Extremera, A., & Tristán-Rodríguez, J. L. (2017). Satisfacción, motivación y rendimiento académico en estudiantes de Secundaria y Bachillerato: Antecedentes, diseño, metodología y propuesta de análisis para un trabajo de investigación. *ESPIRAL. CUADERNOS DEL PROFESORADO*, 10(20), 40-50. <https://doi.org/10.25115/ecp.v10i20.1011>
- Barrera, M. A. M. (2014). Uso de la correlación de Spearman en un estudio de intervención en fisioterapia. *Movimiento científico*, 8(1), 98-104.
- Carbajal Padilla, P., & Fierro Evans, M. C. (2019). Convivencia Escolar: Una revisión del concepto. *Psicoperspectivas. Individuo y Sociedad*, 18(1). <https://doi.org/10.5027/psicoperspectivas-Vol18-Issue1-fulltext-1486>
- Carron, A. V., Burke, S. M., & Prapavessis, H. (2004). Self-Presentation and Group Influence. *Journal of Applied Sport Psychology*, 16(1), 41-58. <https://doi.org/10.1080/10413200490260044>
- Chu, T. L. (Alan), & Zhang, T. (2019). The roles of coaches, peers, and parents in athletes' basic psychological needs: A mixed-studies review. *International Journal of Sports Science & Coaching*, 14(4), 569-588. <https://doi.org/10.1177/1747954119858458>
- Cordo Cabal, L., Gómez López, M., Granero Gallegos, A., & Sánchez Alcaraz Martínez, B. J. (2019). Relación del clima motivacional generado por el entrenador y las causas del éxito en jugadores de deportes de equipo. Influencia del género, la edad y la experiencia deportiva. *Journal of sport and health research*, 11(2), 139-150.
- Escamilla Fajardo, P., Alguacil Jiménez, M., & González-Serrano, M. H. (2020). Variables predictoras de la motivación deportiva en estudiantes de secundaria federados y no federados (Variables predicting sports motivation in federated and non-federated high school students). *Retos*, 38, 58-65. <https://doi.org/10.47197/retos.v38i38.73551>
- Fernández Baños, R., Ortiz-Camacho, M. D. M., Baena-Extremera, A., & Zamarripa, J. (2017). Efecto del género del docente en la importancia de la Educación Física, clima motivacional, comportamientos disruptivos, la intención de práctica futura y rendimiento académico (Effect of teachers' gender on the importance of physical education, motivati. *Retos*, 33, 252-257. <https://doi.org/10.47197/retos.v0i33.59991>
- Fernández-Río, J. (2017). El Ciclo del Aprendizaje Cooperativo: Una guía para implementar de manera efectiva el aprendizaje cooperativo en educación física (The Cooperative Learning Cycle: a guide to effectively implement cooperative learning in physical education). *Retos*, 32, 264-269. <https://doi.org/10.47197/retos.v0i32.51298>
- Fernandez-Rio, J., Hortigüela-Alcalá, D., & Pérez-Pueyo, Á. (2018). *Revisando los modelos pedagógicos en educación física. Ideas clave para incorporarlos al aula*. 423, 57-80.
- Fradejas Medrano, E., & Espada Mateos, M. (2018). Evaluación de la motivación en adolescentes que practican deporte en edad escolar (Evaluation of motivation in teenagers who practice sports in school age). *Retos*, 33, 27-33. <https://doi.org/10.47197/retos.v0i33.52779>
- Glass, J. S., & Benshoff, J. M. (2002). Facilitating Group Cohesion among Adolescents through Challenge Course Experiences. *Journal of Experiential Education*, 25(2), 268-277. <https://doi.org/10.1177/105382590202500204>
- Gómez López, M., Ruiz-Juan, F., García Montes, M. E., Baena Extremera, A., & Granero Gallegos, A. (2015). Opinión del alumnado universitario y de Educación Secundaria Postobligatoria sobre las clases de Educación Física recibidas (Opinion of university students and compulsory Post Secondary Education on the Physical Education classes they have received). *Retos*, 12, 58-61. <https://doi.org/10.47197/retos.v0i12.35039>
- Guío Gutiérrez, F. (2022). El juego motor para la enseñanza y aprendizaje de las competencias de la educación física (The motor game for the teaching and learning of physical education competencies): The motor game for the teaching and learning of physical education competencies. *Retos*, 45, 1119-1126. <https://doi.org/10.47197/retos.v45i0.90023>
- Huésacar Hernández, E., López Mora, C., & Cervelló Gimeno, E. (2017). Relación de los estilos de liderazgo, cohesión grupal, potencia de equipo y rendimiento en jugadores de fútbol no profesionales. *Universitas Psychologica*, 16(4), 1. <https://doi.org/10.11144/Javeriana.upsy16-4.relc>
- Jiménez-Castuera, R., Cervelló-Gimeno, E., García-Calvo, T., Santos-Rosa, F. J., & Iglesias-Gallego, D. (2007). Estudio de las relaciones entre motivación, práctica deportiva extraescolar y hábitos alimenticios y de descanso en estudiantes de Educación Física.

- International Journal of Clinical and Health Psychology*, 7(2), 385-401.
- Leytón Román, M., García Matador, J., Fuentes García, J. P., & Jiménez Castuera, R. (2018). Análisis de variables motivacionales y de estilos de vida saludables en practicantes de ejercicio físico en centros deportivos en función del género (Analysis of motivational variables and healthy lifestyles in sports center practitioners by gender). *Retos*, 34, 166-171. <https://doi.org/10.47197/retos.v0i34.58281>
- López Nadal, A., & Frutos Salvia, H. (2011). Cohesión grupal: Un estudio observacional de su incidencia en Educación Física. *Ágora para la educación física y el deporte*, 13(3), 397-410.
- López Sánchez, M. M., Arrieta-Rivero, S., & Carmona-Alvarado, F. (2022). Educación física y convivencia escolar, una apuesta desde el currículo (Physical education and school coexistence, a proposal from the curriculum). *Retos*, 47, 25-34. <https://doi.org/10.47197/retos.v47.93674>
- Martín Martín, G., & Jiménez Martín, P. J. (2021). Propuesta metodológica para implantar el aprendizaje cooperativo en las clases de educación física en base a los dominios de acción motriz. *Retos: nuevas tendencias en educación física, deporte y recreación*, 42, 524-534.
- Mazereel, V., Vansteelandt, K., Menne-Lothmann, C., Decoster, J., Derom, C., Thiery, E., Rutten, B. P. F., Jacobs, N., Van Os, J., Wichers, M., De Hert, M., Vancampfort, D., & Van Winkel, R. (2021). The complex and dynamic interplay between self-esteem, belongingness and physical activity in daily life: An experience sampling study in adolescence and young adulthood. *Mental Health and Physical Activity*, 21, 100413. <https://doi.org/10.1016/j.mhpa.2021.100413>
- Méndez Alonso, D., Pérez Pueyo, Á., Méndez Giménez, A., Fernández Río, J., & Prieto Saborit, J. A. (2017). Análisis del desarrollo curricular de la Educación Física en la Enseñanza Secundaria Obligatoria: Comparación de los currículos autonómicos. *Retos: nuevas tendencias en educación física, deporte y recreación*, 31, 82-87.
- Moradi, J., Bahrami, A., & Dana, A. (2020). Motivation for Participation in Sports Based on Athletes in Team and Individual Sports. *Physical Culture and Sport. Studies and Research*, 85(1), 14-21. <https://doi.org/10.2478/pcssr-2020-0002>
- Moreno, J. A., & Cervelló, E. (2004). Influencia de la actitud del profesor en el pensamiento del alumno hacia la educación física. *Revista Internacional de Ciencias Sociales y Humanidades, SOCIOTAM*, XIV(1), 33-51.
- Moreno Murcia, J. A., González-Cutre, D., & Ruiz Pérez, L. M. (2009). Self-Determined Motivation and Physical Education Importance. *Human Movement*, 10(1), 5-11. <https://doi.org/10.2478/v10038-008-0022-7>
- Moreno Murcia, J. A., Zomeño Álvarez, T., & Marín de Oliveira, L. M. (2013). Percepción de la utilidad e importancia de la educación física según la motivación generada por el docente. *Revista de Educación*, 362, 380-401. <https://doi.org/10.4438/1988-592X-RE-2011-362-165>
- Mosqueda, S., Ródenas-Cuenca, L. T., Balaguer, I., Salcido Otañez, Y. E., & López-Walle, J. M. (2021). Diferencias demográficas de climas motivacionales, necesidades psicológicas básicas y cohesión en jóvenes (Demographic differences in motivational climates, basic psychological needs and cohesion in young people). *Retos*, 43, 613-622. <https://doi.org/10.47197/retos.v43i0.88608>
- Muñoz González, V., Gómez-López, M., & Granero Gallejos, A. (2019). Relación entre la satisfacción con las clases de Educación Física: Su importancia y utilidad y la intención de práctica del alumnado de Educación Secundaria Obligatoria. *Revista complutense de educación*. <https://doi.org/10.5209/RCED.57678>
- Murray, R. M., & Sabiston, C. M. (2022). Understanding Relationships Between Social Identity, Sport Enjoyment, and Dropout in Adolescent Girl Athletes. *Journal of Sport & Exercise Psychology*, 44(1), 62-66. <https://doi.org/10.1123/jsep.2021-0135>
- Nascimento Junior, J. R. A. do, Da Silva, A. A., Granja, C. T. L., De Oliveira, D. V., Reis Batista, R. P., & Fortes, L. de S. (2019). Do sporting experiences predict team cohesion in youth athletes? *Cuadernos de Psicología del Deporte*, 19(3), 102-112. <https://doi.org/10.6018/cpd.365201>
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory*. New York: McGraw-Hill, ©1994. <https://www.worldcat.org/title/psychometric-theory/oclc/28221417>
- Nuviala, A., Gómez-López, M., & Pérez-Turpin, J. (2011). Lifestyle And Physical Education. *Journal of Human Kinetics*, 27, 149-162. <https://doi.org/10.2478/v10078-011-0012-2>
- Pangrazi, R. P., & Beighle, A. (2019). *Dynamic physical education for elementary school children*. Human Kinetics Publishers.
- Papalia, D. E. (2009). *Psicología del desarrollo*. McGraw Hill Interamericana de España S.L.
- Parra Plaza, F. J., Universidad Católica de Murcia, Vílchez Conesa, M. D. P., Universidad Católica de Murcia, De Francisco Palacios, C., & Universidad Católica de Murcia. (2018). La satisfacción de las necesidades psicológicas básicas en función de la formación y experiencia del deportista: Características sociodeportivas. *Revista de Psicología y Educación - Journal of Psychology and Education*, 13(2), 113. <https://doi.org/10.23923/rpye2018.01.162>
- Pérez-Pueyo, Á., Hortigüela-Alcalá, D., Fernández-Fernández, J., Gutiérrez-García, C., & Santos Rodríguez, L. (2020). Más horas sí, pero ¿cómo implantarlas sin perder el enfoque pedagógico de la Educación Física? (More hours yes, but how can they be implemented without losing the pedagogical approach of Physical Education?). *Retos*, 39, 345-353. <https://doi.org/10.47197/retos.v0i39.80283>

- Planas, A., Reig, F., Palmi, J., Arco, I. del, & Prat, J. A. (2020). Motivations, Barriers and Physical Condition in Adolescents, According To the Stage of Change in Physical Exercise. *Revista de Psicología Del Deporte (Journal of Sport Psychology)*, 29(2), Article 2.
- Ramírez-Díaz, A., & Cabeza-Ruiz, R. (2020). Actitudes hacia la diversidad sexual en el deporte en estudiantes de educación secundaria (Secondary Education Students' Attitudes toward Sexual Diversity in Sport). *Retos*, 38, 654-660. <https://doi.org/10.47197/retos.v38i38.77934>
- Romanová, M., & Sollár, T. (2019). Enjoyment of Physical Activity and Perception of Success in Sports High School Students. *Ad Alta: Journal of Interdisciplinary Research*, 9(1), 249-251.
- Roth, S. E., Gill, M., Chan-Golston, A. M., Rice, L. N., Crespi, C. M., Koniak-Griffin, D., Cole, B. L., Upchurch, D. M., & Prelip, M. L. (2019). Physical Activity Correlates in Middle School Adolescents: Perceived Benefits and Barriers and Their Determinants. *The Journal of School Nursing*, 35(5), 348-358. <https://doi.org/10.1177/1059840518780300>
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Salgado-Santos, M., Hernández-Beltrán, V., Gámez-Calvo, L., & Gamonales Puerto, J. M. (2022). Propuesta de tareas de cohesión grupal para fútbol en edad escolar. *Lecturas: Educación Física y Deportes*, 26(284), 137-162. <https://doi.org/10.46642/efd.v26i284.2902>
- Salkind, N. J. (1999). *Métodos de investigación*. Pearson Educación.
- Stover, J. B., Bruno, F. E., Uriel, F., & Fernández Liporace, M. (2017). Teoría de la Autodeterminación: Una revisión teórica. *Perspectivas en Psicología*, 14(2), 105-115.
- Tikac, G., Unal, A., & Altug, F. (2022). Regular exercise improves the levels of self-efficacy, self-esteem and body awareness of young adults. *The Journal of Sports Medicine and Physical Fitness*, 62(1). <https://doi.org/10.23736/S0022-4707.21.12143-7>
- Tušák, M., Corrado, D. D., Coco, M., Tušák, M., Žilavec, I., & Masten, R. (2022). Dynamic Interactive Model of Sport Motivation. *International Journal of Environmental Research and Public Health*, 19(7), 4202. <https://doi.org/10.3390/ijerph19074202>
- Warburton, D. E. R., & Bredin, S. S. D. (2019). Health Benefits of Physical Activity: A Strengths-Based Approach. *Journal of Clinical Medicine*, 8(12), 2044. <https://doi.org/10.3390/jcm8122044>
- World Health Organization. (2022). *Physical activity*. <https://www.who.int/news-room/fact-sheets/detail/physical-activity>
- Zueck Enríquez, M. del C., Ramírez García, A. A., Rodríguez Villalobos, J. M., & Irigoyen Gutiérrez, H. E. (2020). Satisfacción en las clases de Educación Física y la intencionalidad de ser activo en niños del nivel de primaria (Satisfaction in the Physical Education classroom and intention to be physically active in Primary school children). *Retos*, 37, 33-40. <https://doi.org/10.47197/retos.v37i37.69027>