

Physical social anxiety in adolescence in Physical Education Spanish students Ansiedad físico social en la adolescencia en estudiantes españoles de Educación Física

Jorge Rojo-Ramos, Pablo Rojo-Ramos, María Ángeles García-Gil, Carmen Galán-Arroyo
Universidad de Extremadura (España)

Abstract. Physical and social anxiety (PSA) is an increasingly common syndrome among adolescents because of their vulnerability, leading to serious mental illness. It is closely related to the self-concept of body image. It varies according to gender, age, body mass index (BMI), physical shape, social context. Objective: The aim of this study is to find out how PSA affects Spanish physical education students, assessing possible differences according to gender. It also aims to discover whether there is a correlation between PSA and the age and BMI of the students. Methods: 306 students of Physical Education were questioned with a socio-demographic test and Physical-Social and Anxiety Scale (SPAS-7). Results: Significant associations were found between PSA and sex ($p < 0.01$). Conclusions: PSA affects Spanish adolescent physical education students, with higher levels in girls than in boys. Public health policies are needed to reduce PSA at vulnerable ages and to implement gender policies to reduce the incidence, especially in females.

Keywords: Education; physical and social anxiety; adolescents; body image.

Resumen. La ansiedad física y social (APS) es un síndrome cada vez más frecuente entre los adolescentes, por su vulnerabilidad, que conduce a enfermedades mentales graves. Está estrechamente relacionada con el autoconcepto de la imagen corporal. Varía en función del sexo, la edad, el índice de masa corporal (IMC), la forma física y el contexto social. Objetivo: El objetivo de este estudio es conocer cómo afecta la APS a los estudiantes españoles de Educación Física, valorando las posibles diferencias en función del género. También se pretende descubrir si existe una correlación entre la APS y la edad y el IMC de los estudiantes. Métodos: 306 estudiantes de Educación Física fueron interrogados con un test sociodemográfico y la Escala Físico-Social y de Ansiedad (SPAS-7). Resultados: Se encontraron asociaciones significativas entre APS y sexo ($p < 0,01$). Conclusiones: La APS afecta a los adolescentes españoles estudiantes de educación física, con niveles más altos en chicas que en chicos. Son necesarias políticas de salud pública para reducir la APS en edades vulnerables e implementar políticas de género para reducir la incidencia, especialmente en mujeres.

Palabras clave: Educación; ansiedad física y social; adolescentes; imagen corpora.

Fecha recepción: 03-03-24. Fecha de aceptación: 02-09-24

Carmen Galán-Arroyo
mamengalana@unex.es

Introduction

Physical social anxiety (PSA) is a subtype of social anxiety (Aktaş Üstün, 2020), in which a negative affective response to the anticipation of external evaluation of the body by others (Alcaraz-Ibañez et al., 2020). This concept is derived from theories of self-presentation and impression management. Self-presentation is the attempts to selectively present and conceal information about oneself in order to generate a positive social impression or to avoid unwanted reactions (Aktaş Üstün, 2020).

The scientific literature has explored various dimensions of this phenomenon, including factors such as gender, age and body mass index (BMI).

The prevalence of PSA is found to be higher in women than in men and also decreases with age (Brewer et al., 2004; Silva et al., 2022). Another risk factor for developing PSA is paying more attention to body shape, especially to the parts of the body that a person finds less attractive (Silva et al., 2022). And because men are more satisfied with their physical appearance, they show lower levels of PSA. (McLester et al., 2018; Kowalski et al., 2006). These gender differences in body dissatisfaction can already be observed in early childhood, in preschoolers between three and six years of age (Rojo-Ramos et al., 2022). In the case of pre-adolescents aged 11-12 years, a study reveals that there are no significant differences in PSA levels between boys and girls, although from the age of 13 to 22 years, girls

were shown to have significantly higher PSA levels than boys. (Hagger & Stevenson, 2010).

Another factor to take into account, in relation to PSA levels in pre-adolescents and adolescents, is the stage at which the children are. Pre-adolescence is a period of vulnerability due to physical changes that produce changes in self-perception and self-concept (Hagger & Stevenson, 2010; Laporte et al., 2021); In addition, at this time, adolescents experience a number of social and emotional changes, which may increase their concerns about presenting themselves in various contexts (Gutiérrez et al., 2022), leading to the expectation that PSA levels will increase from pre- to mid-adolescence and then decrease at the end of this transitional period (Hagger & Stevenson, 2010).

Furthermore, PSA as a problem stemming from social anxiety and self-representation has been studied in terms of its relationship to physical activity (PA) and diet quality (Aktaş Üstün, 2020). In this sense, PA can be seen as promoting attention to the shape of the body (Silva et al., 2022). It has been found that there is a significant and negative correlation between PA practice and PSA and a significant and positive correlation between healthy eating and PA practice (Aktaş Üstün, 2020; Hagger & Stevenson, 2010). This happens because during exercise there is a continuous comparison and evaluation of the body, so that if the person has PSA, he/she will have a tendency to avoid these situations (Brewer et al., 2004). In adolescents, the same result has been found, also finding that the practice of

exercise and promoting adherence to a Mediterranean diet is a protective factor against the development of PSA (Muf-tuoglu & Bayran, 2020). However, it has been shown that promoting recreational physical exercise (fitness and pilates) in sedentary women decreased PSA levels (Doğru, 2019a); the same was true for promoting vigorous activities such as running in middle-aged people (Plateau et al., 2022). However, it should also be noted that PSA can contribute to the development of excessive physical exercise (Aktaş Üstün, 2020).

Another risk factor for the development of PSA is a high body mass index (BMI) (Brewer et al., 2004). BMI can be defined as the healthiest mass a person can have and is calculated by considering a person's height in centimeters and weight in kilograms ($BMI = \text{weight}/\text{height}^2$) (García Gil et al., 2022). People with a high BMI have a greater sense than those with a lower BMI of deviating from aesthetic patterns, and are therefore more likely to develop PSA in situations involving exposure of their body in front of others, such as when doing PA (Auster-Gussman et al., 2021). Likewise, when comparing the levels of PSA in people with normal weight, people with underweight, overweight and obesity, it was found that people with underweight presented lower levels of PSA than the rest of the groups (Ersöz et al., 2016). In addition, obesity is considered to be an important factor in the increase of PSA (Nazarali & Ramezankhani, 2017). Obesity in children and adolescents is associated with high comorbidity in psychosocial adjustment (self-esteem problems, anxiety, stress, depression, body shape concerns and development of eating disorders) (Sagar & Gupta, 2018). This was already observed in children aged 10-13 years, who had higher levels of body dissatisfaction with higher actual and perceived BMI. (García Gil et al., 2022).

Given that, adolescence is a period of maximum vulnerability (Hagger & Stevenson, 2010) but most of the studies found have been carried out on adults and that the studies mentioned have been carried out mostly on samples from the United States, and none have been carried out on a Spanish sample, the aim of this study is to find out how PSA affects Spanish physical education students, assessing possible differences according to gender. It also aims to discover whether there is a correlation between PSA and the age and BMI of the students.)

Materials and Methods

Participants

The study was a descriptive cross-sectional study. The sample size was selected following the non-probabilistic sampling method based on convenience sampling (Salkind, 1999). The sample was gender-balanced (the main variable under study) and consisted of 306 students of Physical Education in the first cycle of Compulsory Secondary Education (CSE) (from 12 to 14 years of age if not repeating the same year). 41.2% ($n = 126$) were boys and 58.5% ($n = 180$) were girls. Table 1 shows the distribution of the

sample according to sex, grade, age and BMI. The inclusion criteria were: a) to have informed parental consent to participate in the study and b) to be a student in the area of physical education in the first cycle of CSE.

Table 1.
Frequency distribution of the sample (N = 306).

Variable	Category	N	%		
Gender	Male	126	41.2		
	Female	180	58.8		
	First CSE	145	47.4		
Grade	Second CSE	138	45.1		
	Third CSE	23	7.5		
Variable	M	dt			
Age	12.84	0.65			
	19.34	3.2			
		N			
		Male		Female	
Body Mass Index	Low BMI (BMI < 18.5)	52	99	41.3	55
	BMI Medium (BMI 18.5 - 24.9)	61	76	48.4	42.2
	BMI Overweight (BMI 25 - 29.9)	12	5	9.5	2.8
	BMI Obese (BMI ≥ 30)	1	0	0.8	0

M = valor medio; CSE Obligatory Secondary Education.

Instruments and Measurements

Sociodemographic data. A five-question form was used to collect data on sex, grade, age, height and weight. The calculation of BMI was obtained from the data collected on height and weight using the following formula: $BMI = \text{weight in kilograms} / (\text{height in metres}^2)$.

Physical-Social Anxiety Scale (SPAS-7). The Physical-Social Anxiety Scale (SPAS-7) was used to assess physical-social anxiety in Spanish Physical Education students in Secondary Education. This scale is composed of 7 items and uses a Likert-type scale (1-5): 1: never and 5: always. Examples of items include: I wish I wasn't so nervous about my physical image; I feel comfortable with the way others appreciate my body shape... Item 5 was reversed. The authors (Sáenz-Alvarez et al., 2013) explored the validity and psychometric properties of the SPAS-7 scale in Spanish adolescents reported a value of 0.85 for Cronbach's Alpha.

Procedure

To access the sample, the database of public schools in Extremadura (Spain) belonging to the Department of Education and Employment of the Regional Government of Extremadura was consulted and the e-mail addresses of those schools that taught the CSE stage of education were selected.

An e-mail was sent to each educational center addressed to the Physical Education teachers, providing information on the object of the study, parental consent and requesting their collaboration in the study.

Those schools that agreed to collaborate with the study were informed that they had to provide the informed consents to the parents of the Physical Education pupils in the first cycle of O.S.E. and that once the Physical Education teacher had collected the informed consents, they had to arrange an appointment by e-mail in which, on the agreed date, a member of the research team would visit the school

to administer the questionnaires to those pupils whose parental consents had been collected.

Once the member of the research team was at the schools, he provided a Tablet owned by the research group for the students to access the URL of the questionnaire. Prior to completing the instrument, the researcher read aloud all items and answered any questions that arose to ensure that all items were understood.

All data were collected and treated anonymously. The average response time to the questionnaire was five minutes. Data collection took place between September and December 2022.

Statistical Analysis

The data were collected in a spreadsheet provided by the digital tool Google Forms and were processed using the Statistical Package for Social Sciences (SPSS) version 23.0 for MAC. To select the type of statistical tests to be used, the distribution of the data was explored to determine whether the assumption of normality was met. For this purpose, the Kolmogorov Smirnov test was used, which showed that this assumption was not met. It was therefore decided to use non-parametric statistical tests. Descriptive data are presented as mean (M) and standard deviation (SD).

The Mann-Whitney U-test was used to analyse the differences between the total dimension of the scale and each of the items according to gender (Table 2).

Hedges' g was used to determine the effect size of sex or demographic location for each SWLS item. Values less than 0.20 indicate no effect, values between 0.21 and 0.49 indicate a small effect, values between 0.50 and 0.80 indicate a moderate effect, and values greater than 0.80 indicate a strong effect (Cohen, 2013).

To calculate internal consistency and reliability, Cronbach's alpha coefficient was calculated. In order to interpret this coefficient, we took as a reference the (Nunnally & Bernstein, 1994), which indicated that reliability values above 0.80 can be considered satisfactory.

Results

Table 2 presents descriptive data based on the mean (M) and standard deviation (SD). Gender differences are also shown for each of the items and for the total dimension of the SPAS-7 scale. Females scored higher on all items of the scale than males and significant sex differences were obtained for all items except item 5 "I feel comfortable with how others appreciate my body shape". With respect to the total dimension of the SPAS-7 instrument, women scored higher than men and statistically significant gender differences were also obtained. A moderate effect size was obtained for the gender variable in physical-social anxiety ($g=0.682$). The Mann-Whitney U-test was used to analyse the differences.

Table 2.

Descriptive analysis and differences by sex of the questionnaire items.

Ítem	Gender			<i>p</i>	<i>g</i>
	Total	Men	Women		
	M (SD)	M (SD)	M (SD)		
1. I wish I wasn't so nervous about my physical image.	2.99 (1.43)	2.62 (1.30)	3.24 (1.46)	<.0001*	0.44
2. There are times when I am upset because I think that others are evaluating my weight or body shape negatively.	2.41 (1.46)	1.90 (1.12)	2.76 (1.57)	<0.001*	0.613
3. In certain social situations, unattractive features of my physique make me nervous.	2.53 (1.45)	1.86 (1.12)	3.00 (1.48)	<0.001*	0.849
4. When there are others around I feel uneasy about my physique or body shape.	2.49 (1.44)	2.06 (1.22)	2.79 (1.52)	<0.001*	0.519
5. I feel comfortable with the way others appreciate my body shape.	2.69 (1.27)	2.68 (1.33)	2.70 (1.23)	0.748	0.015
6. I would feel uncomfortable if I knew that others were evaluating my body shape.	3.60 (1.49)	3.05 (1.48)	3.99 (1.37)	<0.001*	0.663
7. When my physique or body shape is exposed to others, I feel intimidated.	2.62 (1.44)	2.16 (1.20)	2.94 (1.50)	<0.001*	0.563
Physical-Social Anxiety Scale (SPAS-7)	2.76 (1.12)	2.33 (0.89)	3.06 (1.18)	<0.001*	0.682

M = mean value; SD = standard deviation. Difference is significant at * $p < 0.01$. Each dimension score is based on a Likert scale (1-5).

In order to facilitate the understanding of the results, figures 1 and 2 below show the mean scores of the SPAS-7 items by gender and the overall score of the physical-social anxiety scale (SPAS-7).

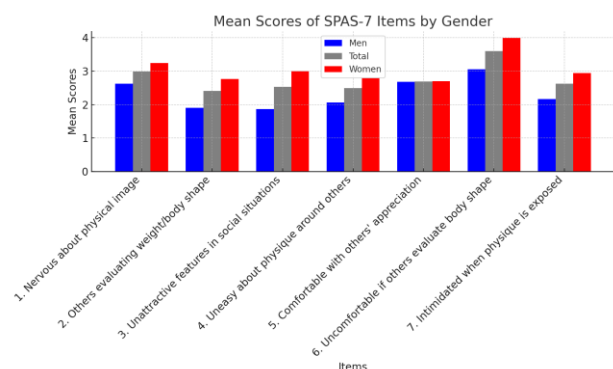


Figure 1. Mean scores of SPAS-7 items by gender

Figure 1 shows that women have higher scores on all items of the SPAS-7 scale compared to men. This suggests that women have higher levels of physical-social anxiety

than men. Differences between scores are most significant for items 2 ('There are times when I feel upset because I think others are negatively evaluating my weight or body shape') and 3 ('In certain social situations, unattractive features of my physique make me nervous'), with effect sizes of 0.613 and 0.849, respectively.

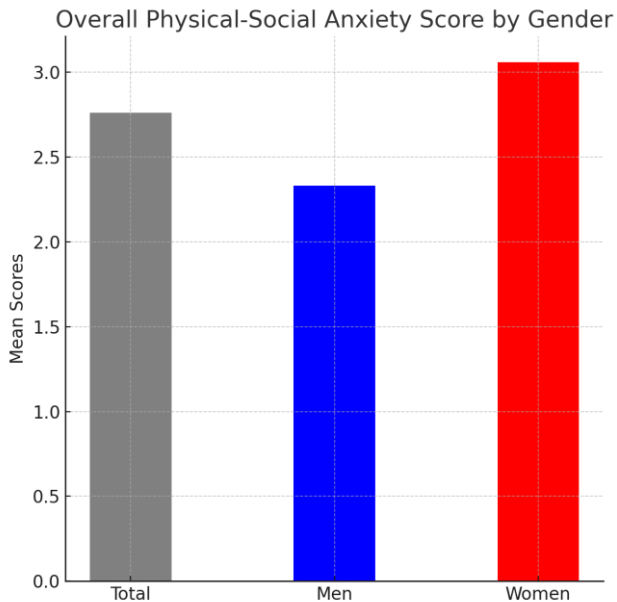


Figure 2. Overall physical-social anxiety score by gender

Figure 2 presents the total score of physical-social anxiety in both males and females, being significantly higher in females ($M = 3.06$, $SD = 1.18$). This result suggests that females are more likely to experience anxiety in situations related to their physicality in the context of physical education.

Finally, the reliability of the scale was calculated using Cronbach's alpha and reported a satisfactory value ($\alpha = 0.89$) in agreement with (Nunnally & Bernstein, 1994).

Discussion

In the present study, female students were found to have higher levels of PSA than male students. This result is in agreement with several studies analysed which indicate that the prevalence of PSA is higher in females than in males. The possible explanation for this phenomenon occurring from early childhood is that females are more likely to pay attention to body parts they do not like, while males tend to have higher levels of overall body satisfaction (Brewer et al., 2004), which may also be related to the higher prevalence of eating disorders in women (Vijayalakshmi et al., 2017). This can be attributed to a number of factors, including social and cultural pressures that affect both sexes differently. Girls may experience greater pressure related to body image and physical appearance, which contributes to higher levels of physical and social anxiety. According to a study by Paxton et al. (2006), adolescent girls are more

susceptible to developing body image anxiety due to increased exposure and vulnerability to beauty ideals promoted by the media. However, it is noted that while in the present study these gender differences in PSA were found in all age ranges analysed, evidence was found in the 11-12 age range where there were no differences in the PSA levels of boys and girls (Hagger & Stevenson, 2010).

On the other hand, the correlation between PSA and age has not been found to be significant either. The relationship between PSA and age in adolescents is less clear and may vary according to cultural context and other individual factors. Some studies suggest that PSA may increase with age during adolescence, as young people become more aware of their bodies and the opinions of their peers (Rosen et al., 2013). However, other studies like our study, find no significant relationship between age and PSA (Harter, 2012). Also, there are some researches that show PSA levels decrease with age (Brewer et al., 2004; Silva et al., 2022) even though higher levels of body dissatisfaction are found in older adolescents (Arriscado Alsina et al., 2021), body satisfaction being a mediating variable with PSA (Swami et al., 2021). The social and emotional changes that occur during adolescence suggest that these levels of ADS increase from pre- to mid-adolescence and decrease at the end of this period of vulnerability (Hagger & Stevenson, 2010). It also highlights that the decrease in PSA levels with increasing age is more noticeable in men than in women (Hagger et al., 2010), perhaps because men have a better perception of body image than women as in the study of Spanish university students (Gómez et al., 2023).

With regard to BMI, our study does not find findings of high BMI in these adolescents. This could indicate that other factors, such as personal body perception or social pressure, have a greater impact on PSA than BMI itself. BMI may not be a good predictor of PSA without considering the subjective body perceptions and individual experiences of adolescents. So it would be necessary to enlarge the sample and see if this relationship holds true as stated in the scientific literature. Generally, higher BMI has been found to be associated with higher levels of physical-social anxiety, especially in adolescent girls (Bucchianeri et al., 2013). Concern about body weight and appearance may contribute significantly to anxiety in those with a higher BMI.

The strengths of the present study include the large sample size and the high reliability of the instrument applied. While the limitations of the self-report tests (such as social desirability, extreme response or acquiescence) are pointed out as limitations (Barbero et al., 2015), in addition to not having considered other factors that may influence as moderators between PSA and the variables studied, such as the level of PA practised by each adolescent (Aktaş Üstün, 2020), their bodily satisfaction (García Gil et al., 2022) or importance of physical education (Rojo-Ramos et al., 2024).

Conclusions

The present study supports the idea from the scientific literature that adolescent girls tend to experience higher levels of physical-social anxiety compared to boys. However, the relationship between PSA, age and BMI is not as clear, both in the literature and in our results. This suggests that more research is needed to better understand these factors and their interaction with physical-social anxiety in adolescents. As well as implementing health education policies to reduce PSA at vulnerable ages and applying social measures of gender policies to reduce the high incidence among girls.

Conflicts of Interest

The authors declare no conflict of interest

References

- Aktaş Üstün, N. (2020a). Social physical anxiety and nutritional attitude in athlete and non-athlete university students. *Progress in Nutrition*, 22(supl.2), e2020008. <https://doi.org/10.23751/pn.v22i2-S.10471>
- Aktaş Üstün, N. (2020b). Social physical anxiety and nutritional attitude in athlete and non-athlete university students. *Progress in Nutrition*, 22(supl.2), Article supl. 2. <https://doi.org/10.23751/pn.v22i2-S.10471>
- Alcaraz-Ibañez, M., Sicilia, Á., & Lirola, M. J. (2020). Ansiedad físico social y adicción al ejercicio: Análisis del papel mediador de las necesidades psicológicas básicas. *Revista de Psicología del Deporte*, 29(sup.1), 224-233.
- Arriscado Alsina, D., Gargallo Ibort, E., Jiménez Boraita, R., & Dalmau Torres, J. M. (2021). Determinantes de la satisfacción corporal en adolescentes de la Rioja. *Revista española de salud pública*, 95.
- Auster-Gussman, L. A., Crim, J., & Mann, T. L. (2021a). The soulless cycle: Social physique anxiety as a mediator of the relation between body mass index and exercise frequency. *Stigma and Health (Washington, D.C.)*, 6(2), 192-199. <https://doi.org/10.1037/sah0000291>
- Auster-Gussman, L. A., Crim, J., & Mann, T. L. (2021b). The soulless cycle: Social physique anxiety as a mediator of the relation between body mass index and exercise frequency. *Stigma and Health (Washington, D.C.)*, 6(2), Article 2. <https://doi.org/10.1037/sah0000291>
- Barbero, M. I., García, E., Holgado, F., & Vila, E. (2015). *Psicometría*. Sanz y Torres.
- Brewer, B. W., Diehl, N. S., Cornelius, A. E., Joshua, M. D., & Van Raalte, J. L. (2004). Exercising caution: Social physique anxiety and protective self-presentational behaviour. *Journal of Science and Medicine in Sport*, 7(1), 47-55. [https://doi.org/10.1016/S1440-2440\(04\)80043-4](https://doi.org/10.1016/S1440-2440(04)80043-4)
- Bucchianeri, M. M., Arikian, A. J., Hannan, P. J., Eisenberg, M. E., & Neumark-Sztainer, D. (2013). Body dissatisfaction from adolescence to young adulthood: findings from a 10-year longitudinal study. *Body Image*, 10(1), 1-7.
- Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*: Routledge.
- Doğru, Y. (2019a). The Effect of Recreational Activities on Social Physique Anxiety in Sedentary Individuals. *Gaziantep Üniversitesi Spor Bilimleri Dergisi*, 4(1), Article 1. <https://doi.org/10.31680/gaujss.515230>
- Ersöz, G., Altıparmak, E., & Aşçı, F. H. (2016a). Does Body Mass Index Influence Behavioral Regulations, Dispositional Flow and Social Physique Anxiety in Exercise Setting? *Journal of Sports Science & Medicine*, 15(2), 295-300.
- García Gil, M. Á., Fernández, T., & Méndez, M. (2022). La necesidad de la Educación Artística: Estrategias metodológicas para trabajar la satisfacción corporal en los menores. En *Construyendo Juntos una Escuela para la Vida* (pp. 1093-1100). DYKINSON.
- Gómez-Paniagua, S., Polo-Campos, I., Galán-Arroyo, C., & Rojo-Ramos, J. (2023). Imagen corporal en universitarios extremeños de la Facultad de Educación tras la COVID-19. *Retos*, 50, 69-78.
- Gutiérrez-Higuera, T., Zamarripa, J., Ochoa-Ávalos, M., & Ceballos-Gurrola, O. (2023). Nivel de actividad física y autopercepción de la complexión física según la etapa de cambio de adolescentes mexicanos (Physical activity level and body image self-perception according to the stage of change in Mexican adolescents). *Retos*, 48, 894-900.
- Hagger, M. S., & Stevenson, A. (2010). Social physique anxiety and physical self-esteem: Gender and age effects. *Psychology & Health*, 25(1), 89-110. <https://doi.org/10.1080/08870440903160990>
- Hagger, M. S., Stevenson, A., Chatzisarantis, N. L. D., Gaspar, P. M. P., Ferreira, J. P. L., & Ravé, J. M. G. (2010). Physical self-concept and social physique anxiety: Invariance across culture, gender and age. *Stress and Health*, 26(4), 304-329. <https://doi.org/10.1002/smi.1299>
- Harter, S. (2012). *The Construction of the Self: Developmental and Sociocultural Foundations*. Guilford Press.
- Kowalski, K. C., Mack, D. E., Crocker, P. R., Niefer, C. B., & Fleming, T.-L. (2006a). Coping with Social Physique Anxiety in Adolescence. *Journal of Adolescent Health*, 39(2), 275.e9-275.e16. <https://doi.org/10.1016/j.jadohealth.2005.12.015>
- Laporte, N., Soenens, B., Brenning, K., & Vansteenkiste, M. (2021). Adolescents as active managers of their own psychological needs: The role of psychological need crafting in adolescents' mental health. *Journal of Adolescence (London, England.)*, 88(1), 67-83. <https://doi.org/10.1016/j.adolescence.2021.02.004>
- Manuel Alcaraz-Ibañez, Sicilia, Á., & Lirola, M. J. (2020). Ansiedad físico social y adicción al ejercicio: Análisis del papel mediador de las necesidades psicológicas básicas. *Revista de Psicología del Deporte*, 29(sup.1), Article sup. 1.
- McLester, C. N., Hicks, C. S., Miller, L., & McLester, J. R. (2018a). An Investigation of the Differences between Perceived vs. Measured Body Composition, Social Physique Anxiety, and Overall Appearance Satisfaction among College Students. *International Journal of Exercise Science*, 11(5), 957-967.
- Muftuoglu, S., & Bayran, S. (2020a). Determination of the Relationship between Nutrition Habits, Social Physique Anxiety, and Physical Activity Levels of Adolescent Students. *World Nutrition*, 11(3), 62-74. <https://doi.org/10.26596/wn.202011362-74>
- Nazarali, P., & Ramezankhani, A. (2017a). Relationship between Anthropometric Characteristics with Social Physique Anxiety among Alzahra University Staff. *Iranian Journal of Health Education and Health Promotion*, 4(4), 319-328. <https://doi.org/10.18869/acadpub.ihepsaj.4.4.319>
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed). McGraw-Hill. <http://catdir.loc.gov/catdir/toc/mh022/93022756.html>

- Paxton, S. J., Neumark-Sztainer, D., Hannan, P. J., & Eisenberg, M. E. (2006). Body dissatisfaction prospectively predicts depressive mood and low self-esteem in adolescent girls and boys. *Journal of Clinical Child and Adolescent Psychology*, 35(4), 539-549.
- Plateau, C. R., Anthony, J., Clemes, S. A., & Stevinson, C. D. (2022). Prospective study of beginner running groups: Psychological predictors and outcomes of participation. *Behavioral Medicine (Washington, D.C.), ahead-of-print*(ahead-of-print), 1-8. <https://doi.org/10.1080/08964289.2022.2100865>
- Rojos-Ramos, J., Gomez-Paniagua, S., Adsuar, J. C., Denche-Zamorano, Á., Mendoza-Muñoz, M., & Barrios-Fernandez, S. (2022). Sex and Rural/Urban Centre Location as Determinants of Body Image Self-Perception in Preschoolers. *Children*, 9(12), Article 12. <https://doi.org/10.3390/children9121952>
- Rojos-Ramos, J.; Espinosa-Mogollón, L.; Galán-Arroyo, C. (2024). Asociación entre la importancia de la Educación Física y la ansiedad físico social en España *Sportis Sci J*, 10 (3), 487-501 <https://doi.org/10.17979/sportis.2024.10.3.10694>
- Rosen, D. S., & American Academy of Pediatrics Committee on Adolescence. (2013). Identification and management of eating disorders in children and adolescents. *Pediatrics*, 131(1), 204-211.
- Sabiston, C. M., Pila, E., Vani, M., & Thogersen-Ntoumani, C. (2019). Body image, physical activity, and sport: A scoping review. *Psychology of Sport and Exercise*, 42, 48-57. <https://doi.org/10.1016/j.psychsport.2018.12.010>
- Sáenz-Alvarez, P., Sicilia, Á., González-Cutre, D., & Ferriz, R. (2013). Psychometric Properties of the Social Physique Anxiety Scale (SPAS-7) in Spanish Adolescents. *The Spanish Journal of Psychology*, 16, E86. <https://doi.org/10.1017/sjp.2013.86>
- Sagar, R., & Gupta, T. (2018). Psychological Aspects of Obesity in Children and Adolescents. *Indian Journal of Pediatrics*, 85(7), 554-559. <https://doi.org/10.1007/s12098-017-2539-2>
- Sicilia, A., Sáenz-Alvarez, P., González-Cutre, D., & Ferriz, R. (2014). Exercise Motivation and Social Physique Anxiety In Adolescents. *Psychologica Belgica*, 54(1), Article 1. <https://doi.org/10.5334/pb.ai>
- Silva, W. R. da, Teixeira, P. A., Marôco, J., Ferreira, E. B., Teodoro, M. A., & Campos, J. A. D. B. (2022a). Relationship between Attention to Body Shape, Social Physique Anxiety, and Personal Characteristics of Brazilians: A Structural Equation Model. *International Journal of Environmental Research and Public Health*, 19(22), Article 22. <https://doi.org/10.3390/ijerph192214802>
- Swami, V., Robinson, C., & Furnham, A. (2021). Associations between body image, social physique anxiety, and dating anxiety in heterosexual emerging adults. *Body Image*, 39, 305-312. <https://doi.org/10.1016/j.bodyim.2021.10.004>
- Vijayalakshmi, P., Thimmaiah, R., Reddy, S., BV, K., Gandhi, S., & Bada, S. (2017). Gender Differences in Body Mass Index, Body Weight Perception, weight satisfaction, disordered eating and Weight control strategies among Indian Medical and Nursing Undergraduates. *Investigacion y Educacion En Enfermeria*, 35(3), 276-284. <https://doi.org/10.17533/udea.iee.v35n3a04>
- Vol. 29 No. 3 (2020): Supplement 1: Adapted Physical Activity and Health | *Revista de Psicología del Deporte (Journal of Sport Psychology)*. (2023). <https://www.rpd-online.com/index.php/rpd/issue/view/3>
- Zartaloudi, A., & Christopoulos, D. (2021a). Social physique anxiety and physical activity. *European Psychiatry*, 64(S1), S759-S759. <https://doi.org/10.1192/j.eurpsy.2021.2011>

Datos de los/as autores/as y traductor/a:

Jorge Rojo-Ramos
Pablo Rojo-Ramos
María Ángeles García-Gil
Carmen Galán-Arroyo

jorgerr@unex.es
projora94@gmail.com
mariagarcia@unex.es
mamengalana@unex.es

Autor/a
Traductor/a
Autor/a
Autor/a