

## Physical Self-concept in Mexican Adolescent men and women

### Autoconcepto físico en hombres y mujeres adolescentes mexicanos

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**Abstract.** The purpose of the present study was to compare the profiles of physical self-concept between men and women primary and secondary Mexican school students. A total sample of 1146 participants, 550 women and 596 men, aged 11-16 years participated in this study. A quantitative approach with a descriptive and transversal survey design was used. All the participants completed the *Physical Self-Description Questionnaire*. The results of the one-way multivariate analysis of variance, followed by the one-way univariate analyses of variance, showed that compared with the women, the men obtained higher scores on the subscales health, coordination, activity, sports competence, strength, flexibility, endurance and global physical self-concept. However, in the body fat, appearance and global self-esteem subscales statistically significant differences were not found. Because of the differences between men and women in their perception of physical self-concept found, these findings suggest that in order to design any intervention for improving the perceived physical self-concept of the students, the variable sex should be taken into account.

**Keywords:** physical self-concept, student's beliefs; sex differences; self-perception, adolescents.

**Resumen.** El propósito del presente estudio fue comparar los perfiles de Autoconcepto físico entre hombres y mujeres estudiantes mexicanos de primaria y secundaria. La muestra total fue de 1146 participantes, 550 mujeres y 596 hombres con edades entre 11 y 16 años. El estudio tuvo un enfoque cuantitativo con un diseño descriptivo y de corte transversal tipo encuesta. Los participantes completaron el *Physical Self-Description Questionnaire*. Los resultados del análisis de varianza múltiple de un factor mostraron que, en comparación con las mujeres, los hombres obtuvieron valores más altos en las subescalas de salud, coordinación, actividad, competencia deportiva, fuerza, flexibilidad, resistencia y autoconcepto físico global. Sin embargo, en grasa corporal, apariencia y autoestima global no mostraron diferencias significativas. Debido a las diferencias encontradas en la percepción del autoconcepto físico, estos hallazgos sugieren que se deben diseñar programas de intervención que busquen mejorar el autoconcepto físico en los estudiantes. La variable género debe ser tomada en cuenta.

**Palabras clave:** autoconcepto físico; creencias de los estudiantes; diferencias de género; autopercepción, adolescentes.

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### Introduction

Self-concept plays a decisive and central role in the development of personality, as is affirmed in the main psychological theories; a positive self-concept is at the basis of good personal, social, and professional functioning, also depending on personal satisfaction and feeling good about himself. In specific, physical self-concept is a good indicator of mental health and adjusting with life (A. Goñi, 2009, E. Goñi & Infante, 2010, Reigal, Videra, Parra, & Juarez, 2012) due to the good feelings about our body, we can generate positive feelings. Hence, achieving a positive self-concept is one of the most sought-after objectives in numerous psychological intervention programs (educational, clinical, community, civic ...) so, are required strategies and resources that allows the improvement (Esnaola, Goñi, & Madariaga, 2008).

Self-concept is very important in the formation of personality and, furthermore, it is related to well-being in general. By developing a positive self-concept from adolescence, we will achieve a good psychosocial adjustment and avoid future psychological and pedagogical problems (Cazalla-Luna & Molero, 2013). As is known, the stage of adolescence is a time of change, from being a child to being an adult, these changes can be physical, cognitive, social, and emotional, which can lead to anxiety. It is considered that there are three stages in adolescence: early

adolescence between the ages of 10 and 13, middle adolescence between the ages of 14 and 17, and late adolescence between the ages of 18 and 21 or older (Allen & Waterman, 2019).

Likewise, it has also been possible to establish a clear relationship between a low physical self-concept and the risk of eating disorders; therefore, a poor physical self-concept serves as a diagnostic warning of eating disorders (A. Goñi & Rodríguez, 2004). Also, has been verified that people with a poor physical self-concept in adolescence are more vulnerable to cultural pressure in favor of a slimmer and more attractive body and they are more anxious. Likewise, the positive relationships of physical self-concept with psychological well-being and mood are important: those who enjoy a good physical self-concept score higher in subjective psychological well-being, feel more satisfied with their life and consider their mood more positive (Goñi, Rodríguez, & Ruiz de Azúa, 2004; Jimenez, Peinado, Solano-Pinto, Ornelas & Blanco, 2020). However, it remains to be seen if these correlations are maintained during the remaining stages of evolutionary development (Esnaola et al., 2008).

On the other hand, practically in all the studies carried out by different authors, it was obtained differences according to the sex, founding that the physical self-concept of women is significantly lower than men (Cağlar, 2009; Chacón-Cuberos, Zurita-Ortega, García-Marmol & Cas-

tro-Sánchez, 2020; Eitzen & Sage, 1997; Gentil, Zurita, Gómez, Padial, & Lara, 2019; Pastor, Balaguer, & García-Merita, 2003; Tapia, 2019); where a possible explanation is the fact that there is a process of socialization in the practice of physical activity, such as occurs in other areas of development, in which there is a stereotype that men are encouraged to participate in a special way in competitive sports where they have the opportunity to develop certain physical skills to a greater way than women (Fernández, Contreras, González, & Abellán, 2011; Rodríguez, González-Fernández, & Goñi, 2013).

In adolescents, the practice of physical activity increases the levels of self-concept, in addition, men are the ones who perceive themselves with greater physical self-concept than women (Gentil, Zurita, Gómez, Padial & Lara, 2019). In addition, Fernández-Bustos, Infantes-Paniagua, Cuevas & Contreras (2019) found that physical activity is associated with a more positive self-concept during adolescence, although this effect is mediated by both physical self-concept and body image. In other study carried out with karate adolescents, it was found that the most significant determinants of the variability of physical activity were the dimensions of physical self-concept, with strength and flexibility being the dimensions of greatest influence; In addition, the physical self-concept variable in the self-respect subscale, that is, these variables have a statistically significant influence on the prediction of the physical activity level in karateka adolescents (Ivanović & Ivanović, 2022).

Clevinger, Petrie, Martin & Greenleaf (2020) found that participation in sports is significantly related with better cardiorespiratory fitness, muscular strength, self-efficacy in physical activity and physical self-concept. Utesch, Dreiskämper, Naul, & Geukes (2018) state that both physical self-concept and real motor competence are important for healthy levels of physical activity in the future and, consequently, for reducing overweight and obesity in childhood. The authors in their research reported that children with higher levels of motor competence and higher self-perceptions show greater physical activity, and that children who perceive their motor competence more accurately, show more physical activity in the future. Where they state that this effect is strong for underweight and overweight/obese children, but weak for children with normal weight. Indicating that an accurate self-perception of motor competence encourages future physical activity beyond individual main effects, respectively.

Through a moderate mediation model in white females, Carter & Vartanian (2022) showed the effect of the exposure condition on body dissatisfaction through the comparison of appearance with goals depends on the level of clarity of the participant's self-concept. Finding that those with lower self-concept clarity showed greater comparison when exposed to idealized images relative to control images, leading to greater post-exposure body dissatisfaction. The authors suggest that low self-concept clarity could increase vulnerability to the negative effects of expo-

sure to idealized media images. In addition, the results of Sánchez-Miguel, Pulido, Sánchez-Oliva, Amado & Leo (2019) revealed that factors related to self-concept and perceived BMI explain body dissatisfaction.

The present investigation is fundamentally a descriptive study that compare the profiles of physical self-concept of Mexican men and women students of elementary and high school; considering that in recent years, physical self-concept has taken a huge rise in modern societies, many of which have created an entire subculture based on the perception and importance of the ideal image (Banfield & McCabe, 2002).

## Methods

### Participants

A sample of 1146 primary and secondary school Mexican students, 550 women and 596 men, aged 11-16 years ( $M = 12.31$ ;  $SD = 1.45$ ) participated in the present study. Where 770 participants were elementary school (67.2%) and 376 middle school (32.8%). A convenience sampling was used in order to try covering the representative of different school levels studied.

### Instrument

*Physical Self-Description Questionnaire.* This questionnaire consisted of 70 items that measure nine specific components of the physical self-concept (health, coordination, body fat, activity, sports competence, appearance, strength, flexibility and endurance) and two global components (global physical self-concept and global self-esteem). Its response format is based on a 6-point true/false Likert-type scale (higher scores indicating higher physical self-concept). The health factor with 8 items, for example: "When I am sick I feel so bad that I can't even get out of bed", "I usually catch all the diseases out there (flu, viruses, colds, etc.)", "I almost never get sick"; the coordination factor contains 6 items such as: "I feel confident performing movements that require coordination", "I find it easy to control my body's movements", "In most physical activities, I can perform movements with harmony". The activity factor consists of 6 items, some of them being: "Several times a week I do exercises or sports intense enough to make me breathe fast", "I usually do exercises or activities that make me breathe hard", "Three or four times a week for at least half an hour, I do exercises or activities that make me breathe hard". The body fat factor with 6 items such as: "I am too fat", "My waist is too wide", "I have too much fat on my body". The sports competence factor consists of 6 items such as: "People think I am good at sports", "I am good at most sports", "I have good sports skills". The appearance factor includes 6 items such as: "Considering my age, I am attractive", "I have a nice face", "I am better looking than most of my friends", "I am ugly". The strength factor also with 6 items among which are: "I am a physically strong person", "I am stronger than most boys my age", "I am

weak and have almost no muscle". The flexibility factor with 6 items including "I am pretty good at flexing and twisting my body", "My body is stiff and not flexible at all", "I can flex and move well various parts of my body in most directions." The endurance factor with 6 items, e.g., "I can run long distances without stopping," "I would perform well in a physical endurance test," "I could run 5 km without stopping." The global physical self-concept factor consists of 6 items such as: "Physically I am satisfied with the type of person I am", "I am satisfied with my physical appearance and with what I can do physically", "I am satisfied with how I am physically". And finally, the global self-esteem factor with 8 items, for example: "In general, most of the things I do, I do well", "I have little to be proud of", "In general, I am worthless". The items have both positively and negatively worded questions. All negatively worded items (21 in total) are reverse scored and summarized with other scores of the correspondent scale. The PSDQ was translated into Spanish, followed by a back-translation procedure widely described in the literature, with reliability coefficient alpha=.89 (Marsh, Tomás, & Abçý, 2002).

### **Design**

Regarding the design of the study, a quantitative approach with a descriptive and transversal survey design was used (Hernández, Fernández, & Baptista, 2014). The independent variable was sex (women and men) and the dependent variables were the scores on physical self-concept subscales.

### **Procedure**

Students of primary and secondary were invited to participate in the present study through the educational authorities who requested permission from their parents. These students were fully informed about all the features of the project. Then, all the students that agree to participate were asked to sign a written informed consent. After the students' approvals were obtained, participants completed the above-mentioned questionnaire by means of the instrument module administrator of the Scales Editor Version 2.0 (Blanco et al., 2013).

Participants completed the questionnaire in the computer rooms of their schools during a session. At the beginning of the session the researchers gave a general introduction about the importance of the research and how to access the questionnaire thought the software. When the participants were into the editor, the instructions about how to fill out the questionnaire correctly appeared before the instrument. Additionally, the participants were advised to ask for help if confused concerning either the instructions or the clarity of a particular item. Completion of the entire questionnaire took approximately 30 minutes. At the end of the session their participation was welcomed. Afterward, when all the participants completed the questionnaire, the data were collected by means of the results generator module of the *Scales Editor Version 2.0*

(Blanco et al., 2013).

### **Data analysis**

Descriptive statistics (means and standard deviations) for all the variables were calculated. Subsequently, after verifying that the data met the assumptions of parametric statistical analyses, a one-way multivariate analysis of variance (MANOVA), followed by the one-way univariate analysis of variance (ANOVA), were used to examine the differences between the men and women on the reported physical self-concept scores. Moreover, the effect size was estimated using the eta-squared ( $\eta^2$ ). Generally, assuming a moderate sample size, eta squared values of .09, .14, and .22 or greater could be described in behavioral science as small, medium, and large (Salkind, 2010). All statistical analyses were performed using the SPSS version 20.0 for Windows (IBM® SPSS® Statistics 20). The statistical significance level was set at  $p < .05$ .

### **Results**

Table 1 shows the mean values and standard deviations of the subscales of physical self-concept, as well as the results of the MANOVA and the follow-up univariate ANOVAs. The MANOVA results indicated overall statistically significant differences between sex on the physical self-concept scores (Wilks'  $\lambda = .861$ ;  $p < .001$ ;  $\eta^2 = .139$ ). Subsequently, the follow-up ANOVAs showed that compared with the women, the men obtained higher scores on the subscales health, coordination, activity, sports competence, strength, flexibility, endurance and global physical self-concept. However, in the body fat, appearance and global self-esteem subscales statistically significant differences were not found ( $p > .05$ ).

Table 1

*Results of MANOVA for the sex differences on the eleven subscales of physical self-concept*

	women (n = 550)	men (n = 596)	F	P	$\eta^2$
			16.591	<.001	.139
Health	1.37 (0.72)	1.49 (0.68)	9.320	<.001	.008
Coordination	2.71 (1.19)	3.02 (1.05)	22.598	<.001	.019
Body fat	1.49 (1.29)	1.40 (1.25)	1.419	.234	.001
Activity	2.48 (1.36)	3.09 (1.22)	65.066	<.001	.054
Sports competence	2.43 (1.29)	2.98 (1.23)	55.715	<.001	.046
Appearance	2.16 (0.87)	2.25 (0.79)	3.280	.070	.003
Strength	2.10 (0.98)	2.53 (0.92)	84.049	<.001	.068
Flexibility	2.05 (1.03)	2.29 (0.97)	15.774	<.001	.014
Endurance	1.83 (1.14)	2.53 (1.16)	107.025	<.001	.086
Global physical self-concept	3.51 (1.33)	3.78 (1.16)	13.421	<.001	.012
Global self-esteem	3.63 (0.84)	3.67 (0.81)	0.436	.509	.000

Note. Descriptive values are reported as mean (standard deviation).

### **Discussion and conclusions**

The results show that in most areas or factors of physical self-concept, men perceive themselves better than women; from which it can be concluded that women show a less developed physical self-concept; this conclusion agrees in general with similar studies (Cağlar, 2009; Fernández et al., 2011; Pastor et al., 2003) where it is also

reported that women tend to manifest lower levels of physical self-concept than men; results that generally agree with those found by Videra-García and Reigal-Garrido (2013) who reported that boys perceive themselves to be healthier, stronger and have a better overall physical self-concept than girls; thus predisposing women to an increased risk of eating disorders, since it has been proven that people with poor physical self-concept are more vulnerable to cultural pressure in favor of a thinner body (A. Goñi & Rodríguez, 2004, E. Goñi & Infante, 2010, Rodríguez et al., 2013).

Among the factors of physical self-concept and sex, eight significant differences were found, the most important being: Endurance, Strength, Activity and Sports Competence, where the most relevant Strength and Activity. In line with Videra-García and Reigal-Garrido (2013), boys are the ones who perceive themselves to be stronger at that age, one reason why girls do not perceive themselves to be strong could be due to the social desirability that exists, because it seems who become closer to the other sex, so although the reason for the differences could be biological at this age, it could also be due to culture. On the other hand, those who practice more physical activity are boys, results that generally agree with Baños et al. (2021), where girls have lower levels of physical activity, which depend on social factors such as the support of their parents and friends, according to Cocca et al. (2017), and barriers for practicing physical exercise like lack of time and fatigue or laziness (Blanco et al., 2019).

These results can be explained based on sex stereotypes of Occidental culture, men have more opportunities to develop their physical abilities and improve their physical self-concept more than women (Colley, Berman, & Millingen, 2005, Contreras, Fernández, García, Palou & Ponseti, 2010; Sánchez-Miguel et al., 2020). That is, the process of socialization by encouraging certain ways of thinking, feeling and acting according to whether it is a woman or a man, promoting a sex identity; what explains the development of differentiated beliefs between men and women (Cağlar, 2009).

The differences found between men and women with respect to their physical self-concept, also suggest that in order to design any intervention for improving the perceived physical self-concept of the students, the variable sex should be taken into account.

Consequently, this research aims, as applied research, to provide information that translates into a higher quality educational practice in the context of attention to diversity; contributing to pedagogical knowledge in the clarification of the factors that make up a model of integral human development; Under the premise that educational efforts should focus on increasing students' feelings of self-worth and competence, strengthening self-esteem and self-concept, which in turn will favor motivation toward achievement, interpersonal relationships and in general, the particular way to cope with various tasks and challenges that arise.

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## References

- Allen, B. & Waterman, H. (2019). *Etapas de la adolescencia. Healthy children.* [https://www.healthychildren.org/Spanish/ages-stages/teen/Paginas/Stages-of-Adolescence.aspx?\\_ga=2.156807099.1687194852.1657642622-1561486867.1657642622&\\_gl=1\\*1qknb6b\\*\\_ga\\*MTU2MTQ4Njg2Ny4xNjU3NjQyNjIy\\*\\_ga\\_FD9D3XZVQQ\\*MTY1NzY0MjYyMS4xLjAuMTY1NzY0MjYyMS4w](https://www.healthychildren.org/Spanish/ages-stages/teen/Paginas/Stages-of-Adolescence.aspx?_ga=2.156807099.1687194852.1657642622-1561486867.1657642622&_gl=1*1qknb6b*_ga*MTU2MTQ4Njg2Ny4xNjU3NjQyNjIy*_ga_FD9D3XZVQQ*MTY1NzY0MjYyMS4xLjAuMTY1NzY0MjYyMS4w)
- Banfield, S., & McCabe, M. P. (2002). An evaluation of the construct of body image. *Adolescence*, 37(146), 373-393.
- Baños, R., Barreto Ruvalcaba, M., Baena-Extremera, A. y Fuentesal-García, J. (2021). Análisis de los niveles de actividad física en el tiempo libre, IMC, satisfacción y apoyo a la autonomía en educación física en una muestra mexicana. *Retos*, 42, 549-556. <https://doi.org/10.47197/retos.v42i0.87088>
- Blanco, H., Ornelas, M., Tristán, J. L., Cocca, A., Mayorga-Vega, D., López-Walle, J., & Viciana, J. (2013). Editor for creating and applying computerise surveys. *Procedia Social and Behavioral Sciences*, 106, 935-940. <http://dx.doi.org/10.1016/j.sbspro.2013.12.105>
- Blanco, J. R., Soto, M. C., Benítez-Hernández, Z. P., Mondaca, F. y Jurado-García, P. J. (2019). Barreras para la práctica de ejercicio físico en universitarios mexicanos comparaciones por género. *Retos: nuevas tendencias en educación física, deporte y recreación*, 36, 80-82. <https://doi.org/10.47197/retos.v36i36.67820>
- Cağlar, E. (2009). Similarities and differences in physical self-concept of males and females during late adolescence and early adulthood. *Adolescence*, 44(174), 407-419.
- Carter, J. J. & Vartanian, L. R. (2022). Self-concept clarity and appearance-based social comparison to idealized bodies. *Body Image*, 40, 124-130. <https://doi.org/10.1016/j.bodyim.2021.12.001>
- Cazalla-Luna, N. y Molero, D. (2013). Revisión teórica sobre el autoconcepto y su importancia en la adolescencia. *Revista electrónica de investigación y docencia* (10), 43-64. <https://doi.org/10.17561/reid>
- Chacón-Cuberos, R., Zurita-Ortega, F., García-Marmol, E., & Castro-Sánchez, M. (2020). Autoconcepto multidimensional según práctica deportiva en estudiantes universitarios de Educación Física de Andalucía. *Retos: nuevas tendencias en educación física, deporte y recreación*, (37), 174-180.
- Clevinger, K., Petrie, T., Martin, S. & Greenleaf, C. (2020).

- The relationship of sport involvement and gender to physical fitness, self-efficacy, and self-concept in middle school students. *Physical Educator*, 77(1), 154-172. <https://doi.org/10.18666/TPE-2020-V77-11-9228>
- Cocca, A., Chmelík, F., Cocca, M., Espino, F. D. y Ródenas, L. T. (2017). Psychological, social and environmental predictors of physical activity in Mexican adolescents. *Health Problems of Civilization*, 11(3), 125-134. <https://doi.org/10.5114/hpc.2017.70524>
- Colley, A., Berman, E., & Millingen, L. V. (2005). Age and Gender Differences in Young People's Perceptions of Sport Participants. *Journal of Applied Social Psychology*, 35(7), 1440-1454. <http://dx.doi.org/10.1111/j.1559-1816.2005.tb02178.x>
- Contreras, O. R., Fernández, J. G., García, L. M., Palou, P., & Ponsetí, J. (2010). El autoconcepto físico y su relación con la práctica deportiva en estudiantes adolescentes. *Revista de Psicología del Deporte*, 19(1), 23-39.
- Eitzen, S., & Sage, G. (1997). *Sociology of North American sport*. Dubuque, IA: Brown y Benchmark.
- Esnaola, I., Goñi, A., & Madariaga, J. M. (2008). El autoconcepto: perspectivas de investigación. *Revista de Psicodidáctica*, 13(1), 69-96.
- Fernández, J. G., Contreras, O. R., González, I., & Abellán, J. (2011). El autoconcepto físico en educación secundaria. Diferencias en función del género y la edad. *Revista Galego-Portuguesa de Psicoloxía e Educación*, 19(1), 199-212.
- Fernández-Bustos, J. G., Infantes-Paniagua, Á., Cuevas, R., & Contreras, O. R. (2019). Effect of physical activity on self-concept: Theoretical model on the mediation of body image and physical self-concept in adolescents. *Frontiers in psychology*, 10, 1537. <https://doi.org/10.3389/fpsyg.2019.01537>
- Gentil, M., Zurita, F., Gómez, V., Padial, R. & Lara, A. J. (2019). Influencia de la práctica de actividad física en el autoconcepto de adolescentes. *Retos*, 36, 342-347. <https://doi.org/10.47197/retos.v36i36.68852>
- Goñi, A. (2009). *El autoconcepto físico: Psicología y educación*. Madrid: Pirámide.
- Goñi, A., & Rodríguez, A. (2004). Trastornos de conducta alimentaria, práctica deportiva y autoconcepto físico en adolescentes. *Actas Españolas de Psiquiatría*, 32(1), 29-36.
- Goñi, A., Rodríguez, A., & Ruiz de Azúa, S. (2004). Bienestar psicológico y autoconcepto físico en la adolescencia y juventud. *Psiquis*, 25(4), 141-151.
- Goñi, E., & Infante, G. (2010). Actividad física-deportiva, autoconcepto físico y satisfacción con la vida. *European Journal of Education and Psychology*, 3(2), 199-208.
- Hernández, R., Fernández, C., & Baptista, P. (2014). *Metodología de la investigación*. México: McGraw- Hill.
- Ivanović, M. & Ivanović, U. (2022). The relations between body mass index, motor skills, and physical self-concept in determining physical activities of junior karatekas.
- Jimenez, C., Peinado, J., Solano-Pinto, N., Ornelas, M., & Blanco, H. (2020). Relaciones entre Autoconcepto y Bienestar Psicológico en Universitarias Mexicanas. *Revista Iberoamericana de Diagnóstico y Evaluación-e Avaliação Psicológica*, 2(55), 59-70.
- Marsh, H. W., Tomás, I., & Abçý, H. (2002). Cross-cultural validity of the physical self-description questionnaire: comparison of factor structures in Australia, Spain, and Turkey. *Research Quarterly for Exercise and Sport*, 73(3), 257-270. <http://dx.doi.org/10.1080/02701367.2002.10609019>
- Pastor, Y., Balaguer, I., & García-Merita, M. L. (2003). El autoconcepto y la autoestima en la adolescencia media: análisis diferencial por curso y género. *International Journal of Social Psychology*, 18(2), 141-159. <http://dx.doi.org/10.1174/021347403321645258>
- Reigal, R., Videra, A., Parra, J. L., & Juárez, R. (2012). Actividad física deportiva, autoconcepto físico y bienestar psicológico en la adolescencia. *Retos. Nuevas tendencias en Educación Física, Deporte y Recreación*, 22, 19-23.
- Rodríguez, A., González-Fernández, Ó., & Goñi, A. (2013). Sources of perceived sociocultural pressure on physical self-concept. *Psicothema*, 25(2), 192-198. <http://dx.doi.org/10.7334/psicothema2012.229>
- Sánchez-Miguel, P. A., Pulido, J. J., Sánchez-Oliva, D., Amado, D. & Leo, F. M. (2019). The importance of body satisfaction to physical self-concept and body mass index in Spanish adolescents. *International Journal of Psychology*, 54(4), 521-529. <https://doi.org/10.1002/ijop.12488>
- Salkind, N. J. (2010). *Encyclopedia of Research Design*. Sage.
- Sánchez-Miguel, P. A., Leo, F. M., Amado Alonso, D., Hortigüela-Alcalá, D., Tapia-Serrano, M. A., & La Cruz-Sánchez, D. (2020). Children's physical self-concept and body image according to weight status and physical fitness. *Sustainability*, 12(3), 782. <http://dx.doi.org/10.3390/su12030782www.mdpi.com/journal/sustainability>
- Tapia, A. (2019). Diferencias en los niveles de actividad física, grado de adherencia a la dieta mediterránea y autoconcepto físico en adolescentes en función del sexo. *Retos: nuevas tendencias en educación física, deporte y recreación*, 36, 185-192. <https://doi.org/10.47197/retos.v36i36.67130>
- Utesch, T., Dreiskämper, D., Naul, R. & Geukes, K. (2018). Understanding physical (in) activity, overweight, and obesity in childhood: Effects of congruence between physical self-concept and motor competence. *Scientific reports*, 8(1), 1-10.
- Videra-García, A. y Reigal-Garrido, R. E. (2013). Autoconcepto físico, percepción de salud y satisfacción vital en una muestra de adolescentes. *Anales de Psicología*, 29(1), 141-147. <https://doi.org/10.6018/analesps.29.1.132401>