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# Gender and Sports Practice are Related to the Perception of the Olympic Movement and Gender Equity in Sport

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## Abstract

**Background:** The Olympic movement (OM) aims to preserve and promote the philosophy of Olympism and development of society through culture and sport, being gender equity in sport one of the main tasks of the OM since the late twentieth century.

**Objectives:** Analyze the relationship between the levels of knowledge and perception about the OM on attitudes towards women's participation in sport in students of physical education and sport sciences.

**Methods:** Cross-sectional research with correlational-descriptive scope was developed in which 35 subjects (17.1% female and 82.9% male;  $21.1 \pm 4.1$  years) were part of the study. The Questionnaire on the Vision of Olympism and its Educational Repercussions and the Scale of Attitudes towards Women's Participation in Sport were applied. Comparison analyses were performed between sex, sports practice, and level of sports practice, as well as the relationship between the variables through nonparametric statistics considering a value of  $P < 0.05$  as statistical significance.

**Results:** The level of knowledge about Olympism was  $6.14 (\pm 2.5)$ . Significant differences were observed in attitudes towards women's participation in sport according to gender, sport practice and level of practice. In addition, it should be noted that gender equity, social support, and access for women in sport are not perceived at high levels. Finally, no significant relationships were found between the factors of both questionnaires.

**Conclusions:** The students participating in the study present low levels of knowledge about Olympism; furthermore, they show differences in attitudes towards women's participation in sport according to gender and level of sport practice, evidencing the positive impact of sport practice and immersion in academic aspects related to sport for the improvement of the gender equity perspective within sport.

**Keywords:** Olympism, Physical Education and Sports Sciences, Gender Equity, Mexico

## 1. Background

The study of the socio-cultural implications that sport and the Olympic movement (OM) have generated throughout the history of modern Olympism is a proposal that encompasses an attitude based on ethical values placing sport as the means through which a harmonious development of humanity is accomplished (1). The OM aims to reach a greater commitment to attain and maintain peace and human dignity (2), since as mentioned in the Olympic Charter "the practice of sport is a human right. Everyone should have the opportunity to practice sport without discrimination of any kind and in the Olympic spirit, which requires mutual understanding, a spirit of friendship, solidarity, and fair play" [3 p11].

The IOC as the main leader and promoter of the phi-

losophy of the OM contributes to the development of humanity through the practice of sports and the promotion of Olympism to educate youth through its values (3). To achieve this, it has driven the ideology of Olympism along a dynamic path through the years without losing sight of its foundations, adapting under the premise of responding to social, political, and cultural changes, and needs in each of the historical periods through which it has passed (4), for example, the struggle for equality and the eradication of racism, and more recently, gender equity and diversity in the practice of sport.

In this sense, from the last decades of the twentieth century to the present, the promotion of gender equity in sport was established as a priority in the agenda of the OM and the IOC (1), however, much work remains to be done

in this regard with the aim of achieving equal participation and representation between women and men at all levels (sports, technical and administrative body), as well as socialization, recognition and equitable remuneration within the sports environment (1, 5, 6).

Some research identifies elements that can develop equity for women and men within sport practice, combating issues such as the use of stereotypes (7, 8), highlighting the need for the participation of women in sport practice and management (9), as well as the promotion of sports activities based on a mixed approach (10), in addition to being academically trained within educational programs in physical education, sport and sport sciences that in turn can implement a gender perspective approach (5, 11).

Following the above mentioned, it can be pointed out that Olympic education presents a theoretical framework in continuous development that provides the possibility of orienting study programs towards the promotion of Olympism, at least within the careers oriented to physical education and sport (12). On the other hand, the need to narrow the gap of gender inequality in society and sport has led governments and educational institutions such as universities to shape transversal axes with a gender perspective within the academic training of students (11).

## 2. Objectives

The present research paper set out the aim to analyze the influence of gender and sports practice in relation to the levels of knowledge and perception about the Olympic movement and attitudes towards women's participation in sports activities with students from a bachelor's degree program in Physical Education and Sports Sciences.

## 3. Methods

### 3.1. Sample

A cross-sectional study of correlational-descriptive scope was conducted in a population of Physical Education and Sports Science students of the Autonomous University of Occident (UAdeO) from Mexico. The sample was selected by convenience under the following inclusion criteria: (1) studying physical education and sports sciences at UAdeO; (2) studying from August 2020 - July 2021. 35 participants (17.1% female and 82.9% male) with a mean age of 21.1 ( $\pm$  4.1) years made up the final sample of the study. Of the total sample, 85.7% practiced a sport; 28.5% competed at the regional level and 57.1% locally, while the remaining 14.3% did not practice any.

### 3.2. Instruments

#### 3.2.1. Scale of Attitudes Toward Women's Participation in Sport

The scale of attitudes toward women's participation in sport (SATWPS), adapted from the Perception on the Relationship between Women and Sport survey of the Mexican Women's Institute (13), was used. It consists of 22 Likert-type items (1 = totally disagree, to 5 = totally agree) divided into four factors: (1) social perception of women in sport (SPWS); (2) perception of equity in sport (PES); (3) social support for women in sport (SSWS); (4) women's access to sport (WAS). Scores closer to five refer to a greater perception of the subject towards the attitude described in each factor (Méndez-Sánchez et al., under review). Research has reported adequate reliability of the instrument (5, 14), obtaining in our sample coefficients of  $\alpha = 0.85$  (global),  $\alpha = 0.88$  (SPWS),  $\alpha = 0.66$  (PES),  $\alpha = 0.93$  (SSWS) and  $\alpha = 0.70$  (WAS).

#### 3.2.2. Questionnaire About the View of Olympism and its Educational Implications

Four scales of the Questionnaire about the view of Olympism and its educational implications (QUVOEDIM) designed by Molina (12) were applied. It measures the level of Olympic knowledge and the perception about the OM through two sections, the first one, composed by 10 multiple choice questions (1 correct) evaluate the knowledge about Olympism (KOL), obtaining a score between 0 and 10; the second part is composed by 25 Likert-type items (0 = not at all agree, to 4 = strongly agree); it measures the perception about the threats faced by the Olympic movement (TOM), the values of the Olympic movement (VOM) and the meaning of the Olympic movement (MOM). Possible scores range from 0 to 36 for TOM, 0 to 24 for VOM and 0 to 40 for MOM. Higher score means the subjects are more identified with what the scale intends to reflect (12). Previous studies have reported that the instrument presents an appropriate internal consistency (12, 15-17). The present study showed the following Cronbach's alpha coefficients:  $\alpha = 0.70$  (KOL),  $\alpha = 0.74$  (TOM),  $\alpha = 0.65$  (VOM), and  $\alpha = 0.82$  (MOM).

### 3.3. Procedure

Both questionnaires were transcribed to the Google Forms application. Permission was obtained from the institution, and the professors and tutors were contacted to support in the instrument's application. We proceeded to send the form using a mobile messaging application (WhatsApp). All subjects answered the questionnaires voluntarily by marking on the form their approval to participate in the study. The ethical guidelines indicated in the Declaration of Helsinki (18) were respected throughout the study.

### 3.4. Statistical Analysis

The frequencies and percentages of the sociodemographic data were obtained, as well as the correct KOL responses, and descriptive statistics were calculated ( $M \pm SD$ ). After determining the non-normality of the data using the Shapiro-Wilk test, the Mann-Whitney U test was used for comparisons by gender and sports practice, while the Kruskal-Wallis test was applied to compare by sports level; finally, Spearman's Rho was employed to analyze the relationships between variables. For all statistical analyses a value of  $P < 0.05$  was established as significant.

## 4. Results

Table 1 shows the frequencies and percentage of correct answers for each of the 10 questions that evaluate the participants' knowledge of Olympism and its history; while Table 2 shows the comparative analyses for the factors related to OM as a function of gender, sports practice and level of sports practice.

Regarding attitudes towards women's participation in sport, the participants' perception for each variable measured by the scale was the following: (1) SPWS =  $4.26 \pm 0.88$ ; (2) PES =  $3.07 \pm 0.66$ ; (3) SSWS =  $3.25 \pm 0.40$ ; (4) WAS =  $3.32 \pm 0.53$ . Regarding the differences in terms of sociodemographic variables, the results are presented in Table 3.

Ultimately, Table 4 shows the correlations identified between the factors of both variables studied in this research.

## 5. Discussion

The results conferring KOL (Table 1) allow identifying that the mean of correct answers by our sample ( $6.14 \pm 2.5$ ) is below that reported in previous research with similar populations (15), as well as in comparison with careers related to education (19), and with physical education teachers at the secondary level (17). Authors such as Gómez-Mármol et al. (15) emphasize the importance of Olympism within the training of physical education and sport professionals, since through this it can have an impact on the formation of future generations through sport based on values and the philosophy of OM.

On the other hand, the participants' perception about the factors measured by the QUVOEDIM (Table 2) shows differences between gender, with women tending to score higher on the four factors of the questionnaire, however, the differences were not statistically significant with respect to men. Our results contrast with other studies where men tend to perceive higher scores on OM implications and knowledge of OM compared to women (17, 19).

Regarding the sport practice, a significant difference was observed in the VOM factor in which those who practice sports, perceive lower levels ( $z = -2.20$ ,  $P < 0.05$ ) than those who do not practice sports. This coincides with previous research which concluded that sports practice allows the subjects to experience different situations within the sports daily, being a factor that generates a closer vision to the reality of the sports scenario (15), leading to analyze the elements that have developed the trends observed both in our study and in previous studies. The previous finding is reinforced by the data behavior about the perception in function of the sport practice level, although the differences were not statistically significant [may be due to the small sample size, (20)], it is shown that those who practice at higher level perceive less positive levels on the OM; This can be explained by the fact that a higher level allows a more accurate vision about the sports practice and its congruence or lack thereof with the OM in comparison with those who do not practice or have a lower level, thus highlighting the need to promote a fairer participation that highlights the values and philosophy of Olympism over the result (15, 21).

With respect to the attitudes towards women's participation in sport analysis, a positive SPWS is highlighted, reflecting a mean of 4.26 on a scale of 1 to 5. However, the other factors measured by the scale show that the participants are positioned in a middle ground (considering that the response ranges) with PES, SSWS and WAS scoring just above 3, which is considered the midpoint of the scale; this is in agreement with what has been previously evidenced by other studies (5, 14). In addition, the findings on the comparisons reveal that women who participated in the study present higher SPWS, WAS, as well as PES scores, being PES the only one statistically significant ( $z = -2.20$ ;  $P < 0.05$ ) compared to men. Oppositely, SSWS is perceived in lower scores by women than by men (see Table 3).

The differences in the PES factor in our results present a dissimilar perception to that exposed in the study by Muñoz-Helú et al. (5), who points out that the female participants in their study report a lower perception of gender equity in sport. As a possible explanation for this behavior we can consider what is reported by Cooky (8), and Fink et al. (10), who explain that sports practice, as well as academic training in the same direction are elements for a positive perception by women towards their participation in sports practice; thus, being the sample from our study formed only by physical education and sports sciences students, it is possible that they have greater proximity to the sports context and actively participate in events and competitions related to sports, which implies a more positive perception of women's participation in sports activities.

Moreover, the level of sport practice showed signifi-

**Table 1.** Knowledge About Olympism of the Study Participants <sup>a</sup>

Questions	No. (%)
<b>1. Which city held the first modern Olympic games?</b>	
Incorrect	7 (20.0)
Correct	28 (80.0)
<b>2. In what year were the first modern Olympic games held?</b>	
Incorrect	12 (34.3)
Correct	23 (65.7)
<b>3. Which city hosted the 2016 Olympic games?</b>	
Incorrect	8 (22.9)
Correct	27 (77.1)
<b>4. Where were the 2008 Olympic games held?</b>	
Incorrect	14 (40.0)
Correct	21 (60.0)
<b>5. Who pronounced, at the London 1908 Olympic Games, the phrase "the important thing is not to win, but to participate"?</b>	
Incorrect	34 (97.1)
Correct	1 (2.9)
<b>6. The Olympic charter is...</b>	
Incorrect	20 (57.1)
Correct	15 (42.9)
<b>7. Who was the restorer of the modern Olympic games?</b>	
Incorrect	4 (11.4)
Correct	31 (88.6)
<b>8. What does the Olympic symbol of the five interlocking rings represent?</b>	
Incorrect	3 (8.6)
Correct	32 (91.4)
<b>9. Who is currently the president of the International Olympic Committee (IOC)?</b>	
Incorrect	18 (51.4)
Correct	17 (48.6)
<b>10. What is the Olympic slogan?</b>	
Incorrect	15 (42.9)
Correct	20 (57.1)

<sup>a</sup> M = 35 participants.

cant differences in the SPWS factor ( $\chi^2 = 8.18$ ;  $P < 0.05$ ), showing the participants who practice at regional level had higher acceptance of women's participation in sport compared to those who only practice at the local level or do not practice at all. This finding reinforces the previous studies results that point to sport level as a mechanism to reach greater awareness and acceptance of women's participation in sport, being fundamental to accomplish equity in sport and the promotion of greater acceptance in women's sport practice (1, 8-10).

Finally, the correlation analysis (Table 4) evidenced significant relationships between factors from the same instrument, with a linear relationship between KOL and TOM ( $\rho = 0.57$ ;  $P < 0.01$ ) indicating that with an increase in one of them, there is an increase in the perception of the other. Previous reports have pointed out that the level of knowledge and involvement in sport allows identifying possible

adversities that affect the current development of OM (12, 15, 17). On the other side, the SATWPS factors also were significantly related to each other, showing relationships between SPWS and PES ( $\rho = 0.47$ ;  $P < 0.01$ ), as well as with WAS ( $\rho = 0.37$ ;  $P < 0.05$ ); in addition, a negative relationship between PES and SSWS was observed ( $\rho = 0.33$ ;  $P < 0.05$ ). This data behavior agrees with the studies of de Pilar Méndez-Sánchez et al. (14), who have reported that there is concordance on the behavior of the questionnaire scales.

### 5.1. Limitations and Practical Implications

The present study had several limitations in its realization, one of them being the size of the sample, as well as the non-randomization for its selection. However, it is considered a relevant step towards the consolidation of a sports practice and academic training with a gender equity per-

**Table 2.** Analysis of Variance by Gender, Sports Practice and Level of Sports Practice in the Variables on Olympism

Variables	KOL	TOM	VOM	MOM
<b>Gender</b>				
Woman	7.50 ± 1.87	25.00 ± 7.35	18.33 ± 2.42	26.00 ± 5.97
Man	5.86 ± 2.55	19.38 ± 8.23	17.52 ± 4.26	24.93 ± 4.97
z	-1.37	-1.62	-0.35	-0.11
<b>Sport</b>				
Practice	6.13 ± 2.53	20.30 ± 8.81	17.10 ± 3.98	25.10 ± 4.66
Not practice	6.20 ± 2.59	20.60 ± 4.10	21.00 ± 2.00	25.20 ± 7.86
z	-0.27	0.01	-2.20 <sup>a</sup>	-0.80
<b>Sport level</b>				
Regional	5.78 ± 2.99	16.44 ± 9.30	17.67 ± 3.46	23.00 ± 4.87
Local	6.26 ± 2.45	22.16 ± 8.68	16.68 ± 4.35	25.42 ± 4.10
Not practice	6.29 ± 2.29	20.43 ± 3.55	20.29 ± 2.50	27.0 ± 7.26
χ <sup>2</sup>	0.28	2.39	4.40	5.02

Abbreviations: KOL, knowledge about Olympism; TOM, threats to the Olympic movement; VOM, values of the Olympic movement; MOM, meaning of the Olympic movement.

<sup>a</sup> P < 0.05.

**Table 3.** Analysis of Variance by Gender, Sport Practice and Level of Sport Practice of Attitudes Towards Women's Participation in Sport

Variables	SPWS	PES	SSWS	WAS
<b>Gender</b>				
Woman	4.58 ± 0.31	4.58 ± 0.31	3.23 ± 0.41	3.57 ± 0.46
Man	4.20 ± 0.94	3.17 ± 0.66	3.26 ± 0.41	3.27 ± 0.54
z	-0.84	-2.20 <sup>a</sup>	-0.07	-1.10
<b>Sports</b>				
Practices	4.34 ± 0.80	3.11 ± 0.67	3.24 ± 0.42	3.32 ± 0.52
Not practice	3.77 ± 1.25	2.87 ± 0.57	3.32 ± 0.33	3.32 ± 0.64
z	-1.14	-0.95	-0.67	-0.10
<b>Sport level</b>				
Regional	4.83 ± 0.17 <sup>b</sup>	3.15 ± 0.67	3.33 ± 0.54	3.56 ± 0.61
Local	4.06 ± 0.88	3.09 ± 0.73	3.17 ± 0.37	3.19 ± 0.44
Not practice	4.07 ± 1.15	2.93 ± 0.48	3.37 ± 0.29	3.37 ± 0.60
χ <sup>2</sup>	8.18 <sup>a</sup>	1.20	2.31	2.68

Abbreviations: SPWS, social perception of women in sport; PES, perception of equity in sport; SSWS, social support for women in sport; WAS, women access to sport.

<sup>a</sup> P < 0.05.

<sup>b</sup> Significant difference between regional and local level of practice.

**Table 4.** Spearman Correlations Between CUVOREDU and EAPMD Dimensions

Variables	KOL	TOM	VOM	MOM	SPWS	PES	SSWS
<b>TOM</b>	0.57 <sup>a</sup>	-					
<b>VOM</b>	0.23	0.18	-				
<b>MOM</b>	0.09	-0.13	0.31	-			
<b>SPWS</b>	-0.12	-0.22	-0.06	-0.01	-		
<b>PES</b>	-0.07	-0.28	-0.25	-0.11	0.47 <sup>a</sup>	-	
<b>SSWS</b>	-0.22	-0.04	-0.23	-0.29	-0.02	0.33 <sup>b</sup>	-
<b>WAS</b>	-0.29	0.22	-0.20	-0.17	0.37 <sup>b</sup>	-0.03	-0.06

Abbreviations: KOL, knowledge about Olympism; TOM, threats to the Olympic movement; VOM, values of the Olympic movement; MOM, meaning of the Olympic movement; SPWS, social perception of women in sport; PES, perception of equity in sport; SSWS, social support for women in sport; WAS, women access to sport.

<sup>a</sup> P < 0.01.

<sup>b</sup> P < 0.05.



spective, being a preamble for future research and intervention projects with similar samples.

## 5.2. Conclusions

According to our results, it is possible to conclude that the participants highlight the need to improve the quality and quantity of the educational offer focused on OM and its philosophy, as well as about gender equity within the practice of sports and the academic contexts that refer to it. This will be the task of professionals and academics in the area, as well as of educational and sports institutions for the further promotion of these topics and the achievement of institutional objectives towards an integral, proactive, and positive development of future generations through sport.

## Footnotes

**Authors' Contribution:** Study concept and design, H. MH., and LF. RS.; Analysis and interpretation of data, KM. CN.; Drafting of the manuscript, DK. ZB.; Critical revision of the manuscript for important intellectual content, RA. MB.; Statistical analysis, JJ. CF.

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