



## BODY STEREOTYPES ON GOOGLE IMAGES: How are Olympic and Paralympic Combat Sports Represented?

IGNACIO TAMARIT-GRANCHA <sup>1</sup>

ignacio.tamarit@ucv.es

MARÍA EUGENIA GARCÍA SOTTILE <sup>1</sup>

eugenia.garcia@ucv.es

JULIO MARTÍN RUIZ <sup>1</sup>

julio.martin@ucv.es

CLARA GALLEGO CERVERÓ <sup>1</sup>

clara.gallego@ucv.es

CONCEPCIÓN ROS ROS <sup>1</sup>

concepcion.ros@ucv.es

LAURA RUIZ-SANCHIS<sup>1</sup> ✉

laura.ruiz@ucv.es

<sup>1</sup> Universidad Católica de Valencia-San Vicente Mártir

---

### KEYWORDS

Stereotype  
Combat sports  
Image  
Google Images  
Visual representation  
Body somatotype  
Gender inequality

### ABSTRACT

*This study examines gender and body stereotypes in Olympic combat sports through the analysis of 500 images retrieved from Google Images. Adopting a gender, a descriptive analysis was conducted using Chi-square tests and Spearman's Rho correlation ( $p < 0.05$ ). The findings reveal a predominance of male representations (60.7%), which are primarily Caucasian, adult, and mesomorphic. In contrast, women appear less frequently and are typically associated with youthful profiles, ectomorphic somatotypes, and prominent aesthetic elements, thereby reinforcing traditional stereotypes of femininity. These differences persist across the various combat sport modalities analysed, demonstrating a significant association between variables such as sex, age, somatotype, and biological traits and the type of sport. It is concluded that gender inequalities remain entrenched in the visual representation of combat sports, perpetuated and amplified by Google's indexing algorithms, which constrain diversity and sustain stereotypical roles.*

---

Received: 30/04/2025

Accepted: 11/12/2025

## 1. Introduction

The concept of gender is a complex and relational sociohistorical analytical category whose meaning and evolution vary according to social, cultural, and political transformations. From a contemporary critical perspective, gender may be understood as a social construction shaped by power relations that generate hierarchies and inequalities (Butler, 2004; Connell, 2021). Weiss and Norden (2021) highlight that gender roles are social expectations about the behavior of men and women that shape everyday life. Gender and body stereotypes are deeply embedded in sport as a social institution (Weiss & Norden, 2021). These stereotypes function as cultural mechanisms that assign rigid, hierarchical characteristics to each sex, socially defining which identities, practices, and corporalities are considered legitimate or appropriate (Bruce, 2016). Regarding women's bodies, symbolic control assigns desirable attributes, thinness, normative beauty, or conformity to traditional models of femininity, and sanctions those corporalities that challenge these norms (Bordo, 2003; Gill, 2021). Furthermore, stereotypes have negative social consequences and contribute to the reproduction of gender inequalities and the exclusion of women from various spheres of social life (Cooky et al., 2015; Pope, 2022). The continued dissemination of gender and body stereotypes shapes current and future socialization processes, consolidating normative beliefs about the attributes, behaviors, and roles that women and men should assume (Connell, 2021).

Sport is a space of bodily and social practice that overlaps, in contemporary culture, with exercise and physical activity. This overlap disadvantages women, confining them within a model that discriminates against them and diminishes their value (Luque, 2024). For Cooky and Messner (2018), sport continues to be organized by patriarchal logics that privilege values historically associated with masculinity, such as strength, aggressiveness, or physical domination. This biased vision renders women invisible, diminishes and stigmatizes them (Cooky et al., 2015), creating barriers that hinder their access to and participation in sport. For Salido-Fernández and Muñoz-Muñoz (2021), the representation of female and male athletes is becoming increasingly balanced at a quantitative level, but without changing the persistence of gender stereotypes in both traditional and digital media. Media representations of women tend to focus on their physical attractiveness, private life, or motherhood, reinforcing traditional female roles and stereotypes (Antunovic & Whiteside, 2018; Bruce, 2016). These representations are not neutral: they function as cultural prescriptions that encode which bodies are socially valued and which are sanctioned, reinforcing the gender hierarchies described above. The sports media complex analyzed by Fink (2015) demonstrates how media and sponsors prioritize the image of female athletes based on criteria of normative femininity and physical attractiveness, perpetuating the same stereotypes that permeate conventional advertising. As a result, the female athlete's body is caught in a double bind: to perform athletically while simultaneously conforming to dominant aesthetic standards. This media construction contributes to the naturalization of a femininity centered on thinness and physical appearance, in contrast to a masculinity associated with strength and physical dominance (Connell, 2021). Musolino et al. (2021) demonstrate that highly muscular women tend to be perceived as a transgression of traditional ideals of femininity, triggering negative biases in social evaluation.

In combat sports, physical strength, bodily confrontation, and high muscular development are structural components of athletic practice. In these disciplines, female athletes not only challenge traditional sporting norms but also the cultural frameworks that regulate femininity (Gill, 2021; Thorpe et al., 2021). Bodies depicted in advertising and artistic images tend to be mesomorphic or athletic for men, and ectomorphic for women, almost completely excluding the endomorphic somatotype in the female case. This bodily hierarchization reflects what Bordo (2003) terms the discipline of the female body.

Hedenborg and Pfister (2016) examine how gender influences the representation of female athletes in sport media and digital platforms such as Google. LaVoie (2023) notes that image searches tend to reinforce the stereotype of the ideal female athlete—a figure who must not only excel in athletic ability but also conform to traditional beauty standards—reproducing in the digital space the same logic observed in traditional media (Antunovic & Whiteside, 2018; Fink, 2015; Thorpe et al., 2021). Far from constituting a neutral space, digital platforms play an active role in legitimizing certain bodies and identities through mechanisms of algorithmic discrimination and visual exclusion (Benjamin, 2019).

Despite advances in the inclusion of women in combat sports, representation on platforms such as Google remains limited and unequal. Visual narratives shape the social perception of women in combat

sports, not only limiting their visibility but also defining which bodies are considered legitimate and which practices are associated with each gender (Bruce, 2016; Cooky et al., 2015). The present study aims to analyze the body, and gender stereotypes present in images of the five Olympic combat sports indexed in Google Images, with the objective of documenting and discussing these representations and their social implications.

## 2. Methodology

The objective of the present study is to compare, from an intersectional perspective, the gender and body stereotypes reflected in the five Olympic combat sports through images retrieved from the Google Images search engine. An advantage of using Google Images is that, although the order and results are dynamic and change over time—making exact replication of the corpus difficult—this does not affect the analysis, as the study focused on the visual content of the images rather than on the traceability of the publishing sites.

The sample was formed through simple random sampling of images. For data collection, Google Images was used as the search engine, selecting the first 100 images that appeared in relation to each of the five: “Olympic fencing”, “Olympic taekwondo”, “Olympic judo”, “Olympic wrestling”, and “Olympic amateur boxing”. The queries used consisted of the exact descriptors entered into the search engine. The search and download of the images were carried out on 7 December 2023, in Spanish, using incognito mode and with all personalisation of results disabled, in order to minimise potential biases arising from browsing history and user preferences.

The retrieved images appear in mosaic form and are linked to the source site where they were originally published. The following inclusion criteria were established: a) Photographic images, b) Images corresponding to the combat sport in question. Exclusion criteria were as follows: c) Drawings, infographics, illustrations and other non-photographic elements, d) Images related to disciplines that do not belong to the Paris 2024 Olympic and Paralympic Games (e.g. medieval fencing or historical reenactments). The sample size reached a total of  $n = 500$  images, ensuring a 95% confidence level and a 5% margin of error for each of the disciplines analysed.

### 2.1. Research Design

This research adopts a descriptive and comparative approach, focused on the variables across five groups of Olympic combat sports: fencing, judo, taekwondo, Olympic wrestling, and amateur Olympic boxing. Its design is observational (Anguera, 2003) and documentary in nature, based on the analysis of the first 100 images retrieved from the Google Images search engine, with a cross-sectional cut-off.

In order to validate the observation and recording instrument developed for the study, an initial phase was conducted in which a theoretical framework was constructed to underpin and explain each of the criteria and categories of the instrument. Subsequently, the Delphi method was applied with a panel of three experts, yielding a Cohen’s kappa value of 0.90 (Cohen et al., 2001). This reflects high reliability in the results and is considered “almost perfect” agreement, indicating that both the system and the observers were highly aligned in the interpretation and categorisation of the images, thereby strengthening the overall quality of the study.

Upon completion of this phase, the experts confirmed that the final observation and recording instrument should comprise 6 dimensions, 8 criteria, and 35 indicators. Table 1 presents the general items for the categories of individual images, pairs, and groups, with the particularity that, in the analysis of pairs, the items are duplicated for left and right positions, whereas in the analysis of groups, the items are adjusted according to the number of individuals present for each indicator

**Table 1.** Dimensions, criteria, and indicators.

<b>Dimension</b>	<b>Criterion</b>	<b>Indicator</b>		
<b>Context characteristics</b>	Context	COMPETITION: Event organised to achieve a goal or accomplishment.		
		TRAINING: execution of tactical or technical models in a non-competitive context.		
		BROADCASTING: Space for promoting or recognising sport in the media.		
		MISCELLANEOUS: More than one category in the same image.		
		NS/NC: situations of a philosophical-religious and/or emotional context.		
<b>Sociodemographic characteristics</b>	Gender in the image	MAN: Biological and physiological characteristics associated with men.		
		WOMAN: Biological and physiological characteristics associated with women.		
		NS/NC: Situations where it is difficult to assign a sex.		
	Age in the image	CHILDHOOD: from 2 to 12 years old.		
		YOUTH: 13 to 20 years old.		
		ADULTHOOD: 21 to 40 years old.		
		MATURITY: 41 years and older.		
		NS/NC: Situations where it is difficult to assign an age.		
<b>Physical characteristics</b>	Body type	ECTOMORPH: Long-limbed and thin.		
		MESOMORPH: Prominent musculoskeletal mass.		
		ENDOMORPH: Broad and rounded body type, with a tendency to accumulate fat.		
		NS/NC: Body shape not apparent.		
	Biological traits	CAUCASIAN: White complexion.		
		AFRICAN: Black complexion.		
		ASIAN: Pale complexion.		
		INDIGENOUS: Mixed-race skin.		
		NS/NC: Situations where it is difficult to assign traits.		
			REFEREE: Presides over the match/round.	
<b>Characteristics function in the image</b>	Function	ATHLETE: Individual who tries to optimise their abilities to achieve a result.		
		COACH: Responsible for the athlete's physical, technical and tactical preparation.		
		OTHERS: audience, supporters or family members.		
			ORNAMENT: Visible accessories, in relation to adornment, decoration or attire that makes the person look attractive (bracelets, watches, earrings, rings, etc.).	
<b>Aesthetic characteristics</b>	Aesthetics	HAIRDRESSING: Hair care and styles (cuts, styling, dyes, hairpieces, etc.). Ponytails are not permitted.		
		MAKE-UP: Use of visible cosmetics to enhance facial features or conceal imperfections (casual, everyday, event, etc.).		
		CLOTHING: Formal, dress code clothing. Sportswear or sports uniforms are excluded.		
		OTHERS: Tattoos, painted nails, piercings or other items not included in the above categories.		
		MISCELLANEOUS: Applies when the same person has two or more aesthetic elements simultaneously.		
		NONE: None of the aesthetic elements described		
		<b>Athletes with disabilities</b>	Paralympic sport	YES: the image provides clear information about the practice of an adapted Paralympic sport.
				NO: If the situations described are not apparent.

Note: Own elaboration, 2023.

It is important to note that the presence of ornaments or aesthetic elements does not always correspond to official competition contexts, but also to training sessions, promotional activities, or media dissemination, in which sporting regulations are not strictly applied. Therefore, the results should be understood as cultural and media representations, extending beyond regulated practice.

The analysis took into account Law 23/2006 on Intellectual Property (Spain) and was conducted under the doctrine of fair use, for the purposes of analysis or research, without economic prejudice to the rights holder (United States Copyright Office, 2021).

## 2.2. Statistical Analysis

After verifying that all variables followed a normal distribution using the Kolmogorov-Smirnov test, a descriptive analysis of the qualitative variables was conducted (absolute and relative frequencies).

To explore the relationships between different variables (sex, age, somatotype, biological traits, characteristics of the activity, and aesthetic elements) in each Olympic combat sport (fencing, taekwondo, judo, Olympic wrestling, and amateur Olympic boxing), the Chi-square test ( $\chi^2$ ) was employed to determine whether there was a significant difference between expected and observed results in the categorical variables across the image-based sports.

In addition, Spearman's correlation ( $\rho$ ) was used for non-parametric variables. The level of statistical significance was set at  $p < .05$ . All analyses were performed using the SPSS statistical package, version 23.0 for Windows.

## 3. Results

The descriptive results indicate that the predominant practice context in the analysed images corresponds to competition, accounting for 58% of the total. Regarding the sex variable, most individuals portrayed are men (60.7%), compared with 39.3% women. When examining the distribution by type of grouping, men predominate in the individual category (60.3%), pairs (70.5%), and groups (56.3%). In contrast, women appear in lower proportions: 39.7% in individual images, 29.5% in pairs, and 43.7% in mixed groups of more than five participants per image.

With respect to age, the most frequent category is adult (21–40 years), representing 69%. This is followed by youth (13–20 years) at 24.7%, while the maturity (41 years and older) and childhood (2–12 years) categories show considerably lower proportions, at 3.5% and 3.3%, respectively.

When examining physical characteristics, divided into somatotypes and biological traits, a clear predominance of the mesomorphic type is observed (50.2%), followed by ectomorphic (38.3%) and endomorphic (8.1%). In 3.4% of cases, the typology could not be identified. Regarding biological traits, the majority correspond to Caucasian individuals (42.2%), followed by African (20.3%), Asian (16.1%), and indigenous (13.4%). The remaining 8% corresponds to representations in which biological traits could not be identified.

Concerning the represented role, almost all individuals appear performing functions as athletes (95.6%), while referees account for 2.3% and other roles, such as spectators, family members, or supporters—2.1%. In terms of aesthetics, most images (72%) do not exhibit prominent elements. The remaining 28% do present some type of associated visual trait: 43.2% related to clothing, 20.4% to hairstyle, 14.1% to ornaments (rings, bracelets, watches, etc.), 11.2% to combinations of various elements, 8% to other aspects, and 4.1% to makeup.

For the non-parametric tests, the variables were organised according to the five combat sport modalities, and the  $\chi^2$  statistic was applied. The results showed  $p$  values  $< .05$ , confirming a significant relationship between the variables and the sport modalities.

In the sex variable, men show higher proportions across all modalities. Boxing stands out particularly, with 93% men compared to 7% women. In taekwondo, by contrast, a more balanced scenario is observed, with 51% men and 49% women. The  $\chi^2$  statistic was significant ( $\chi^2 = 69.947$ ;  $p = .00$ ), supporting the existence of a relationship between sport type and sex. Furthermore, the analysis of standardised residuals revealed particularly strong associations between men and boxing (2.4), men and wrestling (2.1), as well as between women and taekwondo (2.7).

Table 2 provides a more detailed account of the percentages of male and female representation in the analysed images.

**Table 2.** Descriptives of the gender of athletes in the representations.

	<b>TAEKWONDO</b>	<b>JUDO</b>	<b>FENCING</b>	<b>OLYMPIC BOXING</b>	<b>OLYMPIC WRESTLING</b>
<b>Men</b>	51%	61%	62%	93%	78%
<b>Female</b>	49%	39%	38%	7%	22%

Source: Google Images 2025

In the age variable, the adult stage (21–40 years) is the most represented in the analysed images. Fencing stands out particularly, reaching 90%, compared with 50% observed in taekwondo. The latter modality, in turn, shows elevated values in the youth category (13–20 years) at 43%, in contrast to the 6% recorded for fencing. Furthermore, a complete absence of children is observed in the representations of Olympic wrestling and Olympic boxing, unlike taekwondo and judo, which register 3% in this category. Judo presents the highest percentage of participants in the maturity stage (41 years or older), at 6%, primarily among athletes.

The inferential analysis using  $\chi^2$  yielded a significant value ( $\chi^2 = 30.640$ ;  $p = .02$ ), confirming the existence of a relationship between sport and age. The analysis of standardised residuals reveals notable associations between youth and taekwondo (3.5), maturity and judo (0.4), adulthood and fencing (1.9), and childhood and taekwondo (2.1). The descriptive statistics by sport with respect to the age variable are presented in Table 3.

**Table 3.** Descriptives of the age of athletes in the representations.

	<b>TAEKWONDO</b>	<b>JUDO</b>	<b>FENCING</b>	<b>OLYMPIC BOXING</b>	<b>OLYMPIC WRESTLING</b>
<b>Children</b>	3%	3%	1%	0%	0%
<b>Youth</b>	43%	21%	6%	12%	12%
<b>Adulthood</b>	50%	70%	90%	86%	87%
<b>Maturity</b>	4%	6%	3%	2%	1%

Source: Google Images 2025

Regarding the somatotype variable, a predominance of the mesomorphic profile is observed in fencing (58%), in contrast to taekwondo, which records 31%. The ectomorphic somatotype is particularly frequent in taekwondo (59%), compared with 24% in fencing. In the case of the endomorphic somatotype, Olympic wrestling stands out with 25% representation, compared with 10% recorded in taekwondo.

The  $\chi^2$  analysis yielded a significant value ( $\chi^2 = 27.923$ ;  $p = .01$ ), confirming the existence of a relationship between sport and somatotype. The standardised residuals indicate stronger associations between ectomorph and taekwondo (2.7), mesomorph and Olympic wrestling (2.0), and endomorph and fencing (2.3). Table 4 summarises the frequency percentages of the different somatotypes.

**Table 4.** Descriptives of the somatotype of athletes in the representations

	<b>TAEKWONDO</b>	<b>JUDO</b>	<b>FENCING</b>	<b>OLYMPIC BOXING</b>	<b>OLYMPIC WRESTLING</b>
<b>Ectomorph</b>	59%	40%	22%	37%	27%
<b>Mesomorph</b>	31%	46%	58%	49%	55%
<b>Endomorph</b>	10%	14%	20%	14%	18%

Source: Google Images 2023

Regarding biological traits, the fencing modality was excluded from this analysis, as the use of the mask prevents identification of the athletes' facial features. Taekwondo shows the highest representation of Caucasian traits (71%), compared with 48% in Olympic wrestling. With respect to African traits, boxing records 28% and Olympic wrestling 26%, whereas taekwondo shows no representation in this category. On the other hand, taekwondo is the modality with the greatest presence of Asian traits (26%), and indigenous traits are most prominent among boxers (6%).

The  $\chi^2$  analysis yielded a significant value ( $\chi^2 = 36.776$ ;  $p = .02$ ), confirming the relationship between sport and biological traits. The analysis of standardised residuals reveals the strongest associations

between boxing and African traits (10.8), Olympic wrestling and Caucasian traits (3.7), and taekwondo and Asian traits (9.0). Table 5 presents the corresponding percentages.

**Table 5.** Descriptives of the biological traits of athletes in the representations.

	TAEKWONDO	JUDO	FENCING	OLYMPIC BOXING	OLYMPIC WRESTLING
<b>Caucasian</b>	71%	58%	X	51%	48%
<b>African</b>	0%	18%	X	28%	26%
<b>Asian</b>	26%	18%	X	11%	21%
<b>Indigenous</b>	3%	6%	X	10%	5%

Note: Fencing was excluded because the use of masks prevents facial features from being identified.

Source: Google Images 2025

Regarding the aesthetic variable, considering only those images in which some element is observed, notable differences emerge across modalities. Boxing stands out for clothing (72%), followed by taekwondo (65%). Fencing presents 67% ornaments (rings, bracelets, watches), while in judo hairstyle is the primary aesthetic element (50%), and in Olympic wrestling, 37%. In the “other” category (tattoos, piercings, painted nails, etc.), tattoos are the most represented element, particularly in boxing (11%) and Olympic wrestling (19%).

The  $\chi^2$  analysis yielded a significant value ( $\chi^2 = 53.053$ ;  $p = .00$ ). The standardised residuals indicate prominent associations between clothing and boxing (10.7), ornaments and fencing (1.8), hairstyle and judo (2.5), and other elements and Olympic wrestling (1.6). Table 6 presents the percentages by modality.

**Table 6.** Descriptives of the aesthetic elements worn by athletes in the representations.

	TAEKWONDO	JUDO	FENCING	OLYMPIC BOXING	OLYMPIC WRESTLING
<b>Ornamental</b>	10%	3%	67%	2%	2%
<b>Hairdressing</b>	0%	50%	22%	11%	35%
<b>Makeup</b>	5%	3%	0%	0%	0%
<b>Various</b>	15%	3%	11%	4%	9%
<b>Clothing</b>	65%	37%	0%	72%	31%
<b>Others</b>	5%	3%	0%	11%	19%

Source: Google Images 2025

## 4. Discussion

### 4.1. Stereotypes, inequalities, and algorithmic mediation

This study demonstrates the persistence of body and gender stereotypes in Olympic combat sports, revealing significant differences in the physical profiles represented in the first 100 images retrieved from Google Images. Far from constituting a neutral space, digital platforms actively participate in legitimizing certain bodies, identities, and forms of sporting corporeality. Google's search algorithms are shaped by popularity patterns, browsing histories, and consumption trends, meaning that results are not neutral but rather reproduce and amplify previously established ideals. Images that are indexed tend to be those that receive the most visits or are most frequently shared, reinforcing the visibility of certain types of representations over more diverse ones. Furthermore, factors such as third-party cookies and browser geolocation introduce additional biases that homogenize the images reaching users. Thus, the results reflect not only social stereotypes but also technological mechanisms that perpetuate them through contemporary forms of algorithmic discrimination and visual exclusion (Benjamin, 2019).

### 4.2. Gender representation: hegemonic masculinity and the female double bind

The predominant representation consists of adult men (21–40 years old), mesomorphic somatotype, and mostly Caucasian, in which attire is perceived as a key aesthetic element. This male

overrepresentation demonstrates the continuity of traditional stereotypes associating masculinity with strength, leadership, and physical dominance, limiting the visibility of women and individuals with different physical profiles. Women appear represented as young, ectomorphic, and accompanied by aesthetic elements, hairstyling and accessories, linking them to attributes of beauty frequently associated with sexual connotations (Rangel Amo & Ramírez Alvarado, 2018). Both men and women are mainly depicted as athletes in high-level competitive settings, while referees, coaches, or technical staff receive scarce visual attention. Most images show direct confrontation, highlighting technical-tactical skills in dramatically visually appealing moments (Giakoni et al., 2024). These representations emphasize spectacle over diversity of profiles, suggesting that media prioritize impactful images and limit the representation of training situations or physical preparation (Kane, LaVoi & Fink, 2013; Rodriguez & Dimitrova, 2011). According to López and Pardo (2021), the social representation of what is considered appropriate for each sex establishes distinct and mutually exclusive characteristics, evidencing the persistence of the gender gap in sport and media.

### **4.3. Judo**

In judo, the predominant profile corresponds to adult men, especially those over 41, with a notable presence of masters or sensei. The most frequent somatotype is mesomorphic, given the wide range of weight categories; however, there is scarce representation of heavyweights (+100 kg), particularly among women. Among female athletes, the most common somatotype is ectomorphic, with Caucasian features and young age, with hairstyling standing out as an aesthetic element in competition (Gallur Santorum & García Orosa, 2019). The judogi is mandatory for both sexes, although men more frequently display this garment in media contexts, influencing public perception and reflecting the identity and values of the sport (Espartero, 2021). IJF regulations (2020) prohibit objects such as rings, bracelets, or earrings for safety reasons, limiting personal and aesthetic elements and reinforcing a disciplined and homogeneous aesthetic of the competitive body (Markula, 2015).

### **4.4. Olympic wrestling**

In Olympic wrestling, the predominant male profile is adult with mesomorphic somatotype. The disciplines present a wide variability of weight categories, reaching up to 130 kg in Greco-Roman and 125 kg in freestyle (UWW, 2023). There is underrepresentation in heavyweight categories and absence of women in these. Among female athletes, the ectomorphic somatotype predominates, closely followed by mesomorphic, indicating that these athletes challenge traditional norms of femininity and are frequently stigmatized for this reason (Brake, 2010; Thorpe et al., 2021). African and Asian features are observed especially in women; in some countries, cultural traditions have favored female participation in combat sports (Delgado, 2014). Aesthetic elements are linked to competitive regulations: hairstyling for women and attire for men. This modality presents the highest number of tattoos, visible due to the greater body exposure permitted by regulations (UWW, 2023) adding visual diversity that contrasts with the uniformity of representations in other sports but also reflecting a cultural pattern of masculinity.

### **4.5. Boxing**

In boxing, representation is almost exclusively male, with a total absence of children. The predominant somatotype is mesomorphic in men and ectomorphic in women, despite the existence of multiple weight categories (13 for men and 12 for women) (IBA, 2024). Men are primarily represented through a focus on performance and technical skills. Stevenson and Patrick (2022) note that boxing emphasizes strength and power, consolidating an idealized male body associated with virility and economic success. Aesthetic accessories in boxing vary by gender: tattoos in men and braided hairstyles or vivid colors in women, reflecting social and cultural constructions of gender identity (Delgado, 2014; Belkin & Sheptak, 2018; Woodward, 2007). In this sense, the media image contributes to reinforcing the perception that boxing is an eminently masculine sport and that female participation is subordinated to aesthetic criteria rather than competitive ones, reproducing symbolic barriers of access and legitimacy (Connell, 2021).

#### 4.6. Taekwondo

Taekwondo shows a notable female representation, with a greater presence of young women compared to adult men. In terms of sports licenses, taekwondo is the second combat sport with the highest female participation, second only to judo (CSD, 2023). The globalization of taekwondo has influenced its media representation; although Caucasian features predominate, there is a notable presence of Asian features in women, reflecting the sport's expansion into international markets (Ko & Yang, 2009). The dobok, a garment of Korean origin, reinforces the sport's visual aesthetic as an element of identity, tradition, and promotion in the global market (Kim et al., 2023). Its evolution has responded to criteria of performance, efficiency, and preservation of taekwondo's identity as an Olympic sport, combining Korean cultural heritage with the demands of international competition.

#### 4.7. Fencing

Fencing differs from the other modalities. The predominant male profile is adult with a mesomorphic somatotype. Women present an endomorphic somatotype, associated with strength, power, and balance, especially in the legs. Due to the mandatory use of the mask, identifying biological features is not possible. Aesthetics play a relevant role: accessories such as rings, earrings, bracelets, and watches are permitted for both men and women. The attire of Olympic fencing inherits the aristocratic European traditions of the 17th–19th centuries, in which the mastery of the sword was a symbol of social distinction and honour (Evangelista, 2003). This heritage is reflected in the formal elegance of the equipment, which combines protective functionality with an aesthetic evocative of its noble cultural origins. Olympic fencing regulations differentiate equipment by sex: women must wear additional chest protection, although competition rules are identical for both sexes (FIE, 2023). However, media representation tends to emphasize certain aspects of women's equipment to a greater extent than men's, reproducing the double-bind logic described by Fink (2015) and LaVoie (2023). This combination of athletic performance and aesthetics contributes to fencing maintaining a differentiated profile, highlighting the complexity of gender representation in this discipline.

### 5. Conclusion

This study analyses body and gender stereotypes in Olympic combat sports through the first 100 images retrieved from Google Images, revealing significant differences in the physical profiles represented. Google's search algorithms and databases reinforce stereotypes, as indexed images correspond to those most visited and shared, influenced by cookies and geolocation. Overall, representations predominantly feature adult men, Caucasian, with a mesomorphic somatotype, reflecting ideals of strength, security, and leadership, whereas women are depicted with an ectomorphic somatotype, youthful appearance, and associated with beauty and sensuality, thereby perpetuating traditional gender roles.

The study highlights the inequality in representation between men and women, linking the images to sexist characteristics that limit parity in combat sports. In disciplines such as judo and Olympic wrestling, men predominate in heavier weight categories, while women are represented with more youthful features and aesthetic elements such as hairstyles that serve both functional and aesthetic purposes. In boxing, women are visualised under stereotypes of femininity, whereas men are portrayed as serious athletes with a focus on their sporting skills.

Taekwondo shows a notable female representation, with greater presence of young women, albeit conforming to the stereotype of a slim, caucasian features. Fencing, in turn, exhibits marked differences, with a strong aesthetic influence in representations, particularly for women, who are associated with elegance and distinction.

In conclusion, it is essential to implement egalitarian models in Google Images to counteract gender stereotypes, such as inclusive algorithms in search platforms or collections of less stereotyped images. A more diverse and equitable representation of women in sport, especially in combat disciplines, is fundamental to providing positive role models for girls and young women interested in these activities. This would contribute to a more inclusive outlook and to overcoming social barriers in the sporting domain.

## 6. Acknowledgements

The present text arises within the framework of the project CIGE/2022/81 “Los deportes de combate: análisis de los estereotipos de género y corporales en las imágenes de los libros especializados y prensa deportiva” (Combat sports: analysis of gender and body stereotypes in images from specialised books and sports press) funded by the Conselleria d'Innovació, Universitats, Ciència i Societat Digital.

The authors would like to express their gratitude to the Catholic University of Valencia–San Vicente Mártir for the support provided through the UCV Open Science Aid Program, which has contributed to the funding and open-access dissemination of this work. This institutional support has been essential to the development and visibility of the research conducted.

## References

- Anguera, M.T. (2003). La observación. En C. Moreno Rosset (Ed.), *Evaluación psicológica. Concepto, proceso y aplicación en las áreas del desarrollo y de la inteligencia* (pp. 271-308). Sanz y Torres. [I.S.B.N. 84-96094-16-2]
- Antunovic, D., & Whiteside, E. (2018). Feminist Sports Media Studies: State of the Field. En D. Harp, J. Loke, I. Bachmann (Eds). *Feminist Approaches to Media Theory and Research. Comparative Feminist Studies*. (pp. 111-130). Palgrave Macmillan, Cham. [https://doi.org/10.1007/978-3-319-90838-0\\_8](https://doi.org/10.1007/978-3-319-90838-0_8)
- Belkin, S., & Sheptak, R. D. (2018). Talking bodies: Athletes & tattoos as nonverbal communication. *The Sport Journal*. Woodward, K. (2007). *Boxing, Masculinity and Identity*. Routledge.
- Benjamin, R. (2019). *Race after technology: Abolitionist tools for the new Jim Code*. Polity Press.
- Bordo, S. (2003). *Unbearable weight: Feminism, Western culture, and the body (10th anniversary ed.)*. University of California Press.
- Brake, D. L. (2010). *Getting in the game: Title IX and the women's sports revolution* (Vol. 51). NYU Press.
- Bruce, T. (2016). New Rules for New Times: Sportswomen and Media Representation in the Third Wave. *Sex Roles*, 74. <https://doi.org/10.1007/s11199-015-0497-6>
- Butler, J. (2004). *Undoing gender*. Routledge.
- Cohen, R. J., & Swerdlik, M. E. (2006). *Pruebas y evaluación psicológicas: introducción a las pruebas y a la medición*. McGraw-Hill Interamericana.
- Connell, R. (2021). *Gender: In World Perspective*. Polity
- Consejo Superior de Deportes [CSD]. (2023). *Memoria 2023. Licencias y clubes federados*. CSD.
- Cooky, C., & Messner, M. A. (2018). Introduction. En *No Slam Dunk: Gender, Sport and the Unevenness of Social Change*(pp. 1-12). Rutgers University Press. <https://doi.org/10.2307/j.ctt1t6p7fx.3>
- Cooky, C., Messner, M. A., & Musto, M. (2015). It's Dude Time!: A quarter century of excluding women's sports in televised news and highlight shows. *Communication & Sport*, 3(3). <https://doi.org/10.1177/2167479515588761>
- Delgado, C. (2014). Regulación, representación y experiencia del cuerpo deportivo femenino: Tres formas de ver a las mujeres en el ring. *Cuadernos de Antropología*, 24(2).
- Espartero, J. (2021) A conversão do judô em esporte olímpico: um espaço simbólico construído para a afirmação da identidade nacional japonesa. *Movimento*, 27. <https://doi.org/10.22456/1982-8918.110160>
- Evangelista, N. (2003). *The Encyclopedia of the Sword*. Greenwood Press.
- Federación Internacional de Judo. (2020). *Reglamento de organización y deporte*. IJF. International Judo.
- Fédération Internationale d'Esgrime (2023). Rules for competitions. <https://fie.org/fie/documents/rules>
- Fink, J. S. (2015). Female athletes, women's sport, and the sport media commercial complex: Have we really come a long way, baby? *Sport Management Review*, 18(3). <https://doi.org/10.1016/j.smr.2014.05.001>
- Gallur Santorum S., & García Orosa B. (2019). El uso de las fuentes como estrategia de producción informativa en una agencia de noticias de género: El caso de CIMAC. *Estudios sobre el Mensaje Periodístico*, 25(3). <https://doi.org/10.5209/esmp.66995>
- Giakoni, F., Manzanares, A., & Segado, F. (2024). Análisis de la estrategia visual y eficacia publicitaria en espectadores de esports por streaming. *Cultura, Ciencia y Deporte*, 19(60). <https://doi.org/10.12800/ccd.v19i60.2149>
- Gill, R. (2021). Neoliberal beauty. En M. Leeds Craig (Ed.) *The Routledge companion to beauty politics* (pp. 9-18). Routledge.
- Hedenborg, S., & Pfister, G. (Eds.). (2016). *Gender, Media, Sport* (1st ed.). Routledge. <https://doi.org/10.4324/9781315676821>
- [https://www.cabdirect.org/cabdirect/abstract/20203006398?q=\(similar%3a20153111306\)](https://www.cabdirect.org/cabdirect/abstract/20203006398?q=(similar%3a20153111306))
- Internacional Boxing Association [IBA]. (2024). *Reglas técnicas y de competición*. IBA. <https://www.iba.sport/rules/>
- Kane, M. J., LaVoi, N. M., & Fink, J. S. (2013). Exploring Elite Female Athletes' Interpretations of Sport Media Images: A Window Into the Construction of Social Identity and "Selling Sex" in Women's Sports. *Communication & Sport*, 1(3). <https://doi.org/10.1177/2167479512473585>
- Kim, H.-B., Johnson, J. A., Lee, E.-J., & Ha, P. (2023). A history of World Taekwondo-approved competition

- uniforms. *The International Journal of the History of Sport*, 40. <https://doi.org/10.1080/09523367.2023.2264776>
- Ko Y.J., & Yang J. B. (2009). La globalización de las artes marciales: el cambio de reglas para los nuevos mercados. *Revista de Artes Marciales Asiáticas*, 4 (1). <https://doi.org/10.18002/rama.v4i1.222>
- LaVoie, J. (2023) The Male Gaze and Women's Sports Identity: Male Authorship of the Female Experience. *The Graduate Review*, 8. [https://vc.bridgew.edu/grad\\_rev/vol8/iss1/9](https://vc.bridgew.edu/grad_rev/vol8/iss1/9)
- Ley 23/2006, de 7 de julio, de Propiedad Intelectual. (2006). *Boletín Oficial del Estado*, (166). <https://www.boe.es/buscar/doc.php?id=BOE-A-2006-14547>
- López, M., & Pardo, A. (2021). ¿Existen los estereotipos de género en la actividad física y el deporte en una muestra de adolescentes de Barcelona?. *Revista Española de Educación Física y Deportes*, 434. <https://doi.org/10.55166/reefd.vi434.998>
- Markula, P. (2015). Feminist sport studies and the body. En R. Giulianotti (Ed.), *Routledge handbook of the sociology of sport* (pp. 247–256). Routledge.
- Mateos de Cabo, R., Gimeno, R., Martínez, M., & López L. (2014). Perpetuating Gender Inequality via the Internet? An Analysis of Women's Presence in Spanish Online Newspapers. *Sex Roles*, 70. <https://doi.org/10.1007/s11199-013-0331-y>
- Musolino, E. A., O'Connor, B. P., & Cioe, J. D. (2021). Bigger isn't always better: an exploration of social perception bias against high levels of muscularity in women. *The Journal of Social Psychology*, 162(5). <https://doi.org/10.1080/00224545.2021.1927943>
- Pope, S. (2022). *Women and sport fans: Identification, participation, representation*. Routledge.
- Rangel Amo, G.d.C., & Ramírez Alvarado, M.d.M. (2018). Las mujeres en la prensa deportiva española durante los juegos olímpicos de Río 2016. *Estudios sobre el Mensaje Periodístico*, 24 (2). <https://doi.org/10.5209/ESMP.62236>
- Rodriguez, L., & Dimitrova, D. V. (2011). The levels of visual framing. *Journal of Visual Literacy*, 30(1).
- Salido-Fernández, J., & Muñoz-Muñoz, A.M. (2021). Media Representation of Women Athletes at the Olympic Games: A Systematic Review. *Apunts Educación Física y Deportes*, 146. [https://doi.org/10.5672/apunts.2014-0983.es.\(2021/4\).146.04](https://doi.org/10.5672/apunts.2014-0983.es.(2021/4).146.04)
- Stevenson, A., & Patrick, D. (2022). 'You're a Real Man After All': Fashioning the Male Physique in Twentieth-Century Boxing and Wrestling Magazines. En *The Male Body in Representation: Returning to Matter* (pp. 53-74). Springer International Publishing.
- Thorpe, H., Clark, M., & Brice, J. (2021) Sportswomen as 'biocultural creatures': understanding embodied health experiences across sporting cultures. *BioSocieties*, 16. <https://doi.org/10.1057/s41292-019-00176-2>
- United States Copyright Office. (2021). *Fair use*. <https://www.copyright.gov/fair-use/>
- United World Wrestling [UWW]. (2023). *Reglamento Internacional de lucha*. FELODA. Federación española de luchas olímpicas y disciplinas asociadas.
- Weiss, O., & Norden, G. (2021). *Introduction to the Sociology of Sport* (Vol. 1). Brill.
- Woodward, K. (2007). *Boxing, Masculinity and Identity*. Routledge.