

Research article

Female leadership for sustainability: green, cultural and social impact of the world's best sportswomen

Liderazgo femenino para la sostenibilidad: impacto ecológico, cultural y social de las mejores deportistas del mundo

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Abstract

Introduction: Female activism and social responsibility seem to be unnoticed but carries a profound impact on community, business, and green legacy. This research aims to analyze the digital communication practices and ethical initiatives of worldwide top female athletes, with a focus on their international brand image. By studying their online presence and engagement, we will explore convergences and divergences between genders in terms of talent revenue and personal branding. **Methodology:** Our work provides insights into how these sportswomen interact on the internet-based landscape, their approaches to global leadership, and the causes they support. The applied methodology involves a comparative analysis of top athletes by gender and categories to contrast diversity. Statistical techniques, including ANOVA and regression analysis, are employed to examine the data and derive meaningful insights, finding their remarkable influence beyond their exceptional performance in sports. **Results:** Sportswomen harness the power of online visibility as a strategical tool to amplify their influence and drive social change, leveraging their talent to go beyond the economic returns of their professional performance. **Discussions and findings:** The current study discloses how sportspeople serve as role models, exhibiting good practices and leading by example to benefit

the community. Their dedication to sustainability, both in terms of people's well-being and the preservation of our planet for future generations, is evident in their actions. Their brand image transcends their athletic achievements, reflecting their commitment, responsibility, and entrepreneurship towards the interests of the community. Their influence extends far beyond the surface, leaving a lasting and positive effect on stakeholders.

Keywords: digital communications; social entrepreneurship; sustainability; responsibility; personal branding; women; talent management; stakeholder.

Resumen

Introducción: El activismo y la responsabilidad social tienen un impacto en la comunidad. Esta investigación analiza las prácticas de comunicación y las iniciativas éticas de las mejores deportistas del mundo, centrándose en su imagen de marca. Mediante el estudio de sus páginas web propias y redes sociales, exploramos las convergencias y divergencias entre géneros. **Metodología:** Se realiza un análisis comparativo de las mejores deportistas por género y categorías para contrastar los matices de la posible diversidad. Se emplean técnicas estadísticas, como ANOVA y análisis de regresión, para examinar los datos y extraer conclusiones significativas, descubriendo su notable influencia más allá de su excepcional rendimiento deportivo. **Resultados:** Las mujeres deportistas aprovechan el poder de su visibilidad como herramienta estratégica para amplificar su influencia e impulsar el cambio social, aprovechando su talento para ir más allá del rendimiento económico de su desempeño profesional. **Discusión y conclusiones:** los deportistas sirven de modelo, exhibiendo buenas prácticas y predicando con el ejemplo en beneficio de la comunidad. Su dedicación a la sostenibilidad es evidente en sus acciones. Su imagen trasciende sus logros deportivos, reflejando su compromiso, responsabilidad y espíritu emprendedor hacia la comunidad para generar un efecto duradero y positivo en las causas elegidas.

Palabras clave: comunicación digital; emprendimiento social; sostenibilidad; responsabilidad; marca personal; mujer; gestión del talento; grupos de interés.

1. Introduction

The sports industry moves millions of people in the world generating an immense economic volume. In turn, the brand of athletes can transcend the community through its responsible image, and in this sense, female leadership can provide a great international weight on stakeholders when promoting empathic supportive behaviors towards specific causes.

Sport is recognized worldwide and transversally as a powerful attitudinal dynamizer of society towards civic, educational, and environmental cooperation, as well as being a key factor of health and well-being. The United Nations (2022) identifies sport as a key tool of relatively low cost and great impact in helping to alleviate inequalities by: a) catalyzing employment and improving the most disadvantaged communities, b) promoting the training and communal inclusion of people in precarious situations, c) the promotion of peace, as a tool to prevent violence and as a vehicle for humanitarian aid in critical and/or disaster situations. Unanimously and globally, member countries consider sport as a universal platform to raise awareness, influence behaviour and generate collaborative actions.

Thus, sport can be a strategic element of support and coordination in the capture and improvement of resources, the increase of confidence, the feeling of belonging, the stimulus to change mentality and the construction of inclusive ecosystems.

In this way, for example, the promotion of sport as a participatory platform for women and girls, improves confidence and self-esteem, facilitating the disappearance of gender stereotypes and prejudices on the part of the male segment. In recent years, especially since COVID-19, the dialogue around the community-oriented and environmental role of sport has intensified, energizing many athletes and stakeholders related to this market to position themselves with more determination with actions off the field of play to help build a more sustainable future (PwC, 2021). By deepening understanding of this interactive pattern, valuable insights could be strategically applied for Corporate Social Responsibility (CSR) and decision making, especially in business related to the fourth sector (European Commission, 2019; Martins et al., 2021) where economic benefits contribute to an enduring future and a societal constructive activism.

But despite this fact, there are not yet studies that verify and highlight the effectiveness of the use of technologies when working on personal branding, especially with respect to transcendent and charitable causes (Lobpries, 2018) to which it is intended to give visibility to increase their impact and dynamization of stakeholders (De las Heras-Pedrosa et al., 2018; Torres-Mancera, 2022), beyond the mere collection of followers or followers.

On the other hand, the exponential increase in the flow of information and data in networks of infinite messages that appeal to collective activist interaction can create an overload of competing initiatives to capture the attention of an increasingly saturated citizenry (Van den Broek et al., 2012).

This study aims to address the research gaps and best practices surrounding sport female proactivity for sustainability in green and social causes. The analysis considers key factors that could be influencing on this leadership, such as economic revenue of sport talent, gender, nature of the favorite supported charities, fanship in virtual social platforms and brand image.

By doing so, this research pioneers an innovative exploration into the strategic interplay between top female athletes' online presence, personal branding, and their impact on societal change. By examining the dynamic connections between economic success, engagement in altruistic causes, and leadership influence, this study pushes the boundaries of understanding the influential role female athletes play in shaping a more inclusive and responsible sports landscape. Our innovative approach seeks to unravel previously unexplored dimensions at the intersection of sports, gender dynamics, and social impact, providing a fresh perspective and contributing to the evolving discourse in the field.

1.1. Objectives

The general goal of this research is to analyze the social responsibility and online communication practices of top female players on a global scale, specifically focusing on their international brand identity. By investigating the initiatives undertaken by this collective and their strategic utilization of virtual sites, this study aims to provide insights into how sportswomen shape and manage their public image towards the community. The research seeks to contribute to the understanding of the intersection between gender, discipline, and public networking sites, ultimately fostering a more inclusive and responsible sports environment while empowering female performers to inspire positive change on a global level. To this end, a series of specific objectives are established to parameterize and size the key variables of the study:

O1. Analyze the reality of women athletes in matters of activist leadership in altruistic causes, according to their digital personal brand in the main platforms and own websites.

O2. Identify the differences in remuneration of sports talent according to gender, understood in terms of simple sex duality (female-male).

O3. Study the degree of correlation between the economic performance of personal branding and altruistic reversal in social leadership by the community.

Drawing upon existing preliminary knowledge and aligning with the selected research objectives, the study has formulated the following set of initial research questions (RQs) to provide guidance and structure for the research investigation:

RQ1. Is the sex of sports stars correlated with income?

RQ2. Regardless of the economic performance of sports talent, do women get more involved in societal purposes?

RQ3. Do women lead transcendent causes through their digital personal brand communication?

1.2. Literature review

Although brand image management is an increasingly strategic process susceptible to be used by any kind of person, the profit sector and academia (Doyle et al., 2021) have focused on male roles. Meanwhile, women face a variety of challenges, such as the communication coverage of their achievements (Geurin, 2017) or income parity (Lobpries et al., 2018). But it is legitimate to defend that there is an opportunity to influence society through a high-impact co-responsible female entrepreneurial leadership, thanks to an efficient management of their personal brand, as if it were a sustainable startup or the spin-off of a sports organization. In this context, the bias of perception and attribution of merits of women compared to men also seems to occur in the sports environment (Iglesias & Fernandez-Rio, 2022), according to the “Matilda effect”. This phenomenon, named after the American suffragist and feminist critic Matilda J. Gage (Rossiter, 1993), who in the late nineteenth century experienced and described a tendency to overlook, ignore or even attribute to men the contributions of women to science, technology and other fields such as literature, politics, art and sport. Two centuries after the birth of this paradigm, it still seems to have some validity.

The entry of the concept of sustainable development and sustainability emerged in the productive sector in the 2000s, especially in the business environment. In this context, activism is understood as a link between the business world and the third sector novel and pending study (Mäkelä & Olkkonen, 2021), with which it is intended to transform organisms internally and externally, while directly reverting to the target causes.

To activate and mobilize support resources for the benefit of communal and / or environmental causes, the use of formats such as donations, participation as partners or legacies, require the promotion and dissemination of these needs in both offline and online internet-based platforms that attract attention and invite collaboration (Van den Broek et al., 2012). Sport is currently presented as an interesting lever for positive attitudinal change in civil society (Giulianotti, 2011), sharing the notion of active movement, involvement, values and ethics.

Therefore, it is not surprising that there is an increase in athletes who define themselves as activists and facilitators who fight for the culture of equality, in humanitarian, social, economic and even geopolitical terms (Darnell & Millington, 2019), beyond mere fundraising for non-profit institutions.

The role of the sports industry in society, and therefore of the most outstanding worldwide players, is so important for the development and achievement of sustainability, that the UN (2022) integrates it and highlights it within the 2030 Agenda.

1.2.1. Top sportswomen social leadership

According to the Social entrepreneurship definition understood as an entrepreneurial endeavor driven by a core communal goal (Austin et al., 2006), female social leadership refers to the ways in which women can assume influential roles in their communities and in society at large. This approach can range from organizing community events to leading change movements. Women leaders often use their platform to empower other women and girls, and work to create a more inclusive and just world. The suitability of women for leading enterprises with collaborative interests (Rosca et al., 2020), showcase their strong motivation for shared issues, adaptive approach in venture creation, and their inclusive strategies to drive socio-economic development in emerging markets. But according to academic analysis of Bernardino et al. (2018) gender differences in the creation of entrepreneurial ventures suggests that both female and male entrepreneurs share similar personality traits, including openness to experience, agreeableness, conscientiousness, extraversion, and emotional stability.

In comparison to their male counterparts, female entrepreneurs exhibit a higher inclination towards engaging in mindful entrepreneurship under conditions where cultural practices demonstrate low power distance, humane orientation, and in-group collectivism, as well as high future orientation and uncertainty avoidance (Canestrino et al., 2020; Hechavarría & Brieger, 2022). Compared to men, women tend to demonstrate a more transformational leadership style, characterized by greater optimism, enthusiasm, motivation, respect, community bonding, problem-solving, and effective communication of organizational values, purpose, and mission (García-Sánchez et al., 2019).

According to the Social Role Theory of Lobpries et al. (2018), there are stereotyped expectations in relation to women players, which causes a sexist limitation when building a specific brand identity. Also, scholars have employed discourse analysis at the micro-level to gain insight into women's leadership and high-performance experiences, finding barriers that hinder their advancement in sport organizations (Claringbould & Knoppers, 2012), and a gender ratio heavily skewed toward a male majority. From a contemporary literature in sport sociology and human capital perspective, the outcome of human capital seems to differ for men and women, leading to reduced expectations and early intentions to exit for women (Cunningham & Sagas, 2002), and these variations in the influence of social capital on the career trajectories can have detrimental effects on women's aspirations and their intentions to progress in the field of sport.

1.2.2. Responsible digital communication from sports

The concept of responsible communication affects the way of using the principles of societal responsibility (Fundación Corresponsables, 2023) when sharing relevant information to the local, national and/or international community, without strategic propaganda purposes (Torres-Mancera, 2022).

This dialogue based on ethical duties is in an incessant development (Pineda-Martínez & Ruiz-Mora, 2019) that can favor the construction of an altruistic identity and the strengthening of the reputational image among the stakeholders of a given entity (De las Heras-Pedrosa, Ruiz-Mora, & Paniagua-Rojano, 2018; Kim, 2011; Mael & Ashforth, 1992; Orozco-Toro & Ferré-Pavia, 2017). But these messages on civic and environmental issues can also generate some skepticism and even cynicism (Dawkins, 2004) on the part of the media and the general public, which poses a challenge when communicating in a credible and transparent way.

Personal involvement in messages and actions in favor of solidarity causes can favor the reputational objective of the issuer or generate distrust, depending on the self-promotional tone perceived (Kim, 2017). To prevent this perceptual threat on the part of the recipient, effective responsible conversation must include

- a) truthful arguments about the central objectives of the commitment of the issuing entity or person, based on documented bidirectional messages about participation with the community, and
- b) affective stories of the solidarity project from empathy (Du & Vieira, 2012).

To this end, having interactive paths of conversation that allow connecting with the community, especially virtually (Fieseler et al., 2010) can encourage collaboration, as well as visibility and exchange of opinions.

With the emergence of ICTs and the rise of web-based communication tools such as social networks, personal blogs and websites; online channels have become a very relevant part of public relations actions and campaigns (Nolan, 2015). Many celebrities are participating in conversations, through platforms such as Facebook, Instagram or Twitter (Miquel-Segarra, Rangel & Monfort, 2023) as a strategic part of the management of their image inside and outside their professional context, in order to share audiovisual information, stimulate certain attitudes, comments and “likes” or likes.

1.2.3. Personal branding and community

Every given identity has a multifaceted component that makes a person unique (Aaker, 1996; Erikson, 1959; Tajfel et al., 1971) thanks to the distinctive individual traits that give value to their image and to the interaction with a melting pot of ecosystems. This may in turn give rise to a collective group or social identity (Davis et al., 2019; Polletta & Jasper, 2001) understood as the point of connection between desired activism, branding and change management. The brand identity model developed by Ghodeswar (2008), recognizes a set of key phases in the creative process of a given firm: positioning, active diffusion of the message, perception in the minds of the recipients, performance, and strategic use (De Chernatony, 1999) of the value acquired by the acquired brand.

Sportspeople have the potential to identify their own causes, according to their personality and style, their concerns, and relationships in order to generate brand value (De Chernatony, 1999; Lobpries, 2018). In this way, the creation and management of brand allows players to build the foundations of their personal brand and, a posteriori, communicate, position and enhance those foundations before the appropriate target audience chosen (Ghodeswar, 2008) strategically beyond the field of play.

But even though sports brand management is becoming an increasingly strategic process, the reality is that coverage of women's disciplines is limited, and the lack of global outreach has favored the perception that female athletes are not as valuable as their male counterparts (Doyle et al., 2021; Parmentier & Fischer, 2012). This fact requires further empirical research on possible strategies to help overcome these gender barriers (Lobpries, 2018). There still seem to be numerous culturally and geographically transversal gender stereotypes prejudices, based on expectations that the female collective is broadly emotional, relational, sensitive, and helpful, compared to the male collective to which aggressive attitudes, strength, assertiveness, self-confidence and sufficiency are usually attributed (Eagly, 1987; Lobpries, 2018). Regarding the treatment and preferences of public in the sporting environment regarding transsexual athletes, the research developed by Flores et al. (2020) put in the pipeline that the attitude of acceptance and support of stakeholders to this group is more prone on the part of women.

2. Methodology

A methodological approach composed of both quantitative and qualitative representative data is applied involving a systematic four-step approach (see figure 1). To start, a compilation of the most outstanding research is carried out in publications and repositories of high academic impact such as Google Scholar and Web of Science, establishing a comparative temporal analysis of scientific literature focused on female civic leadership in sport and its influence on stakeholders.

2.1. Sample

In a second stage, the most currently outstanding women (and men) in the world of sports are identified, regardless of the disciplines to which they are dedicated. This analysis incorporates empirical evidence sourced primarily from the Forbes list of the highest-earning athletes (2023), where internal methodology is based on

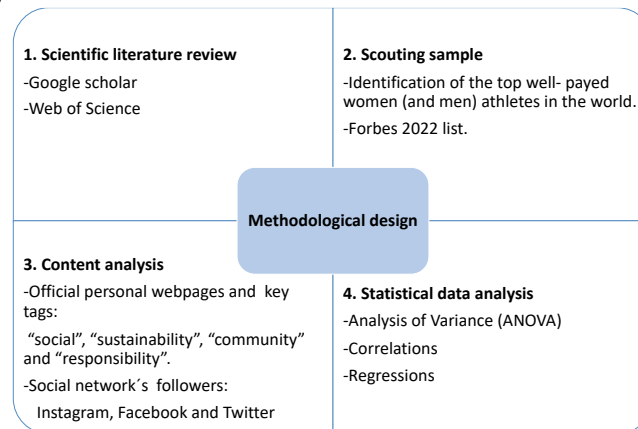
- a) the on-field earnings encompass base salaries, bonuses, stipends, and prize money, and
- b) off-field revenue considering sponsorships, licenses, appearances, memorabilia, and profits from athlete-owned businesses, based on insights from industry insiders.

Investment income, taxes, and agent fees are not factored into Forbes' calculations, although proceeds from share sales are taken into consideration.

This analysis is further enriched by incorporating data sourced from the official websites of the athletes, totaling a sample size of 50, 25 top sportswomen and 25 top sportsmen. This additional data provides valuable insights and contributes to a more comprehensive understanding of the athletes' financial landscape.

Figure 1.

Methodological stages for research



Source: own elaboration.

2.2. Content analysis

In a third stage, the state of art is explored through the assessment of web-based communications, and the official image of their responsible leadership with causes and / or communities. The content analysis (Piñeiro-Naval, 2020; Riffe et al., 2019) facilitates the systematic collection, categorization, and interpretation of data extracted from online channels such as renowned platforms and official websites. By analyzing the digital presence and communication strategies of these outstanding young individuals, valuable insights can be gained regarding their leadership, aspirations, and involvement towards people and planet through 4 key tags: "social", "sustainability", "community" and "responsibility". By doing so, utilizing range of information, the research establishes a robust foundation for in-depth analysis, enabling the formulation of grounded outputs regarding the status of elite sport talent and their profound contributions to the advancement of ethical behaviour on a global scale.

2.3. Statistical data analysis

In a fourth phase, statistical data analysis (Hayes 2020; Isotalo, 2001; Liu, 2011) is employed to identify trends, patterns, and correlations within the inputs. To complete the assessment the study employs correlational and the robust mixed ANOVA (Analysis of Variance) (Gollob, 1968; Shrestha, 2020). By employing these statistical techniques, the research aims to derive meaningful and reliable insights from the empirical evidence providing a quantitative basis for understanding the prevalence, significance, the scope of their conversational skills, socioeconomic, and professional facts within the dataset. Through the utilization of such quantitative method, the study seeks to unveil valuable insights regarding the top athletes of the world leadership and its alignment with the themes of sustainability and co-responsibility.

To ensure the alignment of the data with the objectives of the study, 7 ordinal variables are identified:

- 1) total income and its breakdown according to whether it comes,
- 2) revenues from competitions (on-track) or

- 3) revenues from sponsorships and other off-track activities,
- 4) number of social causes,
- 5) total number of followers on the main global social networks
- 6) fans in Facebook,
- 7) supporters in Instagram, and
- 8) followers on Twitter.

Along the same lines, 2 nominal variables are used:

- 1) the sex of the elite athlete, and
- 2) the type of social cause he or she supports.

To this end, 3 key preliminary correlations are identified:

- 1) the connection between personal branding and social activism,
- 2) the relationship between economic income and social leadership, and
- 3) the association between total income and personal branding.

The regression analysis encompasses 4 distinct data sets:

- 1) on-track revenue and supporters,
- 2) off-track revenue and supporters,
- 3) total revenue and the number of causes, and
- 4) the number of supporters and causes endorsed.

3. Results

3.1. Sport talent impact on economic revenues. Quantitative analysis

The revenue data presented provides insights into the distribution of earnings, between male and female top stars across different sports categories. Examining the figures reveals distinct patterns of revenue distribution and the corresponding percentage breakdowns by gender within each sport (see figure 2).

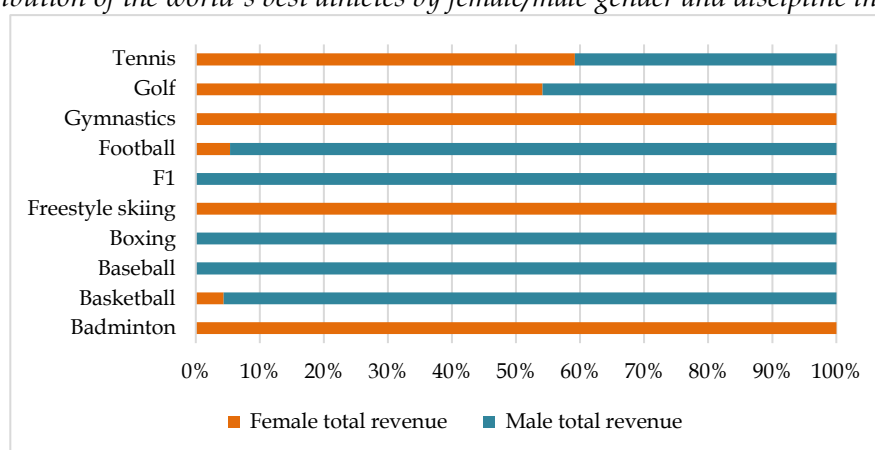
Thus, it is observed that in the world of badminton, women emerged as strong revenue generators, accumulating a total revenue of 51,1M dollars (M) approximately 95,6% for men and 4,4% for women, highlighting the substantial gender gap in earnings within basketball. Baseball showcased a similar trend, with male players generating revenue of 80,9M, while female players did not report any revenue. Consequently, men account for 100% of the revenue in this sport, underscoring the existing disparity and limited financial opportunities for women.

In the realm of boxing, male competitors generated a revenue of 153,6M, whereas female competitors did not report any revenue. This 100% revenue contribution from men further emphasizes the gender imbalance and lack of financial recognition for female boxers. Freestyle skiing exhibited a unique scenario, with women accumulating a revenue of 20,1M while male performers did not report any revenue. As a result, female contenders claimed 100% of the revenue in this sport, suggesting a potential market and financial success for women in freestyle skiing. Formula 1 racing presented a different landscape, with men generating a revenue of 72,3M, while women did not report any revenue. Thus, male competitors accounted for 100% of the revenue in this category, pointing to the gender gap and limited financial opportunities for female performers within the sport. Football displayed a noteworthy pattern, with male sport stars generating a substantial revenue of 596,6m, while female talent contributed a comparatively lower revenue of 33,6M. This equates to a revenue distribution of approximately 94,7% for male players and 5,3% for female players, highlighting the significant gender disparity in earnings within football.

Gymnastics showcased a complete reversal, with female athletes generating a revenue of 12,1 M, while men did not report any revenue. Consequently, women accounted for 100% of the revenue in this sport, demonstrating their financial success and marketability. In the realm of golf, the revenue distribution between male and female stars was relatively balanced. Male golfers generated a revenue of 48,5M, representing approximately 45,9% of the total revenue, while female golfers accumulated a revenue of 57,3M, accounting for approximately 54% of the total revenue. This showcases a more equitable distribution of earnings between genders within golf. Tennis demonstrated a higher revenue generation by female talent, who accumulated a revenue of 69,6M, representing approximately 59% of the total revenue. Male players, on the other hand, generated a revenue of 48M, accounting for approximately 40,8% of the total revenue. This highlights the financial success and marketability of women within tennis.

Figure 2.

Income distribution of the world's best athletes by female/male gender and discipline in 2022



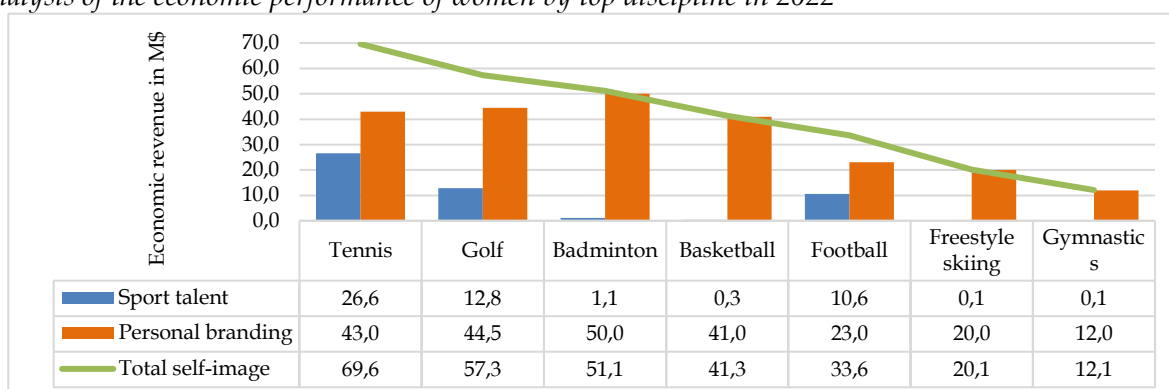
Source: Own elaboration based on insights from the obtained results.

These findings shed light on the varying degrees of gender disparity in revenue distribution across different categories. While some sports demonstrate a more balanced distribution, others reveal significant gaps in earnings between male and female athletes. These disparities underscore the importance of addressing gender equity in most disciplines and providing equal opportunities for sports women to thrive financially.

When examining the data on women's economic revenue in main sports categories (see figure 3), it is important to distinguish between income derived from sport itself and income generated through personal branding efforts. In terms of sport talent income, which represents earnings directly related to athletic performance, tennis emerges as a frontrunner with women bringing in 26,6M. Golf follows closely with 12,8M, while other disciplines such as badminton, basketball, football, freestyle skiing, and gymnastics exhibit lower sport talent incomes. On the other hand, personal branding income represents earnings generated through endorsements, sponsorships, and other off-field opportunities. In this regard, women excel in personal branding in fields such as tennis (43M) and golf (44,5M). Badminton and basketball also demonstrate notable personal branding incomes, despite comparatively lower sport talent incomes.

Figure 3.

Analysis of the economic performance of women by top discipline in 2022



Source: Own elaboration based on research findings.

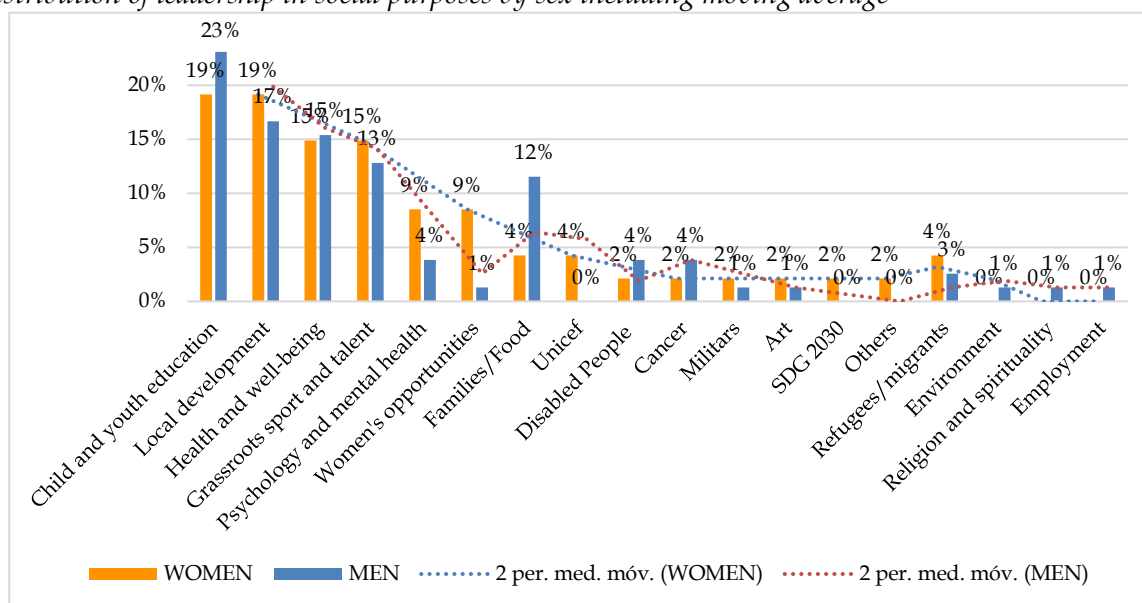
3.2. Top athletes and social activism. Quantitative and qualitative analysis

Digging into the goals where best sportspeople of the world lay their vital interests, the data presented reveals the percentage distribution of resources and focus areas across different domains for women and men (see figure 4). In terms of purpose, child and youth education, local development, health and well-being, and grassroots sport and talent receive significant attention from both genders, with similar percentages allocated to these areas. However, there are notable differences in the allocation of resources within specific domains. Women's opportunities and psychology/mental health receive a higher percentage of focus (9% and 4% respectively) compared to men (1% and 1% respectively). This indicates a greater emphasis on addressing gender disparities and prioritizing women's empowerment and mental well-being. On the other hand, men allocate a higher percentage to domains such as families/food (12%), cancer (4%), disability (4%), and art (3%). This suggests their focus on areas that may be more traditionally associated with male experiences or concerns. Certain domains, such as Unicef, environment, religion and spirituality, and SDG 2030, receive relatively equal attention from both women and men, each accounting for around 2% of the total focus.

From the regression analysis, the representation of salary in relation to the social causes sponsored, shows that there is a first group up to 10M that clearly follows a linear relationship between salary and sponsorship. But the second group, from 30M upwards, covers a very dispersed cloud, without following a clear rule (see figure 5).

Figure 4.

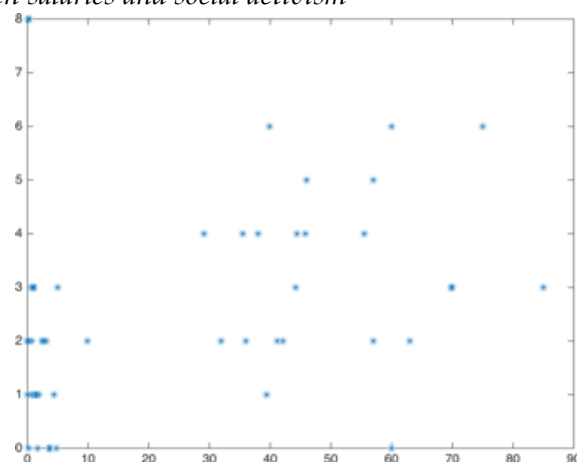
Distribution of leadership in social purposes by sex including moving average



Source: Own elaboration.

Figure 5.

Regression analysis between salaries and social activism



Source: Own elaboration based on research findings.

3.3. Digital communications of personal branding. Quantitative analysis

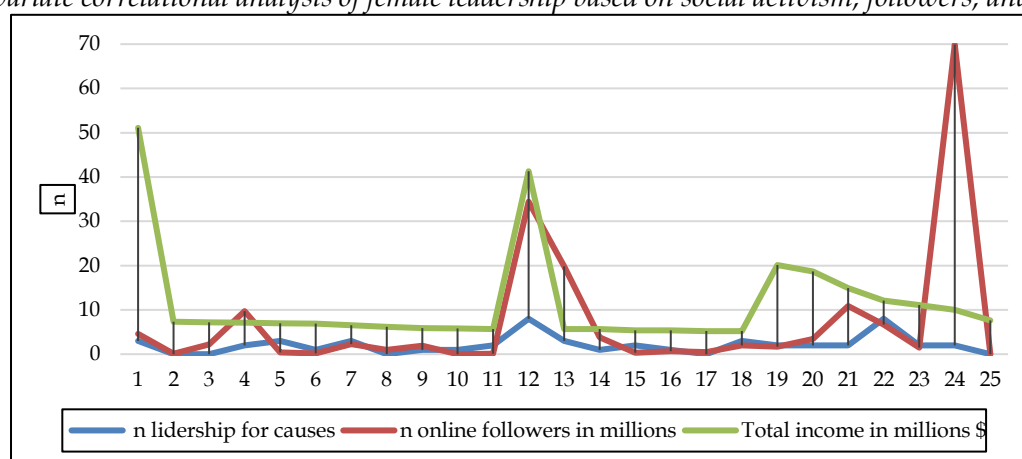
Multivariate correlational analysis of data offers insights into the representation of sportswomen and their involvement in leadership roles for causes, their followers in millions, and their total income in millions of dollars (see figure 6). The data sheds light on the varying levels of engagement, popularity, and financial success among these sportswomen. By analyzing the numbers, we can gain a deeper understanding of the different dimensions of their influence and achievements in the sports industry.

Among the whole sample, there is a range of involvement in causes. Some individuals hold three favorite causes, while others have none.

The number of virtual followers varies, with some individuals having tones of followers, and others having only a few hundred thousand. Similarly, the total income generated also varies, with 2 individuals earning in the range of 40 to 70M, while most of them earn in the range of 5 to 7M. These figures indicate the diverse levels of engagement and success within the top 25 leading sportswomen of the world. Some individuals (n=22) demonstrate a strong commitment, enjoy a large number of followers, and generate significant income. But others (n=3) have limited involvement and may have a smaller number of fans and incomes. Overall, the data suggests that engagement with missions, popularity, and income generation vary among female athletes, highlighting nature of their achievements and contributions.

Figure 6.

Multivariate correlational analysis of female leadership based on social activism, followers, and incomes



Source: Collected data from each female athlete analyzed (n=25). Own elaboration.

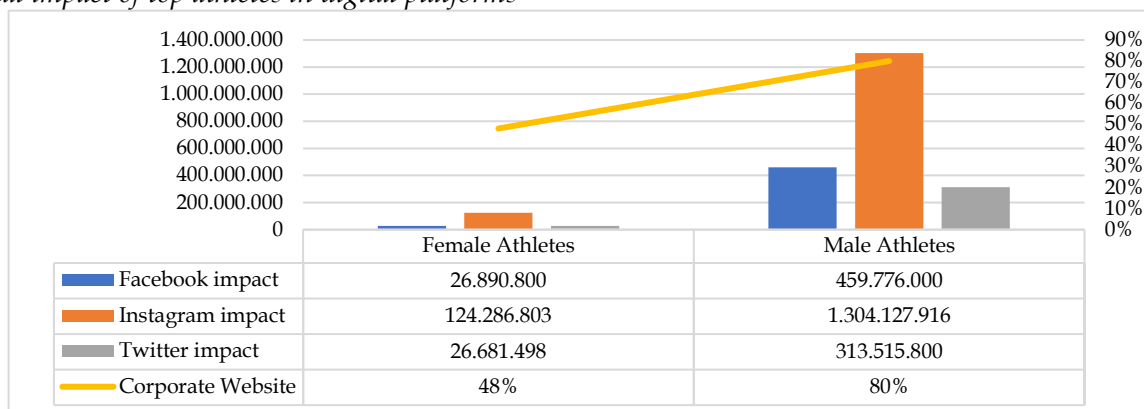
It looks evident that sportsmen generally have a larger virtual presence and followers compared to their female counterparts. This could be attributed to various factors, including the popularity and reach of male-dominated areas such as football (soccer) and basketball, which tend to have a wider global audience. Several female athletes, such as Naomi Osaka, Serena Williams, and Simone Biles, have a substantial online following, indicating active engagement with their audience and a strong communication of their personal brand to the community. I.e., Serena Williams stands out with a significant visibility on cyber communities, including over 16M Facebook followers, more than 10M Instagram followers, and approximately 34M total followers across all of them. But women's representation is not uniform across all sports. In tennis, for instance, several female players demonstrate active engagement with their audience and have a notable position on social media. However, the data also includes women from other disciplines, such as skiing, gymnastics, golf, and basketball. While some athletes in these areas also exhibit a considerable following, the overall numbers may vary compared to tennis.

From a general first approach, we can see that, on average, male performers have a significantly higher web-based activity compared to female performers. When it comes to internet communities (see figure 7), the disparity between female and male players is quite evident. Only the 48% of sportswomen have a proper official website versus the 90% of sportsmen that have it. On Facebook, female athletes collectively have an impact of 26,9M, while male athletes have a significantly higher total impact of 459,8M. On Instagram, the trend continues with female athletes having an impact of 124,3M, while male athletes dominate with a substantial impact of 1,3 billion. On Twitter, female athletes have an impact of 26,7M, and male athletes lead with an impact of 313,5M.

Female athletes average 5.5M Facebook followers, while male athletes have about 49.3M, roughly nine times more. On Instagram, women athletes average nearly 8M followers, compared to 67,8M for men, about eight times more.

Figure 7.

Total impact of top athletes in digital platforms



Source: Own elaboration based on research findings.

On Twitter, female athletes average 3,4M followers, while male athletes have about 22,7 M, roughly seven times more. Overall, female athletes have an average total following of 17,9 M across all platforms, compared to 139,8M for male athletes, about eight times more. This disparity highlights the greater presence and influence of male athletes on social media. Factors like the popularity of male-dominated competitions and cultural influences contribute to this gap. Nonetheless, sportsmen clearly enjoy a larger and more engaged following on Facebook, Instagram, and Twitter.

While female sport stars have undoubtedly cultivated substantial fan bases and achieved remarkable success in their respective activities, the digital communication landscape remains largely skewed in favor of their male colleagues. Efforts to promote and amplify the voices and achievements of women are crucial in bridging this gap and providing them with the recognition and support they rightfully deserve. Upon analyzing the detailed data, it becomes evident that both female and male performers actively engage in supporting various causes. The number of causes associated with each gender varies, providing insights into their areas of focus and interest.

Among the female athletes, a total of 43 causes were identified (see figures 4 and 6). Female athletes supported a variety of causes, including grassroots sports, community development, disability advocacy, children's education, women's opportunities, mental health, health and well-being, refugees, and UNICEF. They also backed initiatives related to cancer, families/food, military personnel, and the UN's SDG 2030. Similarly, male athletes engaged in 48 causes, covering art, cancer, grassroots sports, community development, disability advocacy, children's education, mental health, health and well-being, refugees, and UNICEF. Additionally, they supported military personnel, SDG 2030, women's opportunities, and families/food, along with some unspecified green and social causes.

4. Discussion and conclusions

This research work reveals a global vision of activism and responsibility perhaps less known but with a great weight at the societal, business, and environmental levels. Good practices are identified for the benefit of the community led by top women in the sports world and current success stories in the direction of a desirable sustainability of people's well-being and the legacy of the planet to the next generations. Beyond the brand image built by women referents thanks to excellence in their professional performance; an enterprising social brand image is revealed, committed and responsible with the interests of the community, with a high impact both real and latent in the different international stakeholders.

According to this, the Matilda Effect is still valid in the reality of the global sports sector (Iglesias & Fernandez-Rio, 2022), which supposes, on the one hand, a challenge to society when it comes to recognizing the contribution of women, but also of taking the initiative of these women to successfully use the opportunities to disseminate their professional and altruistic work through main communicative supports, as is the case with digital sites and social networks. When examining LGTB athletes, it is worthy to mention that a higher number of female athletes openly identify with this community, showing also a more explicit and supportive attitude (Flores et al., 2020).

4.1. *Sex of athletes and income*

The revenue distribution among male and female athletes in different categories reveals significant variations and gender disparities. While disciplines like badminton and gymnastics demonstrate women's dominance in revenue generation, tennis stands out as a sport with strong financial success for women. However, competitions such as basketball, baseball, boxing, F1 racing, and football still exhibit significant gender gaps, with women contributing a minority share of the revenue. These findings emphasize the importance of addressing gender equity and creating equal opportunities for women, particularly in disciplines where disparities persist. Having said this, it is worth noting the fact that further efforts are needed to promote fair revenue distribution and empower female athletes across all specialties.

Regarding the analysis of women's economic revenue in various categories, it reveals a range of income levels and highlights the impact of sport talent and personal branding on their financial success. Tennis and golf emerge as lucrative games for women, with substantial earnings derived from both sport talent and personal branding. Badminton, basketball, and football demonstrate a notable combination of sport talent and personal branding income, indicating the potential for financial success in these areas. On the other hand, freestyle skiing and gymnastics show relatively lower incomes, emphasizing the challenges faced by athletes in these activities to generate substantial revenue.

Also, outputs underscore the significance of personal branding efforts for women athletes, as it presents an opportunity to enhance their income beyond their performance in their respective specialties. Building a strong personal brand and securing endorsement deals and partnerships are key factors in maximizing financial opportunities. Additionally, the findings highlight the need for continued support and investment in sports where women face disparities in income (Lobpries et al., 2018), ensuring a more equitable landscape for female athletes. Thus, the research assessment provides insights into the economic landscape for women in sports, highlighting areas of success and potential areas for improvement and it serves as a foundation for further research and discussion on promoting gender equality and financial empowerment for women athletes in the future.

4.2. Net value of sport talent in social causes

In the realm of communication and personal branding, it is intriguing to explore whether there are differences between genders when it comes to athletes' involvement. Despite variations in economic performance of sports talent, both women and men showcase their commitment to social causes through active engagement and support.

While there may be mismatches in the specific causes supported by female and male athletes, both genders have shown a genuine commitment to making a difference. Causes related to grassroots sport and talent development, local community development, children and youth education, mental health, and refugee support have garnered attention and support from athletes of both genders. Through their virtual activity and personal branding, athletes have been able to bring visibility to these causes and inspire their followers to get involved (Fieseler et al., 2010; Van den Broek et al., 2012).

Regardless of the economic performance, both female and male athletes actively engage in civic initiatives and leverage digital image to amplify their impact. This way, the power of virtual channels enables athletes to connect with a broader audience, raise awareness about important issues, and mobilize support. By utilizing their influence and personal brand, athletes have the potential to drive meaningful change and inspire others to join them in making a positive difference in society.

4.3. Sportswomen social leadership and branding communication

When examining the extent of women's stewardship and their level of involvement in social causes, it becomes evident that there are slight variations in priorities between women and men. Women show relatively higher focus on women's opportunities and psychology/mental health, indicating efforts to address gender disparities and well-being. Men, on the other hand, demonstrate higher allocation in causes like families/food, cancer, disability, and art, suggesting specific areas of interest or traditional associations.

Some elements, such as UNICEF, environment, religion, spirituality, and SDG 2030, receive relatively equal attention from both women and men, albeit at relatively low percentages. These findings spotlight the need to further address and allocate resources to social causes, ensuring a more balanced and inclusive approach that considers the diverse needs and interests of both genders.

Female and male athletes also show quantitative differences in their personal brand interacting with the community and stakeholders. When it comes to leveraging the power of digital image, female athletes have demonstrated a strong leadership and engagement with their audience (Giulianotti, 2011). Online communities like Facebook, Instagram, and Twitter have provided them with an avenue to communicate their personal brand and connect with their fans. Female athletes such as Serena Williams, Naomi Osaka and Simone Biles have amassed substantial followers, indicating an active effort to cultivate a dedicated community and convey their values and beliefs beyond their sporting achievements. Through their presence, they have been able to shed light on causes close to their hearts and use their influence to make a positive outcome.

But male athletes generally have a larger impact compared to female athletes (Geurin, 2017). Top male athletes like Lionel Messi, Cristiano Ronaldo, and LeBron James have massive numbers of followers in Facebook, Instagram, and Twitter.

On average, male athletes have around nine times more Facebook followers, eight times more Instagram followers, and seven times more Twitter followers than female athletes. In total, male athletes have approximately eight times more followers across all platforms combined.

These disparities can be attributed to factors like the popularity of male-dominated competitions and cultural influences (Doyle et al., 2021; Parmentier & Fischer, 2012). Efforts to promote and amplify the voices of female athletes are essential to bridge this gap and provide them with the recognition and support they deserve. Female and male athletes are not just exceptional in their respective specialty but also actively engage in contributing to various causes through their conversational efforts. By leveraging their influence on social media, they have the power to raise awareness and make a positive effect on important issues.

Among the female athletes, a total of 43 supported causes have been identified. These causes span a wide range of purposes, including grassroots sport development, education, mental health, and refugee support. Through their personal interactions, female athletes are able to amplify the voices of marginalized communities, promote inclusivity, and drive positive change in society. Similarly, top sport men are associated with 48 causes that they actively contribute to. Their support extends to areas such as art, cancer research, community development, and gender equality. By leveraging their massive online presence, athletes can shed light on these causes, encourage donations, and inspire their fans to get involved. The efforts of both genders play a crucial role in creating awareness and mobilizing support for these causes.

Through their posts, stories, and engagement with their followers, sporting talents can educate, inspire, and encourage their fans to act and make a difference (De Chernatony, 1999). Their dedication to altruistic causes showcases their commitment to using their platform for the greater good and addressing societal challenges. By actively participating in these purposes, both women and men demonstrate their role as influencers and advocates for positive change.

4.4. Further steps

Findings of this research underscores the potential for athletes to serve as catalysts for positive change, as well as the importance of gender equality and inclusivity in the realm of athlete activism. As a constructive suggestion for future research, it is recommended to conduct a sampling method that encompasses a diverse range of elite female athletes participating in both team and individual sports. Additionally, there is a need for extensive case studies and practical strategies that effectively address the barriers faced by female athletes in establishing their personal brands. Expanding the research scope to include a broader representation of female athletes would enable better generalization of the findings.

This fact would bring to light more inspiring cases of sportswomen as key agents for social change and sustainability because they all possess the potential to act as catalysts for change, addressing humanitarian issues and enhancing social capital. However, an important area for improvement lies in their conscious and strategic utilization of online communication as an empowering tool for social change. By harnessing the power of their influence, these women can expand the reach of their talents beyond the financial rewards derived from their athletic achievements.

7. References

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