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Connecting with fans in the digital age: an exploratory and comparative analysis of social media management in top football clubs

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In a globalised society, characterised by increasingly demanding markets and the accelerated growth of the digital approach, sports organisations face the challenge of connecting with fans, generating and maintaining audiences and communicating with stakeholders creatively and efficiently. Social media has become a fundamental tool, with engagement as a critical measurement element. However, despite its popularity and use, many questions about its application, measurement and real potential in the sports sector still need to be answered. Therefore, the main objective of this study is to carry out a descriptive and comparative analysis of the engagement generated through social media posts by elite football clubs in Europe, South America and North America. To this purpose, 19,745 Facebook, Twitter and Instagram posts were analysed, through the design, validation and application of an observation instrument, using content analysis techniques. The findings show evidence of a priority focus on “Marketing” and “Sports” type messages in terms of frequency, with high engagement rates. They were also showing a growing stream of “ESG” type messages, with a low posting frequency but engagement rates similar to “Marketing” and “Sport”. “Institutional” messages remain constant in all football clubs. “Commercial” messages still have growth potential in both regards, frequency and engaging fans, representing an opportunity for digital assets. Also, specific format combinations that generate greater engagement were identified: “text/image” and “text/videos” are the format combinations more used by football clubs on Facebook, Twitter and Instagram; however, resulting in different engagement rates. This study showed evidence of different social media management strategies adopted according to region, obtaining similar engagement rates. This research concludes with theoretical and practical applications that will be of interest to both academics and practitioners to maximise the potential of social media for fan engagement, social initiatives and as a marketing tool.

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Introduction

In a context of booming technology and high organisational competitiveness (Ratten, 2020), digital tools have evolved from an essential add-on to crucial strategic and operational elements in sports organisations (Stegmann et al., 2021). Fans increasingly demand a connection with their favourite athletes and teams (Su et al., 2020) through digital channels such as social media, podcasts (Rohden et al., 2023), Esports (Cuesta-Valiño et al., 2022), among others. Today's digitised world presents therefore, an opportunity for brands, sponsors, sports properties, and other stakeholders to interact in a complex and emotionally charged sector (Su et al., 2022) for fans from different age generations (Sheldon et al., 2021). Understanding and getting to know fans are at the forefront of every sports organisation's objective.

Social media plays a fundamental role due to their ability to reach multiple audiences faster and generate a sense of connection with fans through a key measurement element: engagement (Doyle et al., 2022). Sports organisations, specifically football clubs, invest time, people and resources in managing social media to achieve their brand positioning and commercial and communication objectives (Anagnostopoulos et al., 2018; Maderer et al., 2018), with Facebook, Twitter and more recently, Instagram, being the most widely used (Abeza et al., 2019; Machado et al., 2020). However, the real potential of social media and its optimal use still poses many questions to be answered.

Although there are previous studies that have explored some aspects of social media in a sports context (e.g., Anagnostopoulos et al., 2018; Mastromartino and Naraine, 2022; Su et al., 2020), the potential impact and efficiency of content posted by football clubs on their social media channels remains unclear. For example, several studies point to various factors that contribute to fan engagement on social media depending on elements such as the type of content, the format used (e.g. photo, text or a combination of both) or the social media platform (see Einsle et al., 2023; Maderer et al., 2018; Su et al., 2020). This gap in the literature prompts a call to action from across the domains of sports marketing and sports management. Identifying the elements generated by football clubs on their official social media profiles can help them improve their marketing strategies and better support their fans. Based on this need and opportunity for management improvement, this study addresses the following research question:

RQ. What are the main characteristics of Facebook, Twitter, and Instagram posts from elite football clubs to understand the content type, format and social media platform that generate the highest engagement among social media consumers?

Grounded on the theoretical framework of relationship marketing, the main objective of this study is to carry out a descriptive and comparative analysis of the engagement generated through social media posts on Facebook, Twitter and Instagram by elite football clubs in Europe, South America and North America, using a categorisation approach developed from an existing model in the literature (see Solanellas et al., 2022), as well as the identification of key elements of high-impact social media posts. For this purpose, a new instrument was designed, validated and applied to analyse the use of social media as a marketing tool in sports management. By conducting this exploration, this paper contributes to the literature on sports marketing by identifying which social media and which types of content provoke the most interaction among fans. As a result, football team managers can gain a better understanding of how to target and personalise potential commercial and branding actions, thereby reinforcing the loyalty and commitment of fans to football clubs, and opening or consolidating new lines of action aligned with the strategic objectives of sport entities. Furthermore, the findings and

conclusions presented in this study can assist sports managers in the decision-making process, as well as in planning, organising, directing, and effectively controlling social media platforms, thus enhancing engagement with fans in a digital environment.

The article is structured as follows. Firstly, the literature review presents the main theoretical and conceptual elements, focusing on social media and their relationship with marketing theory in sports and football. Secondly, the methodological aspects guiding the study's process are detailed, including sample, instrument, research procedure, and data analysis. Thirdly, the study's main results are presented. Fourth, the discussion section critically examines the findings in the context of existing literature, offering practical and theoretical implications for both academics and practitioners. Finally, the study concludes with the main conclusions and limitations.

Literature review

Social media and sports, a combination of great potential.

Social media is a collective term for media tools, platforms, and applications allowing consumers to connect, communicate, and collaborate (Williams and Chinn, 2010). They encourage interaction between users and the organisation and provide information from customers and the organisation faster than through conventional media (Kümpel et al., 2015; Shilbury et al., 2014). Furthermore, social media is considered a mass phenomenon due to its ability to transmit information in an agile and interactive way (Vivar, 2009), as well as a unique form of communication that transcends geographical and social boundaries through the instantaneous communication of information (Filo et al., 2015). Social Media is used in different sectors for marketing activities (Chen, 2023), brand equity and loyalty (Malarvizhi et al., 2022) to understand consumer's behaviour, brand positioning, business revenue opportunities and social communication (Ramos et al., 2019). However, although the first studies about this phenomenon have been explored in the sports industry field, there is still a need for more evidence about its real potential, essential elements, and efficiency measurement in the sector.

Due to the high graphic, interactive and visual content of social media, their use in the sports industry, a sector of strong emotional influence, has become more relevant and pervasive in the last decade (Hull and Abeza, 2021), where the interest of the viewer has become crucial and increasingly demanding (Nisar et al. 2018). The differences that make the sports industry unique and particular are, among others: immediate results and changes (Davis and Hilbert, 2013) in addition to the fact that every decision is "in the spotlight" of the public (alluding to the complexity of fans, athletes, coaches, media and other stakeholders). Thus, athletes, teams and sports organisations have been using social media as part of their public relations and communication efforts (Filo et al., 2015; Pegoraro, 2010; Yan et al., 2019) to engage with their partners and fans (Zakerian et al., 2022), promoting interactions and increasing engagement with the sport product, as well as with the team in general (Abeza et al., 2019; Parganas and Anagnostopoulos, 2015).

The linking of social media within the integrated marketing communication process has changed communication strategies and consumer outreach, where marketing managers must include these tools when developing and executing their customer-focused promotional strategies (Lee and Kahle, 2016; Rehman et al., 2022). On the other hand, social media, directly and indirectly, impacts revenue generation and favours negotiation with sponsors due to their notoriety, visibility, and reach (Mastromartino and Naraine, 2022; Parganas and Anagnostopoulos, 2015). They are therefore considered a key

tool for building and enhancing a brand's reputation (Maderer et al., 2018) and an ideal platform to advertise and increase the visibility of a brand or company, as well as to interact with and analyse the actions of their fans and followers (Abeza et al., 2017; García-Fernández et al., 2015; Herrera-Torres et al., 2017).

Social media has also been used in sports education in recent years (Sanz-Labrador et al., 2021). Moreover, their application is increasingly common in construction and dissemination related to social responsibility (López-Carril and Anagnostopoulos, 2020; Sharpe et al., 2020). In this way, they have also become a key tool for interacting with fans, addressing a strengthened social approach, and gaining engagement from athletes, sponsors, and authorities (Einsle et al., 2023; Oviedo et al., 2014; Su et al., 2020). Beyond the digital environment, Cuesta-Valiño et al. (2021) pointed out the relevance of considering the emerging sustainable management approach to measure sports organisations' goals. One of the most relevant challenges for this industry is to issue social media posts efficiently, using the proper formatting resources and at the right time, to generate the most significant possible impact and engagement.

Relationship marketing theory applied to social media in sports. The sports industry is a fast-growing and increasingly diverse market worldwide (Kim and Andrew, 2016). Football (soccer in North America) is one of the most popular sports worldwide as well as a cultural manifestation, characterised by its high emotional level and economic, political and social relevance (Bucher and Eckl, 2022; Petersen-Wagner and Ludvigsen, 2022). Only in Spain, the sports sector generates 3.3% of the Gross Domestic Product (GDP), of which 1.37% is produced through football (PWC, 2020).

Globalisation has demanded an adaptation at all levels due to the endless search for immediacy and access to information, where the business of sports is becoming more and more relationship-based and the importance of generating engagement (Einsle et al., 2023; Fried and Mumcu, 2017; García-Fernández et al., 2017) is one of the most relevant variables in generating loyalty in sports organisations (Loranca-Valle et al., 2021; Núñez-Barriopedro et al., 2021). Sports consumers are seen as "channels" through which sports products can be promoted (O'Shea and Alonso, 2011), and sports fans have become both the consumer and the advocates of the product. This is where relationship marketing theory helps us to better understand this phenomenon. As Abeza and Sanderson (2022, p. 287) point out, relationship marketing theory "is based on the idea that a relationship between two parties creates additional value for those involved". This theory is one of the most widely used to understand the phenomenon of social media in sports (Abeza and Sanderson, 2022) as highlighted by numerous authors who have used it in their studies (e.g., Abeza et al., 2017, 2019, 2020; Su et al., 2020; Williams and Chinn, 2010).

Merging the roots of relationship marketing theory (Möller and Halinen, 2000) and the particular characteristics of the sports sector, and taking into account the perspective of short-term transactions and immediate economic benefits (Abeza et al., 2017), social media represents opportunities for better knowledge about fans, more advanced consumer–organisation interaction, efficient fan engagement, efficient use of resources and agile evaluation of the relationship between fans and organisation (Abeza et al., 2019, 2020). In view of this, and in line with Abeza and Sanderson (2022), social media thus becomes a channel through which to establish, maintain and cultivate long-term relationships beneficial to both parties (in our study, football clubs and fans).

Previous studies have addressed the use of specific social media in the context of sports, such as Facebook (Achen, 2019; Meng et al., 2015; Pegoraro et al., 2017; Waters et al., 2009), Twitter (Blaszka et al., 2012; Hambrick et al., 2010; Lovejoy and Saxton, 2012; Winand et al., 2019; Witkemper et al., 2012) and Instagram (Anagnostopoulos et al., 2018; Machado et al., 2020; Zakerian et al., 2022), because of the relevance in the use of these platforms in the sports sector. From another broader perspective, Solanellas et al. (2022) propose a practical analysis of multiple social media in sports organisations from a content categorisation point of view.

The results and contributions of the studies mentioned above, reveal the importance of further exploring the social media fan engagement phenomenon as a strategic perspective (Tafesse and Wien, 2018) and the added value that social media can generate in sports. In this sense, it is relevant for sports managers to know which techniques, methodologies and perspectives to use. Furthermore, as stated by Abeza and Sanderson (2022), it is necessary to go deeper into the theories behind its use. Taking these aspects into account, this work presents a new instrument of observation and measurement of social media posts by football organisations, as a basis for understanding and deepening the knowledge about the digital audience and its impact on the different objectives of the organisation. Thus, the study draws on relationship marketing theory to better understand how sports managers can make the most of the possibilities offered by social media to generate added value from the interaction between fans and football clubs. Particularly, the developed instrument focuses on the analysis of the type of content published by football clubs, categorising it into dimensions, as well as the engagement of the different publications according to the type of dimension to which they belong.

With a view to the implementation of the instrument, and to contribute to the literature related to the use of social media as a marketing tool in sports, this study analyses Facebook, Twitter and Instagram posts issued by elite football clubs from Europe, South America and North America, using a practical approach to content categorisation and taking the engagement factor as a key element for comparison.

Methodology

This study adopts an exploratory, descriptive, and comparative research design (Andrew et al., 2011) using the observational method and content analysis techniques. Content analysis involves the recounting and comparison of content, followed by the interpretation of the underlying context. It has been widely used in social media communication research, specifically in sports settings (e.g., Anagnostopoulos et al., 2018; Wang and Zhou, 2015; Winand et al., 2019), to interpret textual data through systematic classification, coding, and identifying themes or patterns (Hsieh and Shannon, 2005). First, exploratory studies are particularly useful when the phenomenon under investigation is in constant evolution (such as social media as a marketing tool), as well as when there are several factors and variables at play (Andrew et al., 2011). In this study, these are linked to the engagement that can be caused by the type of content or format used by elite football clubs on their social media accounts. Second, the descriptive aspect of the research design aims to describe and quantify the engagement levels in social media for the selected football clubs. By Collecting and analysing quantitative data on the interaction metrics, including likes, comments, shares, and follower counts, the study provided a comprehensive overview of the current state of engagement, and other variables, among the clubs, helping to build a foundation for further analysis and comparison. Lastly, the comparative aspect of the

research design (Andrew et al., 2011) is valuable in this study because it enables a cross-regional analysis of three of the most traditional social media platforms. The study compared the engagement practices, elements, and strategies across three key regions of the football industry worldwide. Understanding potential differences can be useful for sports managers to design more optimised social media marketing strategies.

Sample. Considering the study design and observational method applied in this research (Anguera-Argilaga et al., 2011), a non-probable sample design (see Battaglia, 2008) was established following several steps to make the following three decisions: (1) selection of football clubs, (2) social media platforms, and (3) period of time studied.

First, a geographical criterion was used to determine the origin of the football clubs under study. This criterion was based on a comprehensive and global perspective, considering factors such as historical significance, popularity, sporting achievements, and the modernisation of football worldwide. Based on these considerations, three regions were selected for analysis: Europe and South America, renowned for their broad global relevance and football tradition (e.g., the winning national teams of the 22 editions of the FIFA World Cup so far are from Europe and South America [Venkat, 2023]). Next, North America was chosen for its ascending market growth potential and global efforts to promote football. This is exemplified by upcoming milestones, such as the organisation of the FIFA World Cup 2026 in the United States, Mexico, and Canada, as well as the recent arrival of Lionel Messi into Major League Soccer (see Mizrahi, 2023). These three regions are governed by the three most influential regional football bodies of FIFA: Europe (UEFA), South America (CONMEBOL), and North America (CONCACAF). Second, to select the most relevant football clubs in these three regions, we followed some of the selection criteria set in similar studies (e.g., Anagnostopoulos et al., 2018; Maderer et al., 2018). Therefore, the rankings of four of the most influential football organisations or websites were considered: (1) the International Federation of Football History and Statistics (IFFHS) club ranking, (2) the Football World Rankings website, (3) the FIFA club and league ranking, and (4) the Transfermarkt player ranking website (of great relevance in the player transfer market). As a result of this

process, 24 teams were pre-selected (9 from Europe, 9 from South America and 6 from North America) according to the objectives and the study design and the author's agreement (Andrew et al., 2011; Anguera-Argilaga et al., 2011; Battaglia, 2008; Hernández-Sampieri et al., 2014). Finally, a random draw was made resulting in a selection of six teams from Europe, six from South America and four from North America (with a limit of two teams per league). This process resulted in the 16 teams whose use of social media is analysed in this study (see Table 1).

Following, social media to be analysed in the study were selected. It was noted in the literature that Facebook had been one of the first social media to be used by football clubs and other sports organisations, either to connect with fans or purely for informational purposes (Achen, 2019; Waters et al., 2009). Twitter and Instagram are also platforms that have become relevant, not only for marketers in sports but also in other sectors (Anagnostopoulos et al., 2018; Wang and Zhou, 2015). Although the use of Facebook, Twitter and Instagram as marketing tools for football clubs has been studied (e.g., Machado et al. 2020; Maderer et al. 2018; Nisar et al., 2018), there is a lack of literature comparing their potential engagement across a sample of teams from different geographic regions. Thus, it was deemed appropriate to select these three social media sources for our study.

Finally, the periods over which the publications were to be extracted were determined. Among other authors, Ashley and Tuten (2015) point out that, in a social media environment, two to four weeks are sufficient for a wide variety of posts to be made in a regular and cyclical context, excluding exceptional milestones or events that could have an extraordinary impact on engagement and that could bias regular reading. Therefore, 45 days for each club and each social media is set as an appropriate observation period.

Once the sample selection criteria had been defined, the links of all publications from the clubs selected in the study on the three social media were extracted through the Fanpage Karma software that allows data to be collected and interpreted (Lozano-Blasco et al., 2021). After prior data analysis, the final sample consisted of 19,745 publications, a very similar figure to that used in other related studies (e.g., Maderer et al., 2018; Yan et al., 2019).

Instrument and research procedure. Based on the review of the techniques and methodologies used to analyse the use of social

Table 1 Number of posts extracted for analysis from Facebook, Twitter and Instagram official accounts by region and football clubs selected.

Region	Country	Club	Social media posts analysed (Q)		
			Facebook	Twitter	Instagram
Europe	Germany	Borussia Dortmund	218	745	107
	Germany	FC Bayern Munich	242	680	76
	Spain	FC Barcelona	195	794	147
	Spain	Real Madrid CF	118	544	73
	UK	Manchester United FC	445	761	244
	UK	Liverpool FC	486	850	278
	UK	Manchester United FC	445	761	244
South America	Brazil	SE Palmeiras	289	1140	91
	Brazil	CR Flamengo	644	1606	515
	Argentina	CA River Plate	150	575	149
	Argentina	CA Boca Juniors	299	684	256
	Paraguay	Club Olimpia	199	356	165
	Paraguay	Club Cerro Porteño	230	13	220
	Paraguay	Club Cerro Porteño	230	13	220
North America	Mexico	CF América	241	774	154
	Mexico	CD Guadalajara	382	610	91
	USA	LA Galaxy	92	347	112
	USA	Atlanta United FC	142	2096	120
	USA	Atlanta United FC	142	2096	120
	USA	Atlanta United FC	142	2096	120
	USA	Atlanta United FC	142	2096	120
			4372	12,575	2798
			19,745		

media as a marketing tool for football clubs in previous studies, we proceeded to design and develop an observation and data collection instrument in a Microsoft Excel Spreadsheet (.xlsx format), taking as a starting point the model of content analysis proposed by Solanellas et al. (2022). Due to the nature of the study, the .xlsx data collection format was chosen for its flexibility, allowing for manual data collection and the application of the categorisation tool post-by-post. This format has been successfully used as a data collection tool in previous social media content analysis studies in football (e.g., López-Carril and Anagnostopoulos, 2020).

To ensure its rigour, the codebook was subsequently submitted for review to nine field experts. The selection of these experts was undertaken via judgmental nonprobability sampling, a method commonly employed in the literature due to the specialised and ever-evolving nature of the subject (Andrew et al., 2011). These individuals were chosen based on specific criteria, encompassing their professional roles in specialised, coordinating, managerial, or directorial positions tied to the digital domain. Moreover, their academic background, particularly in marketing, methodology, or digital tools, was considered. To ensure an extensive grasp of the subject matter, the chosen experts were required to have a minimum of five years of experience in the area and to be actively participating in their respective roles. This approach aimed to incorporate diverse viewpoints, offering insights from a spectrum of angles relevant to this research. As a result, the panel of experts was comprised of the following professionals: the Head of Digital from a prominent European professional football league (1), a Marketing Manager and an International Communications Manager from leading professional football clubs (2), Directors of digital marketing and branding agencies (2), professors specialising in marketing and sports management at Spanish universities (2), and the Vice-President of Sales along with the Head of Digital from sports business intelligence consultancies (2).

Semi-structured interviews were undertaken with these chosen experts to delve into pertinent aspects linked to the study. An interview guide was developed, following the methodological aspects indicated in specialised works in this field (see Andrew et al., 2011; Anguera-Argilaga et al., 2011). Furthermore, the interview guide encompassed critical aspects of social media management and relevant facets of football club management (e.g., post formats, observation timeframes, platforms for capturing and analysing social media posts), drawing upon the elements and variables derived from studies conducted by Parganas and Anagnostopoulos (2015) as well as Solanellas et al. (2022). Additionally, these interviews comprised discussions

about the conception and execution of the observation tool, which was employed as a supplementary instrument for data collection. Further variables relevant to the research objectives were explored within these interviews.

The qualitative insights garnered from the experts' conclusive remarks offered valuable suggestions that contributed to refining the study's development and enhancing the observation tool. This iterative approach ensured the harmonisation of the tool with the research objectives and its effective alignment with the study's research questions. After incorporating the modifications suggested in the experts' evaluations, the study's codebook adhered to the variables and categories illustrated in Table 2.

The .xlsx instrument sheet was then pilot-tested. Seventy-five publications (25 from Facebook, 25 from Instagram and 25 from Twitter) from three different football clubs were randomly selected, conforming to a total sample of 225 publications. The data were collected in an observation sheet in .xlsx format for analysis purposes. During the analysis process, including the discussion of possible discrepancies in interpreting each publication as belonging to one or another of the dimensions of the study's codebook, the authors decided that each publication would be classified only in one dimension, depending on the type of content that predominates in each post.

To measure the level of reliability and accuracy of the instrument (Andrew et al., 2011), the intra-observer reliability method was applied, incorporating 10–12 minute breaks every 40–45 min of observation. After 15 days, the same publications were re-coded using the same established protocol. The results of the coding provided a Kappa coefficient of 0.949, demonstrating a very high level of agreement and reliability, following the scale of Landis and Koch (1977).

To measure the reliability and accuracy of the instrument (Andrew et al. 2011), the intra-observer reliability method was applied. In the first stage, the data was collected and coded post-by-post by applying the .xlsx. sheet, incorporating 10–12 minute breaks every 40–45 min of observation to ensure the quality of the data observed and collected. The same posts were re-coded using the same established protocol in the second stage. To ensure a more accurate application of the codebook and to avoid potential bias, a 15-day impasse was established between the two data collections. The coding results between the two stages provided a Kappa coefficient of 0.949, demonstrating a very high level of agreement and reliability, following the scale of Landis and Koch (1977).

Finally, based on the interaction data collected with the data collection instrument, the variable of engagement with the publications was calculated by adapting the formulas used by

Table 2 Study codebook.		
Variable	Code	Description
Dimensions	Sports	Information on players or coaches, new signings, training sessions, training activities, and matches.
	Institutional	History and anniversaries of the club, announcements of assemblies, official communiqués, club opening hours, and congratulations addressed to institutions or athletes.
	Environmental, Social and Governance (ESG)	Activities relating to social responsibility, community support, athlete development, education, good governance practices, sustainability, and environmental development.
	Commercial	Revenue-generating actions: membership, ticket sales, matchday, and merchandising.
	Marketing	Club brand positioning, fan experiences, fan engagement, sponsorship activation, and content generation for emotional and fan engagement purposes.
Formats	Text-Image-Video-Link-Raffles/Trivia-Surveys	
Interaction metrics	Likes-Share-Comments	
Adapted from Solanellas et al. (2022).		

$$\text{Facebook} = \left[\frac{(N^{\circ} \text{"reactions"} + N^{\circ} \text{"shares"} + N^{\circ} \text{"comments"})}{N^{\circ} \text{followers}} \right] \times 100$$

$$\text{Twitter} = \left[\frac{(N^{\circ} \text{"likes"} + N^{\circ} \text{"retweets"})}{N^{\circ} \text{followers}} \right] \times 100$$

$$\text{Instagram} = \left[\frac{(N^{\circ} \text{"likes"} + N^{\circ} \text{"comments"})}{N^{\circ} \text{followers}} \right] \times 100$$

Fig. 1 Engagement formulas used on Facebook, Twitter and Instagram.
Adapted from Fanpage Karma (2022) and Rival IQ (Feehan, 2023) platforms.

Table 3 Means, standard deviations, minimums and maximums of engagement generated by publications on the social media of the football clubs analysed.

	<i>n</i>	%	Engagement			
			Means	SD	Min	Max
Facebook	4372	22	0.112	0.180	0.000	2.406
Twitter	12,575	64	0.045	0.071	0.000	0.457
Instagram	2798	14	1.873	1.091	0.002	5.528
	19,745	100				

the Fanpage Karma (2022) and Rival IQ (Feehan, 2023) platforms (Fig. 1).

Therefore, after the protocol and the .xlsx observation instrument sheet were tested and validated, the final procedure was established as follows: (a) social media posts from Facebook, Twitter and Instagram of the selected football clubs were extracted automatically using the FanPage Karma license and added to the .xlsx observation instrument sheet; (b) according to the Study Codebook (see Table 2) the data was collected and registered manually into the .xlsx observation instrument sheet by clicking the posts one by one; c) we proceeded to set up a database coding the variables from the data collected to perform the statistical analyses.

Data analysis. A descriptive analysis of the engagement generated by publications on social media and their content (dimensions and formats) on Facebook, Instagram and Twitter was carried out. To analyse the differences in engagement generated by the posts on each social media according to their content, we used the t-test for independent samples and the one-factor ANOVA. The significance value established is <0.05. A chi-square test and correspondence analysis were applied to identify and visualise points of association between the key variables. Data analysis was performed using the SPSS statistical package, version 27.0.

Results

As shown in Table 3, of the 19,745 posts observed and analysed, Twitter accounted for 64%, followed by Facebook at 22% and Instagram at 14%. However, from the point of view of engagement, Instagram reflects an average of 1.873, well above the other social media. Facebook follows it with 0.112 and Twitter with 0.045, showing an inverse behaviour to the number of posts made.

Frequency and engagement. In Fig. 2, we can observe the strategy used by each club in terms of the frequency of posts on Facebook, Twitter and Instagram, as well as the levels of engagement obtained. On Facebook, the football clubs analysed posts at different frequencies. In Europe, we observe that the

clubs with the highest frequency of posts are Liverpool FC and Manchester United FC, with $n = 445$ and $n = 486$, respectively. In contrast, the Spanish clubs (Real Madrid FC and FC Barcelona) have the lowest frequency of posts ($n = 195$ and $n = 118$, respectively). On the other hand, beyond this difference in frequency, they have very similar engagement ratios.

The club with the highest frequency of publications is CR Flamengo from Brazil ($n = 644$); however, SE Palmeiras, the other Brazilian club studied, despite registering fewer publications in the same period ($n = 289$), shows much higher levels of engagement. SE Palmeiras (Brazil), Club Olimpia and Club Cerro Porteño (Paraguay), CF America (Mexico) and Atlanta United FC (USA) show the highest levels of engagement, with similar posting frequencies (between $n = 142$ and $n = 241$). On Twitter, the highest frequencies of posts were published compared to Facebook and Instagram, with CR Flamengo and Atlanta United FC being the clubs that posted the most ($n = 1606$ and $n = 2096$, respectively). However, the levels of engagement identified show similar and homogeneous levels in the period analysed, regardless of the frequency of publications. On the other hand, the highest engagement levels were observed on Instagram, with a lower frequency of publications in all cases. Football clubs SE Palmeiras, CA River Plate, CF America and Atlanta United FC have the highest engagement values (2.5 and 3), with posting frequencies ranging from $n = 91$ to $n = 154$. European football clubs have very similar engagement ratios (around 1.00), while North American football clubs have different engagement values despite having similar posting frequencies ($n = 91$ and $n = 154$).

Content dimensions of publications. As shown in Fig. 3, we observe the dimensions proposed in this study, comparing the social media analysed and the engagement generated by each category. From this point of view, in terms of frequency, the "Marketing" and "Sport" dimensions are observed as the most used publication approaches by football clubs, followed by the "Institutional" dimension, "Commercial" and, finally, "ESG". This order of frequency applies to Facebook, Twitter and Instagram.

In terms of engagement, the social media Instagram is the one that registers considerably higher values than the rest of the social media analysed, with the "Marketing" dimension generating the highest engagement (2.03). It is followed by the "Institutional" dimension (1.78) and the "Sports" dimension (1.74), closing with the "Commercial" and "ESG" dimensions, with values of 1.54 and 1.41, respectively. Facebook is the following social media that generates the highest engagement.

In the case of Facebook (see Supplementary Table S1), the findings show a significance of the engagement means between the "Commercial" and the "Sports" ($p = 0.000 < 0.05$), "Institutional" ($p = 0.001 < 0.05$) and "Marketing" type of the posts in Facebook.

On the other hand, Twitter (see Supplementary Table S2) is the one that generates the minor engagement, with very similar values between the different dimensions, despite being the one with the highest frequency of publications (Fig. 3). Unlike the previous dimensions, the "Institutional", "ESG", and "Commercial" dimensions are those with the highest engagement values (0.07), followed by the "Marketing" and "Sports" dimensions (both with 0.04). However, in this social media platform, the "Institutional" type of content is statistically significant with "Sports" ($p = 0.000 < 0.05$), "Commercial" ($p = 0.000 < 0.05$) and "Marketing" ($p = 0.000 < 0.05$). Also, we can find significant engagement results between the "ESG" and the "Commercial" ($p = 0.033 < 0.05$) dimensions.

On Instagram (see Supplementary Table S3), the "Marketing" dimension has the highest engagement value, as does the

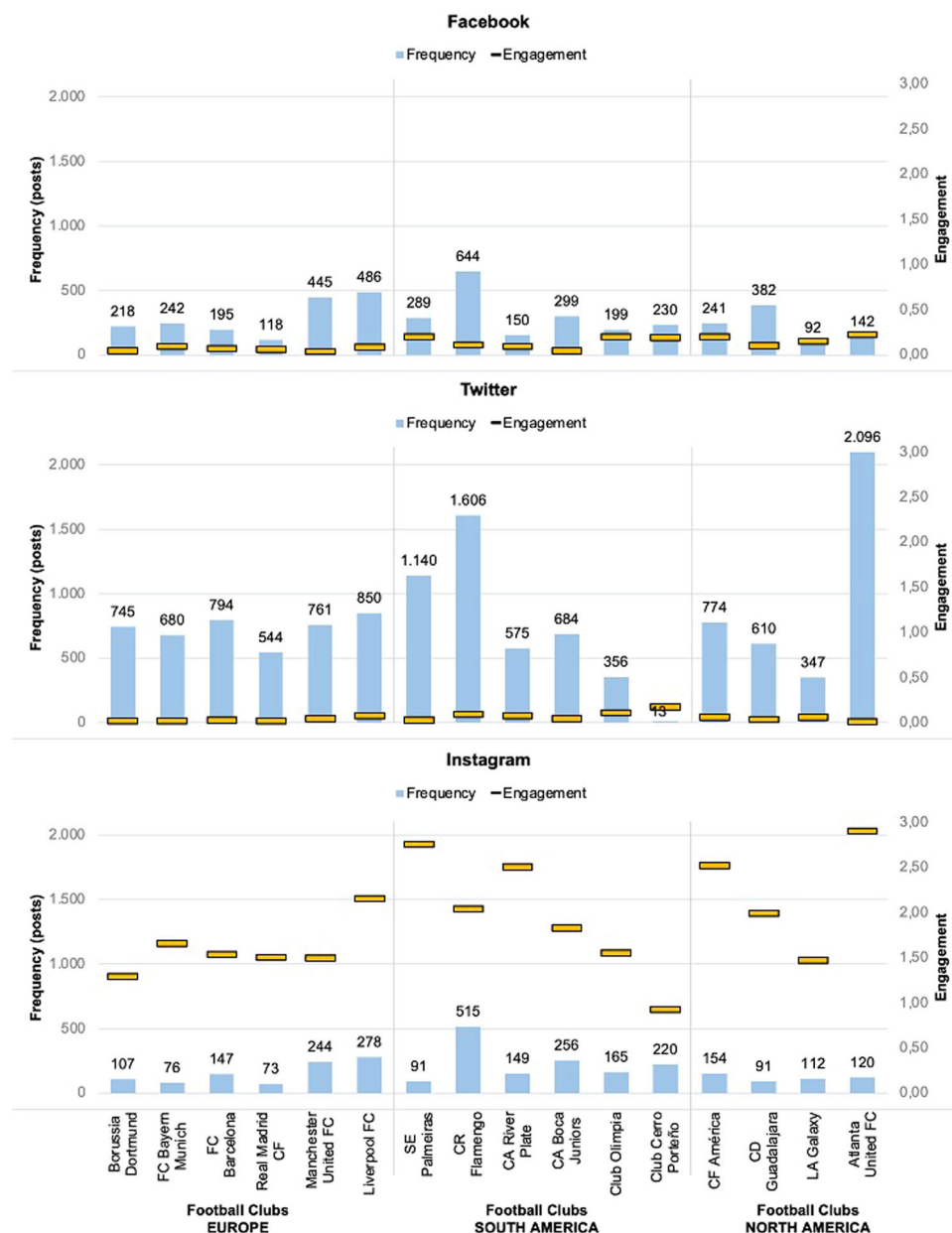


Fig. 2 Posts frequency and engagement. Frequency of posts and level of engagement generated on Facebook, Twitter and Instagram by the football clubs selected for this study (organised by regions).

“Institutional” dimension (both with 0.12). It is followed by the “Sports” dimension (0.11), “ESG” (0.10) and finally, “Commercial” (0.07) (Fig. 3). Nevertheless, as difference of Facebook and Twitter, the findings show a strong relevance of “Marketing” dimensions posts (Supplementary Table S3), linked significantly with “Sports” ($p = 0.000 < 0.05$), “Commercial” ($p = 0.000 < 0.05$) and “Institutional” ($p = 0.002 < 0.05$).

Types of formats in publications. Nine combinations of the most relevant formats have been identified in the publications analysed (Table 4), both in the frequency of use and engagement they generate.

On Facebook, the most frequent formats are “Text/Image” and “Text/Video” ($n = 2031$ and $n = 1265$, respectively). However, the format with the highest engagement is “Image” (0.23), followed by “Text/Image” (0.13), “Text/Video” (0.12) and “Text/Link” (0.07). On Twitter, on the other hand, the “Text/Image” format is the most used

($n = 4412$), “Text” ($n = 2499$), “Text/Video” ($n = 2239$) and “Image” ($n = 1534$), with the “Text/Video” and “Text/Image” format combinations (0.07) registering the highest engagement. On Instagram, due to the nature of social media, the most frequent format is “Text/Image” ($n = 1986$). In terms of engagement, the formats “Image” (2.20), “Text/Image” (1.95), “Text/Image/Polls” (1.93) and “Video” (1.84) have the highest values.

The correspondence analysis (Fig. 4) shows the degree of association between the variables and the categorisation dimensions proposed in this study in a relative position map. The chi-squared test yielded a result of 1027.65. The “Marketing” dimension shows a closer relationship with the “video” and “image” format resources. The “ESG” and “Institutional” content type shows an association with the “Image” and “Text” formats. The “Commercial” dimension, based on the characteristics of the categorisation, shows a relationship with the “Link” format as ideal points of association, considering the frequency and engagement analysed.

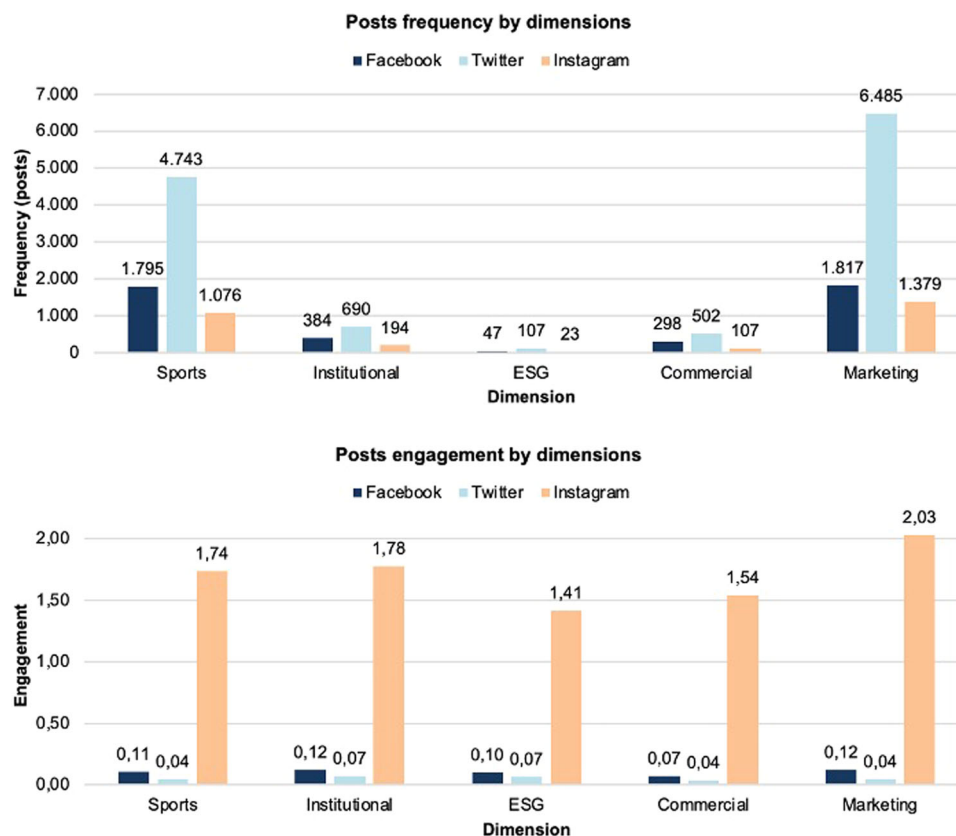


Fig. 3 Posts frequency and engagement by dimensions. Categorisation in the posts' dimensions and their relationship with the engagement generated by Facebook, Twitter and Instagram of the football clubs analysed.

Table 4 Types of formats and engagement.

Format	Facebook		Twitter		Instagram	
	n	Engagement means	n	Engagement means	n	Engagement means
Text	58	0.06	2499	0.02	0	0.00
Image	89	0.23	1534	0.00	147	2.20
Text/Link	136	0.07	470	0.03	7	1.72
Text/Video	1265	0.12	2239	0.07	550	1.59
Text/Video/Link	94	0.09	313	0.04	12	0.93
Text/Image	2031	0.13	4412	0.07	1986	1.95
Text/Image/Link	520	0.07	832	0.03	50	1.49
Video	72	0.10	47	0.03	13	1.84
Text/Image/Polls	19	0.03	29	0.04	8	1.93
Others	79	0.05	169	0.03	22	1.74

Combinations of formats used, and engagement means generated by Facebook, Twitter and Instagram posts.

Discussion

Nowadays, sports organisations and athletes use social media for communication purposes, brand positioning, visibility (Maderer et al., 2018; Winand et al., 2019; Zakerian et al., 2022) and even for potential business (Parganas and Anagnostopoulos, 2015), dedicating effort and resources. Previous studies reinforce the need to categorise the message delivered to understand this phenomenon according to the objective (Filo et al., 2015) and content analysis for effect (Meng et al., 2015). However, its optimal use still leaves many questions. The complexity of the market is evolving towards the need to understand the fan as a premise in a sector characterised by its high emotional charge. In the past, strategies focused on attracting and retaining fans. However, the current trend shows increased relevance in generating engagement (Oviedo et al., 2014)

to generate links with fans. The sports industry, especially in the digital environment, is in an era where the goal is not just getting new followers and post social media content but interact and engage “to know the users better”.

First, this study provides evidence of relevant frequency-engagement relationships according to the dimensions of the study, depending on the type of social media used (Facebook, Twitter and Instagram). Regarding the dimensions of the content published, the posts related to “Marketing” and “Sport” are the most frequent due to the natural and traditional use of these tools as communicative, brand positioning and informative elements (Lee and Kahle, 2016; Rehman et al., 2022; Winand et al., 2019). This is attributable to the need for clubs to generate emotional content (such as videos or images of past iconic matches or



Fig. 4 Correspondence analysis (dimensions and formats).

campaigns involving athletes), on the one hand, and to broadcast messages alluding to sporting performance and results. Nevertheless, the findings show different engagement impacts not directly linked to the frequency of the posts but influenced by other elements, such as the social media platform, the dimension of the content and the format. The evidence shows there are specific content dimensions that statistically generate more engagement in each platform.

On Facebook, the most traditional platform football clubs use provides a more balanced frequency-engagement ratio, with a strong engagement with “commercial” content. This platform was one of the social media platforms that started monetising in other industries, characterised for its high brand impact, where the know-how and the platform interphase are more friendly to focus on this type of posts (and in some cases, to launch joint posts with brands). Even with the positive engagement impact of this platform, it is observed that efforts of this nature in the digital sphere are scarce in comparison to the rest, making this a relevant aspect in the spectrum of growth and an opportunity to explore, especially with the new assets that are appearing in the market and the growth of e-commerce.

On Twitter, on the other hand, the dimension that works best for engaging in “Institutional” is linked to “Sports”, “Marketing” and “Commercial” content, but not with “ESG”. However, the “ESG” linked with “Commercial” dimensions statically gets significantly more impact on this platform. The “ESG” dimension is emerging as this platform is used for promoting socio-political activities and promoting more altruistic purposes as previous authors as López-Carril and Anagnostopoulos (2020), and Sharpe et al. (2020) noted. This strategy shows a possible intention to use social media not only for marketing (communication) or sporting purposes but also as an element with socio-political aspects. The nature of Twitter as a microblogging site with the highest number of posts with the lower means of engagement, is more attractive for the audience looking for quick and summarised information because of its ability to increase the visibility and awareness of fans (Abeza et al., 2017). Sports managers can focus on this type of message for a potential higher engagement on Twitter.

In contrast, on Instagram, the focus is on “Marketing” content. This platform shows the lowest number of post frequency, with a high engagement means, attributable to the platform’s audio-visual formats and more interactive content, ratifying its growing popularity among users. As a fast-growing platform, there is a major link with “Sports”, “Institutional” and “Commercial” dimensions, which makes it an ideal platform for emotional content, easy to connect with brands, athletes, and sports properties, counting with a larger and more varied audience looking mainly, as the evidence suggests, for entertainment and club’s closeness perception. Therefore, like Anagnostopoulos et al. (2018), we recommend sports managers use Instagram for marketing purposes, considering the context as a relevant factor.

Finally, this study reveals the post format’s relevance as another key element. In this sense, on Facebook, the highest engagement values are generated by “Image” and “Text/Image” formats, as on Instagram and Twitter; however, in each social media platform, the frequencies generated by these records are different. In any case, the power of the image as valuable content in marketing stands out, as it has also been highlighted in previous studies (e.g., Anagnostopoulos et al., 2018; Doyle et al., 2022; Machado et al., 2020). Nevertheless, the results obtained regarding the engagement triggered by video format posts on Facebook, Twitter and Instagram are not as conclusive, as other studies have pointed out (e.g., Su et al., 2020). Probably because these social media are not focused on that format as other social media such as TikTok or YouTube may be. Regardless, based on the results obtained, it is necessary for sports managers and academics to continue to explore and make the appropriate combinations of the dimensions of content type categorised in this study, the publication format, as well as the social media used to channel them.

Theoretical implications. Built upon the framework of relationship marketing, this study brings theoretical value to the realms of sports marketing, sports management, and fan engagement, spanning across four distinct lines of action.

Firstly, the research introduces a novel theoretical approach to social media strategies by employing a 5-dimensional content categorisation system aligned with the strategic pillars of football organisations. Previous studies have predominantly approached

the role of social media in sports reactively, primarily focusing on communication and branding aspects. In contrast, this study contributes to the literature by adopting a strategic perspective towards social media, establishing a linkage between the study dimensions and football club strategies. This foundation paves the way for future research to delve deeper into each proposed dimension, potentially identifying sub-groups and exploring them in greater detail. The proposed dimensions serve to systematically organise the primary facets of football organisations for digital context analysis, a realm of increasing importance within the sports industry. As such, this work marks a pioneering step towards a novel approach in this area of study.

Secondly, this study establishes a fresh frequency-engagement approach for social network management, dispelling the notion that post frequency directly correlates with generated engagement. In doing so, this work highlights additional pivotal factors beyond post frequency that influence engagement among users of football-related social media. This perspective is aligned with the ethos of Web 2.0, underscoring the significance of engaging and connecting with fans.

Thirdly, from a theoretical perspective, this study introduces an innovative analytical proposition focusing on prominent international football clubs. This innovation is realised through the calculation and translation of engagement ratios, facilitating cross-entity comparisons independent of geographical location and follower count. The instrument developed and applied in this study acts as a tool to identify valuable digital practices within the industry.

Finally, this study stands out by conducting simultaneous analyses of posts across three prominent social media platforms (Facebook, Twitter, and Instagram), adopting a distinctive multi-platform approach that is seldom observed in comparable studies which often focus on a single social media platform. Gaining insights into the effects of cross-platform and cross-format postings can empower sports managers to make strategic decisions with a comprehensive perspective.

Practical implications. This study introduces a novel practical tool designed for the computation of fan engagement across the Facebook, Twitter, and Instagram accounts of football clubs globally. Consequently, sports managers can employ this instrument to gain a more realistic comprehension of the performance of social media accounts belonging to clubs. Furthermore, the developed tool facilitates the assessment of fan engagement in relation to the content type being published. This capability can aid sports managers in fortifying the bond between clubs and their followers by generating heightened value through strategic social media initiatives.

It is important to note that sports managers should consider both internal factors (club tradition, organisational culture) and external factors (competition, fan behaviour, sports results) within the context of clubs. This consideration is essential for developing and planning optimal digital strategies and for generating the best possible engagement with the audience. This research furnishes empirical evidence for understanding, in a practical and actionable manner, the pivotal components of a social media post. This understanding permits the visualisation of optimal combinations of these elements, thereby increasing the likelihood of sports managers guiding the club toward success and fostering substantial user engagement. Therefore, football team managers can apply the findings of this study to plan, monitor, and evaluate the club's social media content for increased engagement and "closeness" with digital fans. They can combine various formats based on individual post requirements to achieve the desired results. Additionally, football team managers can analyse club identity and overall strategies more practically and coherently, facilitating the planning and execution

of more effective commercial, brand positioning, institutional, and other relevant digital goals, with engagement serving as a key metric.

Conclusions

Social media plays a key role in today's sports management, especially in football clubs, due to its global reach and ability to interact and connect with fans in an industry of great popularity, emotional charge, and economic, political and social impact. This exploratory research grounded in relationship marketing theory provided a comparison of the engagement generated by elite football clubs under a unique categorisation proposal, derived and adapted from existing literature, which addresses dimensions linked to strategic areas of football organisations and takes into consideration key elements such as frequency and format combinations used to analyse the efficiency of posts on Facebook, Twitter and Instagram.

Based on the results obtained, three lines of action stand out. First, concerning the type of content of the post, the "Marketing" and "Sports" dimensions are the preferred categories for football clubs in terms of post frequency. Regarding the engagement rates, on Facebook, the "Commercial" dimension shows an opportunity for growth and development due to the good engagement impact and due to the technological boom and the emergence of new digital assets. On Twitter, the emerging "ESG" linked to "Commercial" perspective and the "Institutional" dimension gets a significant impact on Twitter. On Instagram, the "Marketing" dimension linked to "Sports", "Institutional" and "Commercial", makes this platform ideal for emotional and marketing purposes. Second, concerning social media sources, this study provides evidence that Instagram is the social media that generates the most engagement using the lowest frequency of posts, followed by Facebook and Twitter. There is no direct evidence that links the post's frequency with the engagement generated. Finally, concerning the type of format of the post, the combination of formats that generates the most engagement in all cases is "Image", "Text/Image", and "Text/Video".

In short, this research stimulates a practical reflection for professionals and academics on the exploration, analysis, and evaluation of the management of social media in football clubs, using the observation method and content analysis techniques, applying elements of reliability and scientific rigour. The results obtained in this study offer practical and managerial implications in sports management, fan engagement, digital marketing, and social media, among others, through a proposal for categorisation and unique variables, taking engagement and its influence within the context of analysis as the axis.

The above conclusions should be taken into consideration viewing a series of limitations of the study. Firstly, the sample is limited to one sport (football) and not a large number of football clubs from different regions of the world. Secondly, despite the high number of posts analysed, these are located over a short period of time, and it may be relevant to analyse the engagement of posts at different times of the season, as these can influence the type of content and the engagement of fans with the posts. Thirdly, the study is limited to analysing engagement on Facebook, Twitter and Instagram, leaving aside the analysis of the possibilities that other booming social media, such as TikTok or Twitch, are having in the field of marketing. Nevertheless, these limitations can be a starting point for future research lines including, among others: (a) to assess the application and feasibility of the technique for measuring social media engagement included in this work in other football organisations (e.g. leagues) or social media platforms (e.g., TikTok, Twitch); (b) to incorporate new variables of study (e.g., size of the social mass of sports

clubs, financial budget, trophies won); (c) to conduct the study considering different phases of the sports season (e.g.; preseason, season, playoffs; postseason); (d) to analyse fan engagement relation of geographical regions to understand the digital user's behaviours; (e) to conduct the study adding engagement prediction models in social media; and (f) to incorporate this model on an AI language to suggest and predict digital user engagement in a simulated context.

Data availability

The datasets generated and analysed during the current study are available from the corresponding author on reasonable request.

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Author contributions

ER-J (corresponding author) and FS: conception and design of the work. ER-J and JM: analysis and methodology. ER-J and SL-C: literature review, interpretation of data, drafting of the work. FS: supervised this work. All authors made substantial contributions, discussed the results, revised critically for important intellectual content, and approved the final version of the work.

Ethical statement

This article does not contain any studies with human participants performed by any of the authors.

Informed consent

This article does not contain any studies with human participants performed by any of the authors.

Competing interests

The authors declare no competing interests.

Additional information

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