

# The Influence of Sport Celebrities' Image on Fan Loyalty and Engagement on Social Media

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## ABSTRACT

The purpose of this study is to examine the influence of sports celebrities' brand image dimensions (i.e., athletic performance, marketable lifestyle, and attractive appearance) on fan loyalty and the role of fans' social media engagement in this relationship. To this end, a convenience sample of 445 Portuguese fans is described, concluding that there are some significant relationships between the athlete's image determinants and social network engagement with the athlete on the one hand, and fan loyalty on the other. However, the direct impact of the athlete's personal brand dimensions on fan loyalty is rather weak, while the impact of marketable lifestyle and attractive appearance on fan loyalty is influenced by fans' engagement with the athlete on social media. In fact, fan engagement with the athlete on social media partially significantly mediates the relationship between athletic performance and fan loyalty and between the athlete's lifestyle and fan loyalty. Thus, the way fans perceive an athlete's lifestyle and appearance plays a critical role in determining fan loyalty. These findings underscore the importance of the athlete's efforts to engage in social networks to strengthen their relationship with fans and thus foster fan loyalty. Our findings support the idea that there has been a shift in the way fans engage with sports celebrities and that digital age technologies may play a role in this relationship.

**Keywords:** Sports, Athlete brand image, Fan loyalty, Social media engagement.

**JEL Codes:** M31

## I. Introduction

Professional athletes who achieve celebrity status possess a unique ability to influence the loyalty of their fans. Fans feel an emotional connection to their favorite athletes, and they associate their identity and aspirations with those of the celebrity. This connection leads to greater loyalty to the brand associated with the athlete. Fans are more likely to support and identify with a brand that aligns with the values, lifestyle, and advocacy of their favorite athletes. The athlete's success, charisma, and on-field accomplishments on the field can create an aspirational factor that drives fans to follow the athlete. Social



networks such as Twitter, Instagram, and Facebook play a critical role in fan engagement. These platforms allow fans to interact with the athlete in a direct channel, where they can express their support, share their experiences, and engage in conversations related to the celebrity. Through social media, fans can access behind-the-scenes content, exclusive updates, and the personal activities of the athletes they admire. This two-way communication builds a sense of community among fans and strengthens their emotional connection to the brand. Regular interactions, personalized responses, and shared experiences on social media foster a sense of belonging and exclusivity among fans, creating a foundation for loyalty to the athlete. Therefore, the research question is: Does fan engagement on social media mediate the relationship between the brand image of an athlete (celebrity) and fan loyalty to that athlete?

In this paper, a review of literature related to the brand image of athlete-sports celebrities, fan loyalty, and the impact of social media involvement is presented. The hypotheses tested in the empirical work are also developed. Then, we present a quantitative study based on an online questionnaire survey with 445 cases, structured in the subsequent methodology, results, discussion and conclusion sections.

## **II. Literature Background and Hypotheses Development**

As per Shank and Lyberger's (2014) definition, a brand is a way for a sports organization to differentiate its product from the competition. This can be achieved through a name, design, symbol, or a combination of these elements. Similarly, an athlete's unique name, personality, and style can also be considered a brand, according to Thomson (2006). However, Keller (2011) argues that an individual must have a history and recognition in the market, as well as the ability to generate views and connections, in order to truly be considered a brand (Dobni & Zinkhan, 1990). Nevertheless, as Linsner et al. (2020) suggest, an athlete's personal brand is crucial to their success.

### ***A. Fans' engagement with their sports idols on social media***

Social networking has greatly changed the way we live and communicate, also affecting the interactions between athletes and their fans. The Internet and new technologies have enabled more direct communication between athletes and their followers, giving athletes the opportunity to share information, interact with fans, and seek income through sponsorship deals (Geurin-Eagleman & Burch, 2016). This has made relationships between athletes and fans stronger and more direct, despite being primarily virtual. In the past, face-to-face communication was the only option, but with social media, athletes can now share videos and photos of their personal lives and moments from their workplace, increasing the sense of closeness with fans (Ferreira et al., 2022). Additionally, social media has provided athletes with a platform to explore social causes and institutions, allowing them to show that they care about important issues.

However, while there are many positive aspects, there are also negative ones. For example, an athlete's image can be negatively impacted by a particular behavior or

attitude, which can be exaggerated on social media (Ferreira et al., 2022). It is essential for athletes to convey a positive image that can lead to an increase in fan interaction on social media. The behavior, attitudes, and values of an athlete in their personal life are just as important as their athletic performance in building credibility (Koo et al., 2012) and attracting sponsors (Doyle et al., 2022).

### ***B. The athletic performance of the sports celebrity***

The brand image of a professional athlete is made up of three factors: athletic performance, marketable lifestyle, and appearance (Arai et al., 2014; Deliautaité et al., 2021). Athletic performance is further explained by four dimensions. First, athletic expertise, conveys the athlete's individual performance and athletic ability, i.e., winning, skill, and mastery in their sport (Arai et al., 2013), and is considered one of the most important characteristics in creating an athlete's image (Gladden et al., 1998). Secondly, the competition style, which reflects the way an athlete stands out during the game and the way he plays it. For instance, an athlete who has an irreverent playing style and takes charge of the game is preferred by fans who like a more "dribbling" and challenging style (Trail et al., 2003). The third dimension is sportsmanship, which is related to how an athlete follows the rules of the game and respects their opponents and teammates (Arai et al., 2013). The fourth dimension is rivalry, which refers to how an athlete prepares for and handles their emotions when facing their rival. Rivalry can be perceived positively when it motivates the athlete to give their all to win. However, excessive rivalry can have quite an opposite impact and lead to frustration and a tendency to win by any means possible, which goes against sportsmanship and fair play.

Rivalry is crucial for an athlete's personal brand as it helps fans better understand their identity (Arai et al., 2013). The different aspects of athletic performance are key indicators of fan loyalty (Arai et al., 2014) and also influence their psychological commitment towards their favorite athletes (Mahmoudian et al., 2021). When athletes perform at a superior level, it enhances their credibility (Koo et al., 2012) and increases fan loyalty (Mahmoudian et al., 2021), which in turn can lead to more fan interest and engagement on social media platforms (Ferreira et al., 2022). Therefore, the following hypothesis is formulated:

**Hypothesis 1 (H1).** A sports celebrity's athletic performance will positively affect fan loyalty (H1a) and engagement with them on social media (H1b).

### ***C. Marketable lifestyle***

Athletes have become more than just sports icons; they have also become influencers who are followed by their fans both on and off the field. As a result, athletes must be mindful of their image and how they express themselves. The way they conduct themselves outside of sports can have a significant impact on how they are perceived by their fans (Andrews & Jackson, 2002). This is known as the marketable lifestyle, which includes the athlete's personal life story, the role they play as a role model, and their

efforts to build relationships with their fans. These dimensions can be commercialized and used to promote the athlete's brand (Arai et al., 2014).

The dimension of the athlete's life story refers to his life outside of sport and his values, which can contribute to the construction of the athlete's image; it can be seen as the athlete's personality, but in this context, it reflects episodes in his life that can positively influence the image that his fans have of him, namely to see him as someone friendly, genuine or exciting (Arai et al., 2013). Additionally, the athlete's life story can include significant events that have influenced their behavior or characteristics, which can further enhance their connection with fans (Jowdy & McDonald, 2002).

Role modeling pertains to an athlete's ethical behavior that society recognizes as worthy of imitation. This concept is related to the athlete's active participation and contribution to society, adherence to social norms, and display of virtuous behavior that inspires trust (Ohanian, 1990). For example, Sadio Mané, who plays for Bayern Munich, donates a significant portion of his salary to building schools, hospitals, homes, and provide direct aid to the people in Senegal, his country of origin. This act of generosity naturally reflects positively on him and helps create a positive image among his fans.

The athlete's relationship effort refers to the level of interaction with fans. Thomson (2006) suggested that satisfying fans' needs to interact with athletes by offering online spaces (blogs or chat rooms) where they can have direct contact with the athlete can help develop fans' attachment and loyalty. We can see the example of João Félix, who created a platform where his fans can connect with him and ask questions and challenges, which benefits the athlete's image by developing greater proximity to his fans. This not only benefits the athlete's image by developing greater proximity to his fans but also contributes to greater loyalty (Mahmoudian et al., 2021) and involvement (Bauer et al., 2005; Ferreira et al., 2022) in the athlete's career. Consequently, the following hypothesis is formulated:

**Hypothesis 2 (H2).** The marketable lifestyle of a sports celebrity positively affects fans' loyalty (H2a) and their engagement with them on social media (H2b).

#### ***D. Attractive appearance***

According to Arai et al. (2014), an attractive appearance is defined by physical attractiveness, symbol, and body fit, positively impacting the image and loyalty of fans toward the athlete (Mahmoudian et al., 2021). These dimensions are the athlete's "trademark" and make up their unique and distinguishing characteristics that their fans recognize and appreciate (Arai et al., 2014). Physical attractiveness includes the athlete's facial and body structure, as well as their physical expression, and these physical characteristics can be aesthetically pleasant to fans. The symbol dimension refers to external characteristics associated with the athlete, such as their personal style, way of dressing, and personality traits. Physical fitness reflects the extent to which an athlete is in good condition to perform their athletic role. This is important because it can reflect the athlete's dedication to their work and send a positive message to fans. When Walter, a former F.C. Porto player, was in poor physical condition and unsuitable for a high-performance athlete, he received fewer positive comments. Cristiano Ronaldo, on the

other hand, is perceived as a professional athlete dedicated to maintaining exceptional physical condition, even at the expense of his commitment to training. Although not an indicator of athletic performance, an athlete's attractiveness can positively influence fan loyalty and encourage their involvement and interaction (Mahmoudian et al., 2021). Therefore, the following hypothesis is formulated:

**Hypothesis 3 (H3).** The appearance of a sports celebrity has a positive effect on fans' loyalty (H3a) and their engagement with them on social media (H3b).

### ***E. Fan loyalty and the effects of social media engagement***

Several studies have investigated the correlation between social media usage and customer loyalty. The findings suggest that engaging with customers on social media platforms can impact their loyalty towards a brand or athlete (Munnukka et al., 2017; van Asperen et al., 2018; Yoshida et al., 2018). According to Mahmoudian et al. (2021), engaging with fans on social media platforms can lead to greater loyalty towards athletes. As described earlier, athletes' brand image dimensions - athletic performance, marketable lifestyle, and attractive appearance - are factors that drive fan engagement on social media (Ferreira et al., 2022). Thus, the hypotheses are established:

**Hypothesis 4 (H4).** Engagement with a sports celebrity on social media is positively associated with fan loyalty.

**Hypothesis 5 (H5).** Engagement with a sports celebrity on social media mediates the relationship between athletic performance and fan loyalty.

**Hypothesis 6 (H6).** Engagement with a sports celebrity on social media mediates the relationship between the attractiveness of the athlete's physical appearance and fan loyalty.

**Hypothesis 7 (H7).** Engagement with a sports celebrity on social media mediates the relationship between marketable lifestyle and fan loyalty.

Based on the literature review presented earlier, the quantitative study in this section aims to achieve two primary objectives. First, it explores the impact of independent variables such as "personal brand", "marketable lifestyle", and "appearance" of a professional athlete on two dependent variables, namely "fan loyalty" and "fan engagement with the athlete on social media". Second, the study investigates whether or not fan engagement with the athlete on social media plays a mediating role in the relationship between those independent variables and fan loyalty, thus testing the previously stated hypotheses. Figure 1 illustrates the conceptual model for these hypotheses.

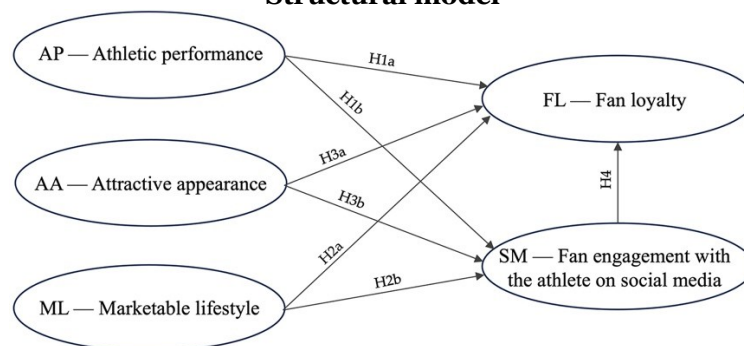
## **III. Methods**

### ***A. Procedures***

A survey study was conducted based on a structured questionnaire with items prepared by the authors and items drawn from the literature, namely by Ferreira et al. (2022) and

Arai et al. (2014). The items of these scales were translated into Portuguese and then the questionnaire protocol was prepared. The protocol also included a section with socio-demographic items and a question to identify the athlete followed by the respondent. The questionnaire was then distributed online to university students, who were asked for their help in sharing it with third parties, thus creating a convenience sample and following a snowballing process. The data collection period was between October and December 2023. The inclusion criteria for participants in the sample consisted only of being of Portuguese nationality, being 18 years of age or older, and following an athlete on social media. All participants were previously informed about the objectives of the research and were assured of anonymity and confidentiality of data, accessing the questionnaires only after giving their consent.

**Figure 1**  
**Structural model**



### **B. Instrument**

The questionnaire included socio-demographic questions concerning sex (0 – female, 1 – male), age, education level (0 – basic/secondary, 1 – higher education), and job status (0 – inactive, 1 – active), followed by a section with items by Arai et al. (2014), consisting of 12 items on athletic performance, nine items on marketable lifestyle, and nine items on attractiveness of the professional athlete's physical appearance; and six items on fan loyalty to their sports idols - all measured by a seven-point Likert scale (1 - Strongly disagree to 7 - Strongly agree), and a section with items about fans' engagement with sports celebrities through social media, by Ferreira et al. (2022), measured by a seven-point Likert scale (1 - Strongly Disagree to 5 - Strongly Agree), as described in Table 2.

### **C. Data analysis**

The collected data were subjected to statistical analysis using SPSS Statistics v.29, where the sociodemographic profile of the respondents ( $N = 445$ ) and the answers to the questions associated with the conceptual model constructs were characterized using descriptive and inferential statistics methods. From the age scalar variable, a new variable was produced: generational group (0 – Generation Z, aged up to 27 years; 1 – Generation Y or Millennials, aged between 28 and 42; 2 – Generation X, aged between 43 and 58 years old, 3 – Boomers Generation, aged 59 or over). An exploratory factor

analysis with principal components analysis was applied to the 40 items in the model using orthogonal rotation (Varimax). Sample adequacy was assessed with the Kaiser-Meyer-Olkin value ( $KMO > 0.8$ ; Kaiser, 1974), and Bartlett's test of sphericity ( $p < 0.05$ ; Field, 2013). The factors were determined by establishing Eigenvalues above 1 (Kaiser, 1960) and a minimum of three items per factor, allowing for removing items based on commonalities ( $< 0.30$ ) and structural loadings ( $< 0.40$ ; Carpenter, 2018).

A confirmatory factor analysis was performed in SPSS AMOS, version 29, with maximum likelihood estimation applying the corrected value of Satorra and Bentler's chi-square ( $\chi^2 < 3$ ) using IBM AMOS 29.0. To evaluate the global adequacy of the model, the comparative fit index (*CFI*), Tucker-Lewis index (*TLI*), and the root mean square error of approximation (*RMSEA*) were used. A model with *CFI* and *TLI*  $\geq 0.90$  and *RMSEA*  $\leq 0.08$  is considered adequate and particularly well suited when *CFI* and *TLI*  $\geq 0.95$  and *RMSEA*  $\leq 0.06$  (Hu & Bentler, 1999). The *PCLOSE* measure proposed by Browne and Cudeck was also calculated, which tests the adequacy of the model ( $> 0.05$ ; Browne & Cudeck, 1992). The standardized root mean square (*SRMR*) measure allowed the adequacy of the model to be assessed, as it translates the average size of the discrepancies between the observed and expected correlations and must present a value below 0.08 (Kline, 2015).

Convergent validity was assessed through composite reliability ( $CR > 0.60$ ) and average extracted reliability ( $AVE > 0.50$ ). Discriminant validity was assessed using the square roots of the *AVE* values (in all cases, they must be greater than the correlations between constructs). The level of statistical significance was considered  $p < 0.05$ . Cronbach's alpha value ( $\alpha > 0.7$ ) was used to evaluate the reliability of the instruments. A structural equation model (path analysis) was also used to evaluate the conceptual model, consisting of multivariate techniques of a confirmatory nature (Byrne, 2016).

## IV. Results

### A. Characterization of the sample

The sample consists of 57.8% male respondents, mostly with higher education (63.1%), active (95.1%) and young people from Generation Z (76.4%) and 23.7% female (Table 1). When asked which sports celebrity they followed first, the majority of respondents ( $n = 139$ , 40%) indicated Cristiano Ronaldo, followed by LeBron James (21) and Messi (17; Figure 2).

### B. Item correlations

Table A1 (Appendix) presents the correlations between the items of the questionnaire. Not all items correlate significantly with each other, with the absolute values of  $r$  being between 0.004 and  $r = 0.881$  ( $p < 0.01$ ). The *LST1* item is the only one that does not correlate with any other item above 0.3. Table 2 displays the descriptive statistics associated with the instrument items used in this study. In practically all items, respondents score in the upper part of the measurement scale, except for item *BHL2* ("I buy sports clothes with the athlete's number").

### C. Reliability and model validity

An exploratory factor analysis (EFA) was conducted with principal components analysis and Varimax (orthogonal) rotation applied to the variables *AP*, *ML*, *AA*, *FL*, and *SM*. The results of the orthogonal rotation are presented in Table 2. The Kaiser-Meyer-Olkin test shows that the data is suitable for factor analysis; Bartlett's test of sphericity is statistically significant ( $p < 0.001$ ). There was a need to remove the three items from the *LST* variable, as either the correlations were very weak (Appendix - Table A1) or the structural loads and communalities did not meet the decision thresholds described earlier (respectively,  $< 0.4$  and  $< 0.3$ ), being *ML* explained by six items. That also happened with the items of the *PSY* variable, reducing the *FL* construct to three items.

**Table 2: Constructs and items descriptives.**

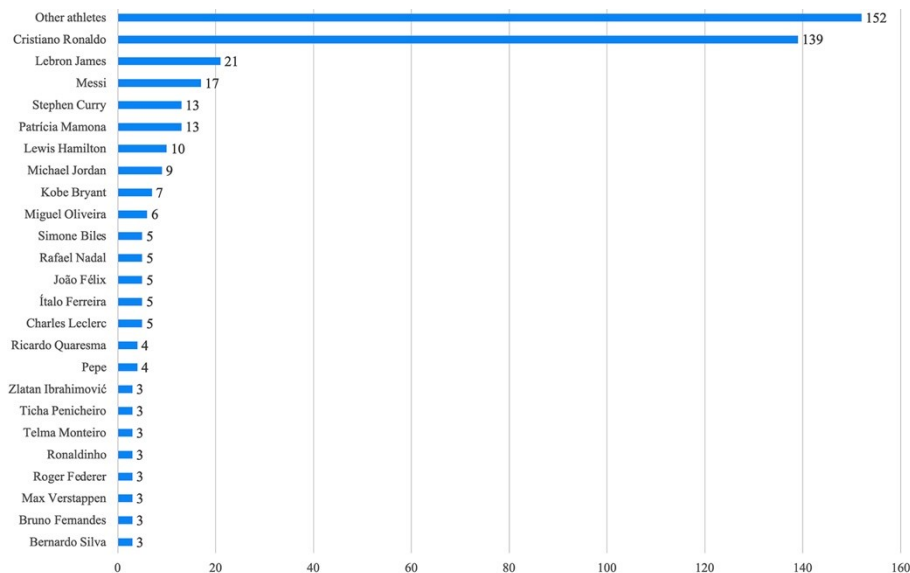
Note: *M* = Mean; *SD* – Standard deviation; *KMO* = Kaiser-Meyer-Olkin;  $\lambda$  = Factor loadings;  $h^2$  - Communalities. (a) Item removed ( $\lambda < 0.4$  and/or  $h^2 < 0.3$ ).

Constructs and items		<i>M</i>	<i>DP</i>	<i>KMO</i>	$\lambda$	$h^2$
<b>AP</b>	<b>Athletic Performance (1-7)</b>	6.4	0.86	0.915		
AEX1	The athlete is a dominating player in his/her sport	6.6	1.07		0.77	0.60
AEX2	The athlete seems very knowledgeable about his/her sport	6.6	1.10		0.76	0.58
AEX3	The athlete has prominent athletic skills in his/her sport	6.7	0.99		0.84	0.71
SST1	The sport celebrity's competition style is distinctive from other players	6.3	1.18		0.79	0.62
SST2	The sport celebrity's competition style is exciting to watch	6.6	0.99		0.86	0.74
SST3	The sport celebrity's competition style is charismatic	6.4	1.18		0.73	0.53
SPM1	The athlete shows sportsmanship in competition	6.2	1.23		0.69	0.48
SPM2	The athlete shows respect for his/her opponents and other players	6.3	1.12		0.71	0.51
SPM3	The rivalry match of this sport celebrity is exciting	6.3	1.13		0.72	0.51
RVL1	The athlete does well against his/her major rival	6.4	1.13		0.81	0.65
RVL2	The rivalry match of this athlete is dramatic	6.4	1.14		0.81	0.65
RVL3	The athlete is a dominating player in his/her sport	6.4	1.15		0.77	0.59
<b>ML</b>	<b>Marketable Lifestyle (1-7)</b>	5.9	0.90	0.803		
LST1	The athlete has dramatic episodes in his/her life (a)	4.5	1.85			
LST2	The athlete has a dramatic personal life (a)	3.5	1.82			
LST3	The athlete's private lifestyle is news (a)	4.1	2.17			
RML1	The sport celebrity is socially responsible	6.1	1.23		0.77	0.59
RML2	The sport celebrity is good role model for others	6.2	1.12		0.80	0.64
RML3	The sport celebrity is a good leader in our community	6.0	1.24		0.79	0.63
REF1	The sport celebrity shows appreciation for fans and spectators	6.3	1.02		0.82	0.67
REF2	The sport celebrity is responsive to fans	6.1	1.14		0.83	0.68
REF3	The sport celebrity tries to interact with fans	5.9	1.23		0.76	0.57
<b>AA</b>	<b>Attractive Appearance (1-7)</b>	5.8	1.02	0.851		
PHA1	The athlete is physically attractive	5.6	1.51		0.84	0.71
PHA2	The athlete is beautiful looking	5.7	1.43		0.83	0.69
PHA3	The athlete is sexy	5.3	1.62		0.83	0.68
SYB1	The athlete's private fashion is attractive	5.3	1.58		0.83	0.69
SYB2	The athlete is stylish	5.4	1.54		0.77	0.59
SYB3	The athlete's fashion is trendy	5.3	1.53		0.77	0.59
BFT1	The athlete is in a good shape	6.5	0.95		0.68	0.46
BFT2	The athlete's body fits to the sport	6.6	0.91		0.58	0.34
BFT3	The athlete's body is well conditioned	6.6	0.88		0.58	0.34
<b>FL</b>	<b>Fan loyalty (1-7)</b>	4.9	1.26	0.800		
PSY1	I will not change my affiliation from the favorite athlete to other athletes just because my friends try to convince me (a)	6.5	1.03			



PSY2	I will not change my affiliation from the favorite athlete to another athlete in the future just because he/she is not successful anymore (a)	6.3	1.13		
PSY3	I am a real fan of my favorite athlete (a)	6.0	1.31		
BHL1	I have often worn the colors/badge of my favorite athletes' team	3.5	2.22	0.91	0.84
BHL2	I purchase the sport clothes written with the number of my favorite athlete	3.3	2.23	0.93	0.86
BHL3	I have often participated in discussions about my favorite athlete	3.9	2.25	0.83	0.69
<b>SM</b>	<b>Engagement with Sport Celebrity on Social Media (1-5)</b>	<b>3.8</b>	<b>0.84</b>	<b>0.800</b>	
ESM1	Using sport celebrity's social media is fun	3.8	0.93	0.83	0.69
ESM2	Contents shown in the sport celebrity's social media is the newest information	3.9	0.95	0.81	0.65
ESM3	I would like to pass along information on brand, product, or services from the sport celebrity's social media to my friends	3.7	1.12	0.83	0.69
ESM4	It is easy to deliver my opinion through the sport celebrity's social media	3.6	1.08	0.82	0.68

**Figure 2**  
**Athletes followed on social media**



A confirmatory factor analysis (CFA) was performed to test the instrument established with EFA. A model with five factors was found [ $\chi^2(492) = 940.350, p < 0.001$ ], which presents good adequacy according to all indicators:  $CFI = 0.964, TLI = 0.959, SRMR = 0.050, RMSEA = 0.045 (0.041 - 0.050; 90\% CI), PCLOSE = 0.962$ ]; however, some correlations between item errors had to be established to obtain the model. The internal consistency of the constructs was assessed using Cronbach's  $\alpha$  (Table 3). The composite reliability of all constructs exceeds the threshold of 0.7 (0.84 – 0.94) proposed by Fornell and Lacker (1981). Convergent validity is also verified since the  $AVE$  value of each construct is greater than 0.5. Correlations between constructs do not exceed the square root of  $AVE$ , which verifies discriminant validity.

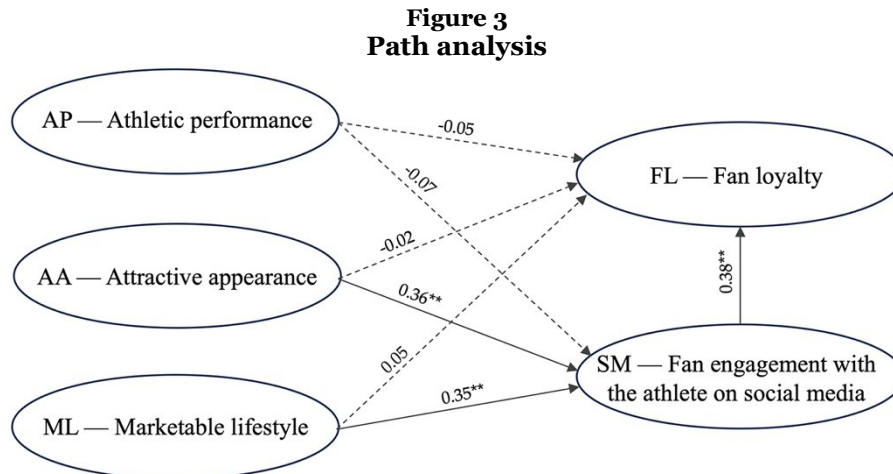
**Table 3: Constructs descriptives, correlations, CR and AVE.**

Note: \*\*  $p < 0.001$ ;  $M$  = Mean;  $SD$  – Standard deviation;  $AP$  – Athletic performance;  $ML$  – Marketable lifestyle;  $AA$  – Physical attractiveness;  $FL$  = Fan loyalty;  $SM$  = Engagement with sport celebrity on social media;  $CR$  – Composite reliability;  $AVE$  – Average variance extracted. Diagonal in **bold**: square root of  $AVE$ .

	$M$	$SD$	$AP$	$ML$	$AA$	$FL$	$SM$	Cronbach's $\alpha$	$CR$	$AVE$
$AP$	6.4	0.86	<b>.793</b>					0.63	0.95	0.94
$ML$	5.9	0.90	.492**	<b>.796</b>				0.63	0.91	0.88
$AA$	5.8	1.02	.329**	.792**	<b>.752</b>			0.57	0.92	0.90
$FL$	4.9	1.96	.160**	.256**	.220**	<b>.891</b>		0.79	0.92	0.87
$SM$	3.8	0.84	.176**	.475**	.496**	.348**	<b>.823</b>	0.68	0.89	0.84

#### D. Hypotheses testing

A path analysis was run to test the association between the constructs and evaluate the mediation hypotheses of fan engagement with sports celebrities on social media in relation to  $AP$ ,  $AA$ , and  $ML$ . Figure 3 shows that the direct effect of athletes' personal brand dimensions on fan loyalty is weak and insignificant; marketable lifestyle and physical appearance have a positive and significant effect on fan engagement with athletes on social media, confirming H2b and H3b, and this factor has a positive and significant effect on fan loyalty, supporting H4.



Note: \*\*  $p < 0.01$ . Dotted lines: non-significant associations.

The results of the mediation hypotheses (Table 4) show that only Hypothesis 5 is not supported; that is, the relationship between athletic performance and fan loyalty is not mediated by fans' engagement with sports celebrities on social media. However, this variable completely mediates the relationship between the other dimensions (physical appearance and marketable lifestyle) and fan loyalty, thus supporting hypotheses H6 and H7.

**Table 4: Mediation hypotheses evaluation (standard regression weights).**

Note: Hip. = Hypothesis. *AP* – Athletic performance; *ML* – Marketable lifestyle; *AA* – Physical attractiveness; *FL* = Fan loyalty; *SM* = Engagement with sport celebrity on social media. \*\*  $p < 0.01$ ; \*  $p < 0.05$

Hip.	Path	Hypothesis description	Effect			Mediation evaluation
			Indirect	Direct	Total	
H5	AP → SM → FL	Engagement with a sports celebrity on social media mediates the relationship between athletic performance and fan loyalty.	-0.085	-0.111	-0.025	Not supported
H6	AA → SM → FL	Engagement with a sports celebrity on social media mediates the relationship between the attractiveness of the athlete's physical appearance and fan loyalty.	0.079**	-0.127	0.118*	Supported
H7	ML → SM → FL	Engagement with a sports celebrity on social media mediates the relationship between marketable lifestyle and fan loyalty.	0.072**	-0.116	0.184*	Supported

## V. Discussion

This study aimed to examine the influence of sports celebrity image and the role of social media platforms in fan loyalty and fan engagement. In the traditional view, an athlete's image and popularity are mainly shaped by their performance on the field Arai et al. (2014), with success rate, skill, and competitiveness being the main factors influencing public perception and fan admiration. This view would place significant emphasis on athletic performance as a core element of an athlete's personal brand and social influence.

The results of the present study do not directly contradict such conclusions from previous research, but rather complement them by highlighting a shift brought about by technological advances. These developments in technology, and social networking in particular, have not only changed the way we live on a daily basis, but have also reshaped personal relationships and business interactions by creating a more connected and digitally driven world. For this reason, we hypothesized that today's view of an athlete would extend beyond professional accomplishments to include off-field attributes such as a marketable lifestyle and attractive appearance, and that technology would play a role in this relationship: hypotheses that we sought to test in this study.

In recent years, athletes' interaction with the public on social media platforms has become an integral part of their public image and brand management strategies. For example, Doyle et al. (2022) have analyzed how social media platforms offer athletes opportunities to promote their personal brands and attract consumer engagement, emphasizing the strategic use of social media for self-expression and relationship marketing. Cianfrone (2023) complements these findings in her commentary on the role of social media in sport branding, discussing how social media allows sport entities, including athletes, to reach global audiences and effectively manage their brand equity through continuous communication.

The interaction between athletes and their fans on social media platforms breaks down traditional barriers between public figures and fans and can take many forms.

Athletes now have the ability to share both professional and personal updates with a global audience, providing a window into their lives that was previously inaccessible. This transparency creates a unique sense of connection, allowing fans to feel like active participants in the athlete's life and professional journey rather than passive observers. Importantly, this connection is not just about showcasing victories and achievements; it also allows athletes to be humanized by sharing their struggles, setbacks, and personal milestones. In addition, social media allows for more active and direct engagement with fans through activities such as live sessions, answering questions, responding to comments, and sharing behind-the-scenes content. Pegoraro's (2010) study examined athletes' use of Twitter and found that athletes primarily post about their personal lives and respond to fans' questions. Such direct and engaged communication fosters a deeper and more personal relationship between the athlete and their followers and is a powerful tool for building fan loyalty by making fans feel seen and heard.

However, previous studies examining athletes' social media activity and its impact on fan relationships and fan engagement have also suggested that it can be both positive and negative, depending on the content and context of the interactions (MacPherson & Kerr, 2021; Toffoletti & Thorpe, 2018). Therefore, celebrities' social media should be managed with caution. Understanding what and how works in their favor on their social media platforms can help athletes make more strategic decisions about their public appearances, social media presence, and endorsement choices. After all, athlete-fan interaction is not just about building a fan base; it has tangible business implications. Athletes who use social media effectively can significantly increase their marketability and attract sponsorships and endorsements.

On the other hand, brands are eager to partner with athletes who have a strong social media presence because it provides direct access to a loyal and targeted audience. Therefore, athletes and/or sports marketers should strategically choose and closely monitor their investment in a robust social media presence, where athletes share not only their professional lives, but also their personal interests, lifestyle, and values, as a means of building and maintaining fan loyalty. This idea is consistent with previous research. This has explored how social media interactions can lead to a deeper bond and loyalty among fans, thereby strengthening fans' commitment to the athlete or sports team (Lim et al., 2015; Yoon et al., 2017).

In addition, athletes' use of social media often extends beyond sports to broader societal issues. Some athletes have used their platforms to advocate for causes, promote social change, and engage in broader societal discussions. For example, athletes such as Lewis Hamilton and Chris Froome have been active in addressing climate change, using their platforms to raise awareness and advocate for environmental causes. Hamilton, the Formula One champion, has been vocal about environmental issues, promoting a vegan lifestyle and working to make his sport more sustainable. Kyrie Irving, the NBA star, is known for his advocacy of sustainable living, while Sergio Ramos, a Spanish soccer player, has focused primarily on social causes. These practical examples are supported by the findings of the study by Ho and Tanaka (2023), which examines the use of social media by sports celebrities to engage in broader societal issues. Their analysis of the use of social media platforms by two multiracial athletes representing Japan shows how the

two athletes use social media to amplify their advocacy for race and ethnicity. Therefore, social media platforms seem to have real potential to foster real-world change, and sports celebrities can act as influencers and role models in this process.

Also important in our study was the finding that while engagement with a sports celebrity on social media mediates the relationship between the athlete's physical attractiveness and fan loyalty and between a marketable lifestyle and fan loyalty, the same does not occur in the relationship between athletic performance and fan loyalty. Put differently, the direct impact of an athlete's personal brand dimensions (i.e., athletic performance, marketable lifestyle, and attractive appearance) on fan loyalty is weak and insignificant, while the impact of marketable lifestyle and attractive appearance on fan loyalty is influenced by how fans engage with the athlete on social media.

Fans now interact with athletes beyond the playing field, gaining insight into their personal lives and appearances. This interaction influences fan loyalty, but interestingly, not in the traditional sense where athletic performance is the main driver. Instead, how fans perceive an athlete's lifestyle and appearance, amplified by social media engagement, plays a significant role in determining fan loyalty. Fans seek a deeper, more holistic connection with athletes and feel more connected and engaged with athletes who actively engage with them on social platforms. Therefore, highlighting athletes' personal stories and lifestyle choices, as well as their physical attractiveness in their social media accounts, works as a driver of fan loyalty. This finding reflects the changing panorama in which an athlete's off-field image can be a valuable factor in their market presence and success.

## **V. Conclusions**

The purpose of this study was to examine the impact of athlete image and the role of social media platforms on fan loyalty and engagement. Through social media, athletes can now reach a wide audience and easily connect with their fans, who feel like active participants in the athlete's life rather than passive spectators. This study found that the direct impact of an athlete's personal brand dimensions (i.e., athletic performance, marketable lifestyle, and attractive appearance) on fan loyalty is rather weak, while the impact of marketable lifestyle and attractive appearance on fan loyalty is influenced by fans' engagement with the athlete on social media. How fans perceive an athlete's lifestyle and appearance plays a critical role in determining fan loyalty.

In terms of practical implications, athlete-fan interaction has tangible business implications, as athletes who use social media effectively can significantly increase their marketability and attract new sponsors. Accordingly, they should strategically strengthen their social media presence and share not only their professional accomplishments but also their personal interests, lifestyle, and values to enhance fan loyalty. In terms of theoretical implications, this study contributes to extending Mahmoudian's structural model to conceptualize social media engagement as a mediator of athlete image and fan loyalty. Limitations of this study include the relatively small sample size and the inability to examine the role of Mahmoudian's life story and rivalry constructs due to data characteristics. Future studies on this topic could include these

variables, look for a larger sample, and explore the extent to which different social media networks affect engagement and fan loyalty.

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