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## The impact of social media on sports

**Ashwani Rawal**

### Abstract

The integration of social media platforms into the sports industry has significantly transformed how athletes, teams, and fans interact and engage with each other. This paper presents an extensive analysis researching the effect of social media on sports inside the Delhi-NCR district, zeroing in on fan commitment and competitor marking. The examination consolidates a survey of pertinent writing and utilizes measurable procedures including t-tests, F-tests, standard deviation examination, and ANOVA tests in view of information gathered from 200 respondents in the Delhi-NCR region. The audit of writing investigates different academic articles, exact examinations, and industry reports concerning web-based entertainment's impact on sports universally and its particular ramifications in the Delhi-NCR area. Key themes include the role of social media in athlete branding, its effect on fan engagement and consumption behaviors, and the challenges and ethical considerations arising from its pervasive use in the sports ecosystem. By synthesizing existing research, this paper provides a foundation for understanding the dynamics of social media and sports within the local context. The findings contribute to a deeper understanding of the unique dynamics shaping the intersection of social media and sports in this specific geographic context. This paper underscores the importance of empirical research and statistical analysis in examining the impact of social media on sports within local communities.

**Keywords:** Social media, sports, athlete branding, fan engagement, statistical analysis

### Introduction

In the bustling metropolis of Delhi National Capital Region (NCR), the convergence of sports and social media has created a dynamic landscape where athletes, teams, and fans interact in unprecedented ways. The fusion of these two realms has revolutionized the sporting experience, transforming how we consume, engage, and participate in the world of athletics. This introduction delves into the multifaceted relationship between social media and sports within the Delhi NCR region, shedding light on its significance, challenges, and future prospects.

At its core, social media serves as a powerful catalyst for amplifying the reach and influence of sporting events and personalities. Platforms like Facebook, Twitter, Instagram, and YouTube have become virtual arenas where athletes showcase their talents, teams connect with fans, and sporting organizations disseminate news and updates in real-time. In Delhi NCR, home to a diverse array of sporting events ranging from cricket and football to kabaddi and field hockey, social media acts as a virtual stadium, transcending physical boundaries and enabling enthusiasts to engage with their favorite sports irrespective of geographical constraints.

The advent of social media has democratized sports journalism, empowering fans and amateur commentators to become active participants in the discourse surrounding sporting events. Through user-generated content, live streams, and interactive polls, individuals in Delhi NCR can voice their opinions, share insights, and contribute to the narrative surrounding their beloved teams and athletes. This democratization of sports media not only fosters community engagement but also fosters a sense of belonging and camaraderie among fans, transcending differences in age, gender, and socio-economic backgrounds.

Furthermore, social media has emerged as a lucrative platform for athletes and sports organizations to build their personal brands, forge lucrative sponsorship deals, and monetize their online presence. In Delhi NCR, where the sports industry is rapidly evolving and attracting investments from both domestic and international stakeholders, social media serves as a gateway for athletes to enhance their visibility, attract endorsements, and capitalize on

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their marketability. From Virat Kohli to Mary Kom, many athletes in the region have leveraged social media to cultivate a global fan base and solidify their status as sporting icons.

However, the integration of social media in sports is not without its challenges. Issues such as cyberbullying, misinformation, and privacy concerns loom large, posing ethical dilemmas and necessitating greater vigilance from stakeholders. Moreover, the hyper-commercialization of sports on social media has raised questions about authenticity and integrity, as sponsored content and branded campaigns often blur the lines between genuine fan engagement and promotional gimmickry.

### Review of literature

**Social Media and Sports Fan Engagement:** A Review: This study by James *et al.* (2018) <sup>[1]</sup> explores the various ways in which social media platforms influence fan engagement in sports, highlighting the role of user-generated content and interactive features in fostering a sense of community among fans.

**Impact of Social Media on Athlete Branding:** Smith and Johnson (2020) <sup>[2]</sup> examine the implications of social media on athlete branding strategies, analyzing case studies of athletes in the Delhi NCR region to understand how platforms like Instagram and Twitter shape their public image and marketability.

**Ethical Considerations in Social Media Use by Sports Organizations:** This literature review by Khan *et al.* (2019) <sup>[3]</sup> discusses the ethical challenges faced by sports organizations in leveraging social media for promotional purposes, emphasizing the importance of transparency, authenticity, and responsible content creation.

**Social Media and Sports Sponsorship:** In their review, Patel and Gupta (2017) <sup>[4]</sup> explore the evolving landscape of sports sponsorship in the digital age, highlighting the impact of social media platforms on sponsorship activation strategies and the measurement of return on investment (ROI).

**Cyberbullying in Sports: A Social Media Perspective:** Sharma and Singh (2018) <sup>[5]</sup> investigate the prevalence and impact of cyberbullying on athletes and sports personalities in Delhi NCR, examining the role of social media platforms in facilitating harassment and abuse within the sporting community.

**Social Media and Sports Journalism:** This review by Gupta *et al.* (2020) <sup>[6]</sup> analyzes the transformation of sports journalism in the digital era, with a focus on the rise of citizen journalism, live blogging, and multimedia storytelling on social media platforms such as Facebook and YouTube.

**Fan Motivations and Social Media Use in Sports:** Sharma and Kumar (2019) <sup>[7]</sup> explore the underlying motivations driving fan engagement on social media platforms, employing qualitative research methods to identify key factors influencing fan behavior and preferences in the Delhi NCR sports market.

**Social Media Analytics in Sports Marketing:** Singh and Verma (2018) <sup>[8]</sup> provide an overview of the emerging field of social media analytics in sports marketing, discussing the use of data mining techniques and sentiment analysis tools to

extract actionable insights from online conversations and user interactions.

**Privacy Concerns in Sports Social Media:** Kapoor *et al.* (2021) <sup>[9]</sup> examine the privacy implications of social media use in the sports industry, highlighting the need for enhanced data protection measures and user awareness campaigns to mitigate risks associated with unauthorized data sharing and surveillance.

**The Future of Social Media in Sports:** This forward-looking review by Gupta and Sharma (2022) <sup>[10]</sup> speculates on the future trends and developments in the intersection of social media and sports, discussing potential innovations in virtual reality, artificial intelligence, and personalized fan experiences within the Delhi NCR context.

### Objectives

- To analyze the impact of social media on athlete branding strategies in the Delhi NCR region.
- To investigate the ethical considerations and challenges faced by sports organizations in utilizing social media for promotional activities within Delhi NCR.

### Research methodology

**Research Approach:** Quantitative research employed to gather numerical data from 200 respondents.

### Sampling Method

**Population:** Residents of the Delhi-NCR region.

**Sampling Technique:** Stratified Random Sampling.

**Sample Size:** 200 respondents, with proportional allocation to ensure representation across strata.

### Data Collection

**Survey Instrument:** Researcher develop a structured questionnaire with closed-ended questions.

### Questionnaire Sections

Demographic Information (age, gender, income, etc.).

Social Media Usage (frequency, platforms used).

Fan Engagement (frequency of sports content consumption, interaction with sports-related posts).

Athlete Branding (perceptions of athletes' image, effectiveness of endorsements).

### Variables

**Independent Variable:** Social media usage.

**Dependent Variables:** Fan engagement and athlete branding perceptions.

### Data Analysis

**Descriptive Statistics:** Calculate means, frequencies, and percentages to describe demographic characteristics and key variables.

### Inferential Statistics

**T-Test:** Compare means of two independent groups (100 male and 100 female respondents) for social media usage, fan engagement, and athlete branding perceptions.

**F-Test (ANOVA):** Determine significant differences in social

media usage, fan engagement, and athlete branding perceptions among demographic groups (age groups, income levels).

### Standard Deviation Analysis

Assess variability of responses within the sample.

**Regression Analysis:** Examine predictive relationship between social media usage and fan engagement/athlete branding, controlling for demographic variables.

**Limitations:** Study based in Delhi-NCR region only.

### Data Analysis

**Table 1:** Demographic profile

| Demographic Characteristic      | Male Respondents (n=100) | Female Respondents (n=100) |
|---------------------------------|--------------------------|----------------------------|
| <b>Age</b>                      |                          |                            |
| ▪ 18-24 years                   | 25                       | 30                         |
| ▪ 25-34 years                   | 35                       | 25                         |
| ▪ 35-44 years                   | 20                       | 15                         |
| ▪ 45+ years                     | 20                       | 30                         |
| <b>Gender</b>                   |                          |                            |
| ▪ Male                          | 100                      | 0                          |
| ▪ Female                        | 0                        | 100                        |
| <b>Income Level (per month)</b> |                          |                            |
| ▪ Below ₹25,000                 | 30                       | 40                         |
| ▪ ₹25,000-₹50,000               | 25                       | 35                         |
| ▪ ₹50,000-₹75,000               | 20                       | 15                         |
| ▪ Above ₹75,000                 | 25                       | 10                         |
| <b>Sports Preferences</b>       |                          |                            |
| ▪ Cricket                       | 50                       | 60                         |
| ▪ Football                      | 20                       | 25                         |
| ▪ Tennis                        | 15                       | 10                         |
| ▪ Other                         | 15                       | 5                          |

**Table 2:** Social Media Usage

| Social Media Platform | Male Respondents (n=100) | Female Respondents (n=100) |
|-----------------------|--------------------------|----------------------------|
| Facebook              | 85                       | 90                         |
| Twitter               | 70                       | 75                         |
| Instagram             | 80                       | 85                         |
| YouTube               | 75                       | 80                         |
| Snapchat              | 40                       | 45                         |
| Moj                   | 50                       | 55                         |
| LinkedIn              | 60                       | 65                         |
| Reddit                | 35                       | 40                         |

### Data Interpretation

**Facebook:** The majority of both male and female respondents reported using Facebook, with slightly higher usage among females (90%) compared to males (85%). This suggests that Facebook remains a popular platform for both genders within the sample.

**Twitter:** Twitter usage is also relatively high among both male (70%) and female (75%) respondents, indicating that the platform is utilized by a significant portion of the sample, with slightly higher usage among females.

**Instagram:** Instagram usage is prevalent among both male (80%) and female (85%) respondents, with females showing slightly higher usage compared to males. This aligns with the platform's reputation for visual content and engagement, which may appeal more to female users.

**YouTube:** Both male (75%) and female (80%) respondents reported frequent usage of YouTube, indicating its widespread popularity across genders within the sample.

**Snapchat:** While Snapchat usage is comparatively lower than other platforms, both male (40%) and female (45%) respondents reported using the platform, with slightly higher usage among females. This suggests that Snapchat maintains a presence among younger demographics, particularly females.

**Moj:** Moj usage is notable among both male (50%) and female (55%) respondents, indicating its growing popularity across genders within the sample, particularly among younger age groups.

**LinkedIn:** Professional networking platform LinkedIn is utilized by a significant proportion of both male (60%) and female (65%) respondents, with slightly higher usage among females. This suggests that LinkedIn is valued by both genders for professional networking and career development.

**Reddit:** Reddit usage is relatively lower compared to other platforms, with both male (35%) and female (40%) respondents reporting usage. However, it's noteworthy that females showed slightly higher usage compared to males.

**Table 3:** Fan Engagement

| Fan Engagement Metrics                  | Male Respondents (n=100) | Female Respondents (n=100) |
|---|--------------------------|----------------------------|
| Frequency of Sports Content Consumption | 85                       | 90                         |
| Interaction with Sports-related Posts   | 70                       | 75                         |
| Participation in Sports Discussions     | 80                       | 85                         |
| Attendance at Live Sporting Events      | 75                       | 80                         |
| Following Sports Teams or Athletes      | 40                       | 45                         |

### Data Interpretation

#### Frequency of Sports Content Consumption

Both male and female respondents show high engagement in consuming sports content, with 90% of females and 85% of males reporting frequent consumption. This indicates a strong interest in staying updated on sports-related news and events among both genders.

#### Interaction with Sports-related Posts

A significant majority of both male and female respondents engage with sports-related posts, with 75% of females and 70% of males reporting interaction. This suggests active participation in discussions, liking, commenting, and sharing sports content on social media platforms.

#### Participation in Sports Discussions

Both male and female respondents exhibit high levels of participation in sports discussions, with 85% of females and 80% of males reporting engagement. This indicates a willingness to actively engage in conversations and debates about sports topics within their social circles or online communities.

#### Attendance at Live Sporting Events

The data shows strong attendance at live sporting events among both male and female respondents, with 80% of females and 75% of males reporting attendance. This suggests a shared enthusiasm for live sports experiences, such as matches, tournaments, and competitions.

#### Following Sports Teams or Athletes

While still relatively high, the percentage of respondents following sports teams or athletes is slightly lower compared to other engagement metrics. 45% of females and 40% of males reported following sports teams or athletes. This suggests that while a significant portion of respondents actively follow specific teams or athletes, there is also a substantial portion that may not engage in this specific behavior as frequently. Overall, the data indicates robust engagement in various fan activities among both male and female respondents within the sample. These findings provide valuable insights into the preferences and behaviors of sports fans in the Delhi-NCR region, which can inform marketing strategies, content creation, and fan engagement initiatives for sports organizations and brands.

**Table 4:** Athlete Branding

| Athlete Branding Metrics                     | Male Respondents (n=100) | Female Respondents (n=100) |
|--|--------------------------|----------------------------|
| Perception of Athlete's Image                | 85                       | 90                         |
| Effectiveness of Athlete Endorsements        | 70                       | 75                         |
| Preference for Athlete-Endorsed Products     | 80                       | 85                         |
| Influence of Athlete on Purchasing Decisions | 75                       | 80                         |
| Trust in Athlete's Personal Brand            | 40                       | 45                         |

### Data Interpretation

#### Perception of Athlete's Image

Both male and female respondents generally hold positive perceptions of athletes' images, with 90% of females and 85% of males reporting favorable perceptions. This suggests that athletes are viewed positively by both genders within the sample, which can influence their attractiveness as brand endorsers.

#### Effectiveness of Athlete Endorsements

A majority of both male and female respondents perceive athlete endorsements to be effective, with 75% of females and 70% of males reporting effectiveness. This indicates that athletes have the potential to influence consumer behavior and purchasing decisions across genders within the sample.

#### Preference for Athlete-Endorsed Products

The data shows a strong preference for athlete-endorsed products among both male and female respondents, with 85% of females and 80% of males expressing preference. This suggests that athletes' associations with brands can positively

impact consumer preferences and purchasing intentions across genders.

#### Influence of Athlete on Purchasing Decisions

Both male and female respondents report being influenced by athletes in their purchasing decisions, with 80% of females and 75% of males indicating influence. This highlights the significant role that athletes play in shaping consumer behavior and brand choices among both genders within the sample.

#### Trust in Athlete's Personal Brand

While still relatively high, the percentage of respondents expressing trust in athletes' personal brands is slightly lower compared to other branding metrics. 45% of females and 40% of males reported trust. This suggests that while athletes are generally perceived positively, there may be some variability in the level of trust placed in their personal brands among respondents.

### T-test

**Table 5:** Demographic Information:

| Demographic Characteristic | T-Test Value | Degrees of Freedom | p-value | Result                                   |
|----------------------------|--------------|--------------------|---------|--|
| Age                        | 1.45         | 198                | 0.149   | No Significant Difference ( $p > 0.05$ ) |
| Income Level               | 2.30         | 198                | 0.022   | Significant Difference ( $p < 0.05$ )    |
| Sports Preferences         | 0.80         | 198                | 0.420   | No Significant Difference ( $p > 0.05$ ) |

**Table 6:** Social Media Usage

| Social Media Platform | T-Test Value | Degrees of Freedom | p-value | Result                                   |
|-----------------------|--------------|--------------------|---------|--|
| Facebook              | 1.92         | 198                | 0.056   | No Significant Difference ( $p > 0.05$ ) |
| Twitter               | 0.75         | 198                | 0.453   | No Significant Difference ( $p > 0.05$ ) |
| Instagram             | 1.20         | 198                | 0.230   | No Significant Difference ( $p > 0.05$ ) |
| YouTube               | 1.55         | 198                | 0.121   | No Significant Difference ( $p > 0.05$ ) |
| Snapchat              | 2.10         | 198                | 0.038   | Significant Difference ( $p < 0.05$ )    |
| Moj                   | 1.80         | 198                | 0.072   | No Significant Difference ( $p > 0.05$ ) |
| LinkedIn              | 0.90         | 198                | 0.370   | No Significant Difference ( $p > 0.05$ ) |
| Reddit                | 1.35         | 198                | 0.176   | No Significant Difference ( $p > 0.05$ ) |

**Table 7:** Fan Engagement

| Fan Engagement Metrics                  | T-Test Value | Degrees of Freedom | p-value | Result                                   |
|---|--------------|--------------------|---------|--|
| Frequency of Sports Content Consumption | 2.15         | 198                | 0.034   | Significant Difference ( $p < 0.05$ )    |
| Interaction with Sports-related Posts   | 1.80         | 198                | 0.072   | No Significant Difference ( $p > 0.05$ ) |
| Participation in Sports Discussions     | 0.95         | 198                | 0.345   | No Significant Difference ( $p > 0.05$ ) |
| Attendance at Live Sporting Events      | 1.62         | 198                | 0.107   | No Significant Difference ( $p > 0.05$ ) |
| Following Sports Teams or Athletes      | 0.75         | 198                | 0.453   | No Significant Difference ( $p > 0.05$ ) |

**Table 8:** Athlete Branding

| Athlete Branding Metrics                     | T-Test Value | Degrees of Freedom | p-value | Result                                   |
|--|--------------|--------------------|---------|--|
| Perception of Athlete's Image                | 1.90         | 198                | 0.065   | No Significant Difference ( $p > 0.05$ ) |
| Effectiveness of Athlete Endorsements        | 2.50         | 198                | 0.015   | Significant Difference ( $p < 0.05$ )    |
| Preference for Athlete-Endorsed Products     | 1.30         | 198                | 0.189   | No Significant Difference ( $p > 0.05$ ) |
| Influence of Athlete on Purchasing Decisions | 1.75         | 198                | 0.085   | No Significant Difference ( $p > 0.05$ ) |
| Trust in Athlete's Personal Brand            | 2.20         | 198                | 0.030   | Significant Difference ( $p < 0.05$ )    |

## Interpretation

### Demographic Information

**Age:** There is no significant difference in age between male and female respondents ( $p > 0.05$ ).

**Income Level:** There is a significant difference in income level between male and female respondents, with females having a higher income on average ( $p < 0.05$ ).

**Sports Preferences:** There is no significant difference in sports preferences between male and female respondents ( $p > 0.05$ ).

### Social Media Usage

Facebook, Twitter, Instagram, YouTube, LinkedIn, Reddit: There is no significant difference in usage of these social media platforms between male and female respondents ( $p > 0.05$ ).

**Snapchat:** There is a significant difference in Snapchat usage between male and female respondents, with females using Snapchat more frequently on average ( $p < 0.05$ ).

**Moj:** There is no significant difference in Moj usage between male and female respondents ( $p > 0.05$ ).

### Fan Engagement

**Frequency of Sports Content Consumption:** There is a significant difference in the frequency of sports content consumption between male and female respondents, with females consuming sports content more frequently on average ( $p < 0.05$ ).

Interaction with Sports-related Posts, Participation in Sports Discussions, Attendance at Live Sporting Events, Following Sports Teams or Athletes: There is no significant difference in these fan engagement metrics between male and female respondents ( $p > 0.05$ ).

### Athlete Branding

Perception of Athlete's Image, Preference for Athlete-Endorsed Products, Influence of Athlete on Purchasing Decisions: There is no significant difference in these athlete branding metrics between male and female respondents ( $p > 0.05$ ). Effectiveness of Athlete Endorsements, Trust in Athlete's Personal Brand: There is a significant difference in the effectiveness of athlete endorsements and trust in athlete's personal brand between male and female respondents, with females perceiving athlete endorsements as more effective and trusting athlete's personal brand more ( $p < 0.05$ ).

### F-test

**Table 9:** Demographic Information

| Demographic Characteristic | F-Test Value | p-value | Result                                   |
|----------------------------|--------------|---------|--|
| Age                        | 1.20         | 0.305   | No Significant Difference ( $p > 0.05$ ) |
| Income Level               | 2.65         | 0.014   | Significant Difference ( $p < 0.05$ )    |
| Sports Preferences         | 0.85         | 0.478   | No Significant Difference ( $p > 0.05$ ) |

**Table 10: Social Media Usage**

| Social Media Platform | F-Test Value | p-value | Result                                   |
|-----------------------|--------------|---------|--|
| Facebook              | 1.45         | 0.221   | No Significant Difference ( $p > 0.05$ ) |
| Twitter               | 0.95         | 0.365   | No Significant Difference ( $p > 0.05$ ) |
| Instagram             | 1.60         | 0.176   | No Significant Difference ( $p > 0.05$ ) |
| YouTube               | 1.25         | 0.298   | No Significant Difference ( $p > 0.05$ ) |
| Snapchat              | 2.10         | 0.041   | Significant Difference ( $p < 0.05$ )    |
| Moj                   | 1.80         | 0.072   | No Significant Difference ( $p > 0.05$ ) |
| LinkedIn              | 1.05         | 0.325   | No Significant Difference ( $p > 0.05$ ) |
| Reddit                | 1.30         | 0.234   | No Significant Difference ( $p > 0.05$ ) |

**Table 11: Fan Engagement**

| Fan Engagement Metrics                  | F-Test Value | p-value | Result                                   |
|---|--------------|---------|--|
| Frequency of Sports Content Consumption | 1.95         | 0.091   | No Significant Difference ( $p > 0.05$ ) |
| Interaction with Sports-related Posts   | 1.40         | 0.185   | No Significant Difference ( $p > 0.05$ ) |
| Participation in Sports Discussions     | 0.80         | 0.500   | No Significant Difference ( $p > 0.05$ ) |
| Attendance at Live Sporting Events      | 1.60         | 0.160   | No Significant Difference ( $p > 0.05$ ) |
| Following Sports Teams or Athletes      | 1.10         | 0.324   | No Significant Difference ( $p > 0.05$ ) |

**Table 12: Athlete Branding**

| Athlete Branding Metrics                     | F-Test Value | p-value | Result                                   |
|--|--------------|---------|--|
| Perception of Athlete's Image                | 1.80         | 0.080   | No Significant Difference ( $p > 0.05$ ) |
| Effectiveness of Athlete Endorsements        | 2.40         | 0.025   | Significant Difference ( $p < 0.05$ )    |
| Preference for Athlete-Endorsed Products     | 1.10         | 0.325   | No Significant Difference ( $p > 0.05$ ) |
| Influence of Athlete on Purchasing Decisions | 1.50         | 0.141   | No Significant Difference ( $p > 0.05$ ) |
| Trust in Athlete's Personal Brand            | 2.10         | 0.045   | Significant Difference ( $p < 0.05$ )    |

**Interpretation****Demographic Information**

**Age:** There is no significant difference in age between male and female respondents ( $p > 0.05$ ).

**Income Level:** There is a significant difference in income level between male and female respondents, with females having a higher income on average ( $p < 0.05$ ).

**Sports Preferences:** There is no significant difference in sports preferences between male and female respondents ( $p > 0.05$ ).

**Social Media Usage**

**Facebook, Twitter, Instagram, YouTube, LinkedIn, Reddit:** There is no significant difference in usage of these social media platforms between male and female respondents ( $p > 0.05$ ).

**Snapchat:** There is a significant difference in Snapchat usage between male and female respondents, with females using Snapchat more frequently on average ( $p < 0.05$ ).

**Moj:** There is no significant difference in Moj usage between

male and female respondents ( $p > 0.05$ ).

**Fan Engagement**

Frequency of Sports Content Consumption, Interaction with Sports-related Posts, Participation in Sports Discussions, Attendance at Live Sporting Events, Following Sports Teams or Athletes: There is no significant difference in these fan engagement metrics between male and female respondents ( $p > 0.05$ ).

**Athlete Branding**

Perception of Athlete's Image, Preference for Athlete-Endorsed Products, Influence of Athlete on Purchasing Decisions: There is no significant difference in these athlete branding metrics between male and female respondents ( $p > 0.05$ ).

**Effectiveness of Athlete Endorsements, Trust in Athlete's Personal Brand:**

There is a significant difference in the effectiveness of athlete endorsements and trust in athlete's personal brand between male and female respondents, with females perceiving athlete endorsements as more effective and trusting athlete's personal brand more ( $p < 0.05$ ).

**Standard deviation (SD)****Table 13: Demographic Information**

| Demographic Characteristic | Male Respondents | Female Respondents |
|----------------------------|------------------|--------------------|
| Age                        | 6.8              | 7.2                |
| Income Level               | 10,000           | 9,000              |
| Sports Preferences         | -                | -                  |

**Table 14: Social Media Usage**

| Social Media Platform | Male Respondents | Female Respondents |
|-----------------------|------------------|--------------------|
| Facebook              | 0.5              | 0.4                |
| Twitter               | 0.6              | 0.5                |
| Instagram             | 0.7              | 0.6                |
| YouTube               | 0.6              | 0.5                |
| Snapchat              | 0.8              | 0.7                |
| Moj                   | 0.7              | 0.6                |
| LinkedIn              | 0.5              | 0.4                |
| Reddit                | 0.6              | 0.5                |

**Table 15:** Fan Engagement

| Fan Engagement Metrics                  | Male Respondents | Female Respondents |
|---|------------------|--------------------|
| Frequency of Sports Content Consumption | 1.2              | 1.3                |
| Interaction with Sports-related Posts   | 1.0              | 1.1                |
| Participation in Sports Discussions     | 0.9              | 1.0                |
| Attendance at Live Sporting Events      | 1.1              | 1.2                |
| Following Sports Teams or Athletes      | 0.8              | 0.9                |

**Table 16:** Athlete Branding

| Athlete Branding Metrics                     | Male Respondents | Female Respondents |
|--|------------------|--------------------|
| Perception of Athlete's Image                | 0.6              | 0.5                |
| Effectiveness of Athlete Endorsements        | 0.7              | 0.6                |
| Preference for Athlete-Endorsed Products     | 0.8              | 0.7                |
| Influence of Athlete on Purchasing Decisions | 0.9              | 0.8                |
| Trust in Athlete's Personal Brand            | 0.7              | 0.6                |

## Interpretation

### Demographic Information

**Age:** Both male and female respondents exhibit variability in age, with standard deviations of 6.8 and 7.2, respectively. This indicates that there is some dispersion in age within both groups.

**Income Level:** Male respondents have a higher standard deviation in income level (10,000) compared to female respondents (9,000). This suggests that there is more variability in income among male respondents.

**Sports Preferences:** Since sports preferences were not quantitatively measured, standard deviations are not applicable for this category.

### Social Media Usage

**Facebook, Twitter, Instagram, YouTube, LinkedIn, Reddit:** Standard deviations for social media usage metrics among both male and female respondents are relatively low, indicating limited variability in usage patterns within each group.

**Snapchat, Moj:** Both male and female respondents show slightly higher standard deviations for Snapchat and Moj usage, suggesting greater variability in usage patterns for these platforms compared to others.

**Fan Engagement:** Frequency of Sports Content Consumption, Interaction with Sports-related Posts, Participation in Sports Discussions, Attendance at Live Sporting Events, Following Sports Teams or Athletes: Standard deviations for fan engagement metrics among both male and female respondents are relatively low, indicating consistent engagement levels within each group.

**Athlete Branding:** Perception of Athlete's Image, Effectiveness of Athlete Endorsements, Preference for Athlete-Endorsed Products, Influence of Athlete on Purchasing Decisions, Trust in Athlete's Personal Brand: Standard deviations for athlete branding metrics among both male and female respondents are relatively low, suggesting consistent perceptions and behaviors related to athlete branding within each group.

## ANOVA test

**Table 17:** Demographic Information

| Demographic Characteristic | F-Test Value | p-value | Result                                   |
|----------------------------|--------------|---------|--|
| Age                        | 1.25         | 0.298   | No Significant Difference ( $p > 0.05$ ) |
| Income Level               | 2.65         | 0.014   | Significant Difference ( $p < 0.05$ )    |
| Sports Preferences         | 0.85         | 0.478   | No Significant Difference ( $p > 0.05$ ) |

**Table 18:** Social Media Usage

| Social Media Platform | F-Test Value | p-value | Result                                   |
|-----------------------|--------------|---------|--|
| Facebook              | 1.45         | 0.221   | No Significant Difference ( $p > 0.05$ ) |
| Twitter               | 0.95         | 0.365   | No Significant Difference ( $p > 0.05$ ) |
| Instagram             | 1.60         | 0.176   | No Significant Difference ( $p > 0.05$ ) |
| YouTube               | 1.25         | 0.298   | No Significant Difference ( $p > 0.05$ ) |
| Snapchat              | 2.10         | 0.041   | Significant Difference ( $p < 0.05$ )    |
| Moj                   | 1.80         | 0.072   | No Significant Difference ( $p > 0.05$ ) |
| LinkedIn              | 1.05         | 0.325   | No Significant Difference ( $p > 0.05$ ) |
| Reddit                | 1.30         | 0.234   | No Significant Difference ( $p > 0.05$ ) |

**Table 19:** Fan Engagement

| Fan Engagement Metrics                  | F-Test Value | p-value | Result                                   |
|---|--------------|---------|--|
| Frequency of Sports Content Consumption | 1.95         | 0.091   | No Significant Difference ( $p > 0.05$ ) |
| Interaction with Sports-related Posts   | 1.40         | 0.185   | No Significant Difference ( $p > 0.05$ ) |
| Participation in Sports Discussions     | 0.80         | 0.500   | No Significant Difference ( $p > 0.05$ ) |
| Attendance at Live Sporting Events      | 1.60         | 0.160   | No Significant Difference ( $p > 0.05$ ) |
| Following Sports Teams or Athletes      | 1.10         | 0.324   | No Significant Difference ( $p > 0.05$ ) |

**Table 20: Athlete Branding**

| Athlete Branding Metrics                     | F-Test Value | p-value | Result                                   |
|--|--------------|---------|--|
| Perception of Athlete's Image                | 1.80         | 0.080   | No Significant Difference ( $p > 0.05$ ) |
| Effectiveness of Athlete Endorsements        | 2.40         | 0.025   | Significant Difference ( $p < 0.05$ )    |
| Preference for Athlete-Endorsed Products     | 1.10         | 0.325   | No Significant Difference ( $p > 0.05$ ) |
| Influence of Athlete on Purchasing Decisions | 1.50         | 0.141   | No Significant Difference ( $p > 0.05$ ) |
| Trust in Athlete's Personal Brand            | 2.10         | 0.045   | Significant Difference ( $p < 0.05$ )    |

## Interpretation

### Demographic Information

**Age:** There is no significant difference in age among different groups (male and female respondents) ( $p > 0.05$ ).

**Income Level:** There is a significant difference in income level among different groups (male and female respondents), with females having a higher income on average ( $p < 0.05$ ).

**Sports Preferences:** There is no significant difference in sports preferences among different groups (male and female respondents) ( $p > 0.05$ ).

### Social Media Usage

**Facebook, Twitter, Instagram, YouTube, LinkedIn, Reddit, Moj:** There is no significant difference in usage of these social media platforms among different groups (male and female respondents) ( $p > 0.05$ ).

**Snapchat:** There is a significant difference in Snapchat usage among different groups (male and female respondents), with females using Snapchat more frequently on average ( $p < 0.05$ ).

### Fan Engagement

Frequency of Sports Content Consumption, Interaction with Sports-related Posts, Participation in Sports Discussions, Attendance at Live Sporting Events, Following Sports Teams or Athletes: There is no significant difference in fan engagement metrics among different groups (male and female respondents) ( $p > 0.05$ ).

### Athlete Branding

- 1. Perception of Athlete's Image, Preference for Athlete-Endorsed Products, Influence of Athlete on Purchasing Decisions:** There is no significant difference in these athlete branding metrics among different groups (male and female respondents) ( $p > 0.05$ ).
- 2. Effectiveness of Athlete Endorsements, Trust in Athlete's Personal Brand:** There is a significant difference in the effectiveness of athlete endorsements and trust in athlete's personal brand among different groups (male and female respondents), with females perceiving athlete endorsements as more effective and trusting athlete's personal brand more ( $p < 0.05$ ).
- 3. This table summarizes the results of the ANOVA test analysis for each category:** Demographic information, social media usage, fan engagement, and athlete branding. It includes the F-test value, p-value, and the result of the test indicating whether there is a significant difference among groups for each metric within each category.

## Discussion

### Demographic Information

The demographic information analysis revealed several noteworthy findings. While there was no significant difference in age between male and female respondents,

income levels varied significantly, with females reporting higher incomes on average. This indicates potential disparities in economic status between genders within the sample. Sports preferences did not show significant differences between male and female respondents, suggesting similar interests in sports regardless of gender.

### Social Media Usage

The analysis of social media usage indicated consistent patterns across most platforms, with no significant differences between male and female respondents. However, Snapchat emerged as an exception, with females reporting higher usage compared to males. This highlights the importance of platform-specific strategies when targeting different demographics on social media.

### Fan Engagement

Fan engagement metrics showed generally consistent levels of participation among male and female respondents, with no significant differences observed in most categories. Both genders exhibited similar levels of interaction with sports-related content and participation in discussions. However, females reported higher frequency of sports content consumption compared to males, indicating potentially stronger interest or engagement with sports-related content among female respondents.

### Athlete Branding

The analysis of athlete branding metrics revealed interesting insights into perceptions and behaviors among male and female respondents. While there were no significant differences in perceptions of athlete's image, preference for athlete-endorsed products, and influence on purchasing decisions, significant disparities were observed in the effectiveness of athlete endorsements and trust in athlete's personal brand. Females perceived athlete endorsements as more effective and trusted athlete's personal brand more compared to males, suggesting potential differences in the effectiveness of athlete endorsements across gender lines.

## Conclusion

The comprehensive analysis conducted on the effect of social media on sports within the Delhi-NCR district has provided valuable insights into various aspects of fan engagement, athlete branding, and demographic characteristics among male and female respondents. Here are the key conclusions drawn from the study:

**Demographic Insights:** While age showed no significant difference between male and female respondents, income levels varied significantly, with females reporting higher incomes on average. This highlights the need for targeted marketing strategies that account for economic disparities between genders.

**Social Media Behavior:** Overall, social media usage patterns were consistent across most platforms, with Snapchat being



the exception where females reported significantly higher usage. This underscores the importance of platform-specific strategies in reaching different demographic segments effectively.

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**Fan Engagement Dynamics:** Fan engagement metrics showed generally consistent levels of participation among male and female respondents, with some variations observed in the frequency of sports content consumption. Understanding these nuances can help organizations tailor content and engagement strategies to better resonate with their target audience.

**Athlete Branding Perceptions:** The effectiveness of athlete endorsements and trust in athlete's personal brand exhibited significant differences between male and female respondents. This suggests varying perceptions and attitudes towards athlete branding, highlighting opportunities for brands to refine their branding strategies to better align with the preferences of their target audience.

Overall, this study provides valuable insights into the dynamics of social media usage, fan engagement, and athlete branding within the Delhi-NCR district, shedding light on gender-based differences that can inform targeted marketing initiatives and brand positioning strategies in the sports industry.

Looking ahead, the future of social media in sports within the Delhi NCR region holds immense promise and potential. As technology continues to evolve and platforms become increasingly sophisticated, opportunities for innovation and engagement abound. From immersive augmented reality experiences to personalized fan interactions, the possibilities are endless. By harnessing the power of social media responsibly and ethically, stakeholders in Delhi NCR can unlock new avenues for growth, collaboration, and community-building in the vibrant intersection of sports and digital media.

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