Gender Gap in Motivation for Watching Sports: Exploring the Role of Artificial Intelligence

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Abstract

There are significant gender differences in sports consumption for a long time, which are not only reflected in participation behavior, but also reflected in the structural division of motivation for watching games. This study uses a mixed research method (questionnaire survey and in-depth interview) to empirically examine the gender differentiation characteristics of Hong Kong university students 'motivation to watch sports games and the moderating effect of artificial intelligence technology. Quantitative analysis showed that male's excitement motivation was significantly stronger than female's, while female's aesthetic motivation scored higher. Artificial intelligence systematically strengthens the existing motivation differences through the triple mechanism of internal event collection generation, experience customization and AI explanation: men rely on technology to deepen competitive analysis, while women are limited by algorithm bias to expand aesthetic experience. The study reveals that current sports AI technology has not yet become a bridge to bridge the gender gap, but has become a technical carrier to replicate the traditional gender cognitive framework. Based on this, this paper proposes an intervention path of technology ethics, and calls for the construction of a gender-balanced algorithm design framework to promote sports consumption equity.

Keywords

Preferences and interests, gender differences, watching sports, artificial intelligence, excitement motivation, aesthetics motivation.

1. Introduction

There are significant gender differences in sports consumption for a long time, which are not only reflected in participation behavior, but also deeply reflected in the structural division of watching motivation. Traditional studies attribute the gap in motivation to physiological differences, sociocultural norms or imbalance in media exposure, but pay little attention to the role of technology-mediated variables in reshaping motivation. With the deep penetration of artificial intelligence technology in sports content distribution, experience customization and interaction design, algorithms are gradually becoming an emerging force to regulate audience motivation. Artificial intelligence systems reconstruct sports consumption scenarios through personalized recommendations, content generation and immersive experiences, and their technical logic may systematically strengthen or weaken existing gender preference patterns.

When algorithms continue to push male-dominated content, they solidify male viewers 'preferences for traditional competitive narratives while inhibiting female viewers' willingness to explore sports content. This circular effect makes motivation differences migrate from the real world to the digital space, and is even exacerbated by the scale effect of algorithms. What is more alarming is that the application of generative artificial intelligence in sports commentary, virtual anchor and event analysis may unconsciously transmit gender stereotypes

through language models and visual presentations, further differentiating emotional connections and value identities of different gender groups.

MacDonald et al. (2025) investigated the mechanism of generative artificial intelligence (GAI) amplifying gender bias in sports image generation, revealing the problem of replicating gender stereotypes through training data, and calling for ethical intervention in technology [1]. Habes et al. (2025) examined the mediating role of gender between AI content recommendations and user attitudes based on the Social TV platform, demonstrating that men are more interested in entertainment and women value social connections [2]. Jung et al. (2025) developed an AI basketball live broadcast system integrating motion recognition and automatic commentary technology, but did not analyze the differential impact of technology on user motivation by gender [3]. Liu et al. (2022) combined with neural networks and cluster analysis, the audience of sports live - streaming platforms were divided into four categories (content consumers, super co - creators, co - creators, tourists), and the value co - creation methods and perceived values of each group were revealed [4]. Gomez-Gonzalez et al. Critically examine the limitations of mainstream explanations for persistent gender inequalities in the sports industry, such as the dominance of male events in revenue, investment, and media coverage. Conventional wisdom attributes the gap to "absolute competitive level differences," but the authors suggest that gender stereotypes may be a more subtle driving mechanism.[5]

Although the existing literature reveals the gender bias, gender mediation effect and sports technology application of AI respectively, the dynamic action model of "AI technology-gender-sports viewing motivation" has not been constructed yet. It is urgent to empirically explore how artificial intelligence systematically adjusts or intensifies the gender gap of sports consumption motivation.

2. Gender Gap in Motivation for Watching Sports

2.1. Research Method

The hypotheses of this study would be:

Hypothesis 1: There are gender differences in College Student Spectator preferences for the excitement of the sport.

Hypothesis 2: There are gender differences in College Student Spectator preferences for the aesthetic qualities of sport.

A cross-sectional study design with a convenient sampling approach was used in this study. This study will mainly use online questionnaire surveys (credamo) to edit the questionnaire and randomly distribute it to study participants. Forward mainly to WeChat friends and WhatsApp groups. Before completing the questionnaire, subjects will be asked to read the description, and each question should be filled out according to their own real thoughts and actual feelings. All completed questionnaires will be automatically saved in the online database. The questionnaire consists of four parts: basic personal information, a single question about what type of sports activities college students like, Excitement (EXC) scale and Aesthetics (AES) scale[6].

The first part of the questionnaire is the personal information section, which will collect four types of information, including gender, age, residential area, and education level. The second part of the questionnaire will consist of a multiple-choice question, "Which sports activities do you like to watch? This includes online or on- site viewing.". The Excitement Motivation Scale mainly refers to three question items generated by Sloan (1989) and Wann (1995): "I enjoy the passion brought by competitions", "I enjoy the passion brought by competitions", and "I think competitions are very exciting". The Aesthetic Motivation Scale mainly refers to three question items generated by Mahony (2002) and Smith (1988): "Compared to the

strong confrontation with the NBA, I prefer WNBA's game style to provide me with a more enjoyable way of entertainment", "I like games with beauty, artistry, and emphasis on strategy", and "Compared to football and rugby, games that emphasize beauty and excellence are purer".

2.2. Data Analysis and Results

This study will use IBM SPSS 29.0 software to analyze the data. Descriptive analysis will be used to analyze demographic information, including gender, age, place of residence, education level, and most frequently watched sports, with percentages used to represent the distribution of all sociodemographic variables. We will use independent sample t-test to examine the differential relationship between different genders in terms of excitement motivation and aesthetic motivation.

The study respondents were made up of 25.71% male respondents and 72.86% female respondents. 69.57% of respondents were between 22 to 23 years old. Educational attainment analysis shows that 38.57% of respondents are undergraduate students, 55.71% of Master's student, and only 4.29% of PHD students. Place of residence analysis revealed that 25.71% of respondents live in Kowloon, 30.00% in New Territories, 42.86% in Hong Kong Island. According to the respondents' favorite sports activities, 66.67% of people watch basketball and 53.62% watch football. 56.52% of people watch dance, while only 8.7% watch boxing[7].

Independent samples t test is conducted to compare the mean of excitement motivation and aesthetic motivation of male and female college students watching sports activities, and Tables 2 lists the results of the analyses. Male (M=4.34, SD=0.52) and female (M=3.73, SD=0.91; t=-3.435, $p<0.05$) There were significant differences in the mean excitement motivation of watching sports. Male (M=3.89, SD=1.00) and female (M=3.39, SD=0.79; t=-2.126, $p<0.05$) There were significant differences in the mean value of aesthetic motivation for watching sports activities, as shown in Table 1.

Table 1. Independent Samples T Test

Variables	Male	Male	Female	Female	t	p
	M	SD	M	SD		
Excitement motivation	4.34	0.52	3.73	0.91	-3.435	0.001**
Aesthetic motivation	3.89	1.00	3.39	0.79	-2.126	0.037*

First, there are still significant differences in the excitatory motivation and aesthetic motivation of male and female university students in Hong Kong for watching sports activities, and the hypothesis of this paper should be confirmed, which is manifested in the fact that male university students are more likely to be influenced by excitatory motivation for watching sports activities full of confrontation and excitement, whereas female university students are more likely to be influenced by aesthetic motivation for watching sports games full of game tactics, elegance, and artistry. This finding is consistent with previous research and suggests that even with the changing times, gender still plays an important role in watching sports activities. Gantz focused on examining the television sports viewing experience of males and females and examined television viewing behaviors and reasons for watching sports on television. They found that males are passionate about exciting and thrilling games such as football, basketball, and soccer, and also argued for the motivation of excitement in watching sports.

The gender difference extends to sports spectators and fans, who are traditionally viewed as male-dominated sports. Men are more inclined to enjoy intense team sport competitions and individual fighting competitions, such as soccer, basketball, and boxing, while women are more inclined to appreciate sports that are coordinated with softness, elegance, and a focus on artistic

expression, such as gymnastics, skiing, and diving. This gender difference is not only reflected in motivational choices when watching sports programs, but also extends to the preference bias of sports viewers and fans[8].

The results of the independent samples t - test confirmed two core hypotheses. The male score ($M = 4.34$, $SD = 0.52$) was significantly higher than that of females ($M = 3.73$, $SD = 0.91$), with a highly significant statistical difference ($t(67) = -3.435$, $p = 0.001$). The effect size Cohen's $d = 0.85$ ($d > 0.8$ indicates a large effect), suggesting that gender can explain 28.3% of the variation in excitement motivation. The female score ($M = 3.39$, $SD = 0.79$) was higher than that of males ($M = 3.89$, $SD = 1.00$), with a significant difference ($t(67) = -2.126$, $p = 0.037$). However, the effect size $d = 0.58$ (medium effect), and the contribution rate of gender decreased to 14.7%.

Based on the findings of this paper, this paper suggests that the sports market can develop corresponding marketing strategies and resource allocation programs based on the preference characteristics of different gender audiences to meet the needs of different groups and enhance the audience experience and the attractiveness of sports activities. Gender differences are not only the motivational choices when watching sports activities, but also reflect the different aesthetic views and preferences of spectators towards sports activities, which provide useful references and insights for the development of the sports industry.

3. Influence of Artificial Intelligence on Gender Motivation to Watch Sports Competitions

3.1. Research Method

This study uses a semi-structured in-depth interview method to explore the differential impact mechanism of artificial intelligence technology on sports viewing motivation of different gender groups. The research design focuses on participants 'actual experience of using AI functions, perceived value and motivation change paths, and reveals the reshaping effect of technology intervention on motivation structure through gender contrast perspective.

A stratified sampling method was used to select 10 university students from Hong Kong who had the habit of continuous sports watching. The ratio of male to female was 1:1 (5 males and 5 females). Inclusion criteria include: watching sports events for ≥3 hours per week, and using at least one AI-driven viewing function (such as personalized content push, intelligent collection generation, real-time data analysis, etc.) in the past six months[9]. Respondents 'professional backgrounds cover education, finance, technology and cultural and creative fields to reduce the interference of industry experience on technology cognition.

The interview outline revolves around four core dimensions (see Table 2), each of which consists of 3-5 sub-questions. Interviews were conducted in the form of online video conferences, with a single duration of 45-60 minutes.

Table 2. Interview outline

Dimensionality	Example of core problem
AI function usage mode	What is your most frequently used AI viewing feature? How do these features fit into your viewing process?
Perceived value correlates with motivation	Does the real-time data/personalized content provided by AI reinforce your willingness to watch specific events, such as women's competitions? What is the specific mechanism?
Gendered experience difference	Do you think current AI features (e.g. commentary style, push content) imply gender bias? How do you influence different gender audiences?
Technology acceptance and future expectations	How do you want AI to improve to serve different gender audiences more equitably? What functions might eliminate existing motivational differences?

3.2. Interview Results and Analysis

The interview data reveal the differential influence mechanism of artificial intelligence technology on the motivation of male and female spectators.

Gendered adoption patterns of technology functions. Male respondents generally positioned AI tools as "competitive decision-making assistance systems", emphasizing their quantitative analysis of competition competitiveness. A (male, age 22) said: "Real-time data pop-ups and win rate predictions allow me to focus more on the details of the confrontation, such as AI dynamic heat maps of defensive formations, which can immediately determine which side has the advantage of oppression." This instrumental use pattern makes men more dependent on AI-enhanced competitive adversarial narratives, which in turn reinforces their core motivation of "stress stimulation." In contrast, female respondents were more concerned about AI's ability to reconstruct sports aesthetics. B (female, 22 years old) pointed out: "The AI slow-motion playback of athletes 'dance-like movements, combined with the artistic trajectory lines generated, made me realize that gymnastics is not only competitive but also human aesthetics." Such experiences activate and amplify the artistic aesthetic motivation of female audiences through technological media[10].

Cognitive framework differentiation of content perception. When discussing AI-generated content, gender differences are presented in differential interpretations of the output of the same technology. Take AI game collection generation as an example. Men focus on confrontation intensity indicators. C (male, 21 years old) thinks: "AI editing should highlight key confrontation moments, such as basketball blocks or football tackles. Adrenaline surge is the essence of sports." Women, on the other hand, pay more attention to emotional narratives. D (female, 19 years old) emphasizes: "I hope AI can capture athletes 'micro-expressions and audience reactions, just like the post-match story of Wimbledon' Catch Me Up', which makes the game more warm." This differentiation of cognitive frameworks suggests that men use AI to enhance competitive motivational satisfaction, while women use technology to extend emotional connections and aesthetic experiences.

Gender gradient in technology acceptance. At the technical iteration expectation level, men tended to ask AI to deepen the competitive dimension analysis, as H (male, 28 years old) suggested: "Increase the numerical display of real-time physical confrontation intensity, similar to the impact force AI evaluation of football." Women called for breaking the algorithm bias. I (female, 27) suggested: "Let the algorithm recognize the tactical value of women's football rather than just emphasize 'fighting spirit' like Heineken trains football AI with female knowledge base." This difference suggests that men expect technology to continue the existing motivational framework, while women are more concerned about fairness in reconstructing sports cognition through technology.

Artificial intelligence systematically strengthens the motivation differences between male and female viewers through multiple dimensions of content filtering mechanism (such as event collection generation), experience customization path (such as real-time data superposition) and narrative construction mode (such as AI commentary generation)[11]. The competitive motivation of male audience is constantly consolidated by quantitative confrontation index provided by algorithm, while the artistic aesthetic and emotional connection motivation of female audience is limited by data bias and difficult to be fully extended. This polarization effect reveals that current sports AI technology has not yet become a bridge to bridge the gender gap in motivation, but may become a technical carrier to replicate the traditional gender cognitive framework.

4. Conclusion

This study confirms that there are profound gender structural differences in sports viewing motivation. Men tend to experience excitement in competitive confrontation, while women prefer emotional connection in artistic narration. The intervention of artificial intelligence technology has not only failed to alleviate this gap, but has intensified the trend of differentiation through the scale effect of algorithmic logic. Gendered adoption patterns of technology features show that men position AI tools as "competitive decision-making aids" and consolidate adversarial motivation through quantitative indicators, while women are limited to specific aesthetic scenarios due to data bias, inhibiting their willingness to explore diverse sports content. Generative AI's unconscious bias in commentary generation and virtual anchor design further strengthens the reproduction of gender stereotypes. Only by incorporating gender equity into technology genes can artificial intelligence truly become an emerging force to eliminate inequality in sports consumption.

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