

Research on the Compound Path for Influencing Factors of the “Popularity” of Female Sports Stars’ Media Images: A Qualitative Comparative Analysis of Fuzzy Sets Based on Short Video Communication Content

Yuxin Zhao

College of Sports and Culture, Tianjin University of Sport, Tianjin, China

rr_ahya@163.com

Abstract. The media images shaped by female sports stars are inextricably linked to the attention of their audiences. However, what kind of compound paths influencing factors have followed to promote their “popularity” remains a key research issue in journalism and communication research. According to this study, female sports stars carry symbolic capital with symbolic meaning, and multiple influencing factors work together in the construction of their media images. After a qualitative comparative analysis of the fuzzy sets of short video communication content, this study argues that the explanatory variables, such as “material image”, “aesthetic image”, “production threshold”, “scene adaptation” and “emotional evocation” of female sports stars exert a significant impact on the result that “female sports stars are highly popular” and constitute key factors for the “popularity” of female sports stars.

Keywords: Short Video; Tiktok; Sports Stars; Women; China.

1. Introduction

In national events, such as the Olympic Games, gold medal winners not only represent national honor but also build a fan community with their influence, thus presenting unique media images on mass media. In academia, sports stars are often defined as “athletic images generated by mass media based on such complex symbols as images, sounds, words, and colors to select, process, and restructure certain events or information of athletes and to present them to the public and inspire symbolic associations.”[1] Among these sports stars, female athletes present distinctive media images owing to their specialized gender features, with the gaze of viewers and fans on female sports stars contributing to the unique research value for this group of people. Against this background, this study takes TikTok as the research field and compares 10 Chinese female sports stars’ TikTok accounts.

This study discovers the difference in female sports athletes’ TikTok accounts. Firstly, female sports stars’ TikTok accounts vary in history. Xu Mengtao, the first star to open an account, released a video on January 24, 2018. Zhang Yuting, the last star to open an account, got registered on January 2, 2022. The number of followers varies significantly from account to account, with a disparity of over 20 million between Zhang Yuting’s account and that of Eileen Gu. The total number of videos uploaded, the number of likes, and the number of comments on a single short video also vary significantly. In the recently held Tokyo Olympics and Beijing Winter Olympics alone, female sports stars’ TikTok accounts have received frequent feedback and interaction.

The media image of female sports stars is a matter of national image. Even catalyzed by “ping pong diplomacy”, the performance of sports players in international events is already part of public diplomacy. Chinese sports athletes also frequently use social media, such as Weibo and TikTok. Quite a few athletes have used social media to construct their personalized media images and become stars with symbolic capital. In contrast, the use of social media by foreign sports athletes is even more widespread, which has even influenced public opinion of major events. In the era of traditional media, the personal image of stars was produced by newspapers, radio, and television. In the era of social media, stars take full advantage of social media, such as Weibo and TikTok. The General Administration of Sports of China has issued regulations on the social media use of sports athletes on multiple key occasions and instructed athletes to plan their social media use reasonably.

Table 1. A list of female sports stars' communication data on the TikTok platform

TikTok overall data					
Publisher	First video launch date	Fans	Total number of video uploads	Number of likes	The highest number of comments for a single video
Eileen Gu	2018.08.08	2056.2w	76	12000w	12.7w
Xu Mengtao	2018.01.24	59.8w	291	467.8w	3.1w
Wang Meng	2021.07.23	640.2w	166	4407.6w	4.0w
Zhu Yi	2021.07.30	71.0w	24	343.4w	9.1w
Zhang Yuting	2022.01.02	15.8w	52	211.7w	0.7w
Wang Shiyue	2020.01.14	87.6w	61	834.8w	1.8w
Liu Shiwen	2020.11.24	250.4w	20	884.3w	10.5w
Zhang Jiaqi	2020.03.01	281.5w	36	1773.6w	6.4w
Yang Qian	2018.10.06	948.5w	82	6445.4w	9.4w
Zhu Ting	2020.05.04	197.8w	46	832.2w	7.1w

It is exactly in this context that this study collects and sorts out information on major female sports stars on TikTok from 2020 to 2022, reviewing the communication of TikTok content of these female stars based on such data as the release time of the first video, number of followers, number of videos uploaded, number of likes, and the highest number of comments on a single TikTok video. In terms of research methodology, this study adopts Qualitative Comparative Analysis (QCA) based on Boolean logic to explore the compound paths of the reasons and summarizes and sorts out influencing factors for the communication of female sports stars. Lots of scholars in academia have adopted this research approach in news reversal[2], environmental reports[3], and knowledge-based short videos[4].

2. Literature Review

2.1 Research on the Media Images of Athletes

A sports star, an informal term for widely influential, high-level athletes, is a type of “symbolic capital with symbolic meanings”[5]. Stimulated by emerging platforms, such as social media and short videos in the era of new media, the building of media images of sports stars has been a heated athlete-related research issue. In the framework of symbolic interpretation, “sports stars” have a strong “transformative power” in social practice. Based on social recognition, symbolic capital refers to “the cumulative level of privilege, fame, sanctity or honor”[6]. Female stars with symbolic capital are regarded as social elites. According to *The Rise and Fall of Elites*, elites are not good or bad people but are just a kind of image constructed based on the qualities of vigor, vitality, and competence[7]. As social elites, female sports stars are usually able to create certain social values and possess certain symbolic rights. They can have access to more social resources from their symbolic capital, gain the right to control others' social behavior, and eventually win social recognition and respect[8].

The author of *Power Elite* argues that celebrities in the entertainment circle refer to significantly influential public figures entering the public vision in the context of mass communication[9]. In the era of mass communication, sports stars can become symbolic capital with symbolic meanings under the promotion of sports organizations, mass media, and the fan economy behind the scenes, the three dominant factors in the process of symbolic capital dissemination that eventually help sports stars win fame and accumulate materials through professional certification, communication empowerment, and consumer empowerment[10]. Under consumerism, commercial logic and rules are also prevalent between sports and media[11]. Media needs the symbolic capital of sports stars to earn revenue from the eyeball economy, while sports stars can enhance their reputation through media, forming a mutually complementary relationship[12]. Hence, the media image of sports stars is characterized by meaningfulness, commerciality, value, and plasticity.

2.2 Qualitative Comparative Analysis of Social Media, Such as TikTok

Striking a balance between “research orientations” and “operating techniques” [13], Qualitative Comparative Analysis (QCA) follows a core logic of “set theory” in the field of mathematics research and has been applied in the field of news communication for years. As a comparative analytical approach for multiple cases, QCA applies to the research of social media, such as TikTok, and goes beyond the traditional dual research path of qualitative and quantitative analysis, thus constituting a key pillar of this study. Journalism and communication research has always had the tradition of integrating “case studies” with “comparative research”[14], so QCA fits in well with this study. Currently, QCA has been applied in real cases of journalism and communication. Zeng Xiangmin and Weng Xudong adopted QCA in studying the correlation between fake news and mainstream media as well as between communication platforms and information patterns, thus figuring out the factors influencing the communication of epidemic-related fake news[15]. Fan Pan and Lang Jinsong used QCA to analyze the level of impact of central mainstream media outlets and online opinion leaders in environmental rights protection events in the context of new media and propose a path to promote the dissemination of such events[16]. Zhou Jun and Wang Min used QCA to analyze the microscopic mechanism and three microscopic communication paths for the sustained high popularity of online buzzwords and probe into the practical significance of online buzzwords [17]. Owing to the feasibility and practical significance of QCA, this study uses QCA to conduct an experimental study on the media image of female sports stars to go beyond the framework of previous case studies and analyze the influencing factors for their media image and the logic of communication from the media accounts of female sports stars on TikTok.

3. Research Design

3.1 Research Method and Case Selection

Since it is difficult to assign values with clear sets to the relationship between the image construction and communication logic of female sports stars, this study adopts the research method of fuzzy-set qualitative comparative analysis (fsQCA)[18]. Based on the principle of Boolean algebra, the study uses the set theory to examine the combined multiple causes of media images influencing the communication of female sports stars, combines case orientation and variable orientation, and draws informative conclusions from typical sample cases. The building of the media image of female sports stars is complex and cannot be dichotomized by “beauty” or “ugliness”. Meanwhile, based on daily experience, the media images of female sports stars have a definite impact on their communication, but the correlation between the two is complex with “the concurrence of multiple causes”. There is a causal structure of multiple factors interacting with one another.

This study consists of five practical steps: selecting the cases and identifying the variables, performing coding, importing coding tables into QCA software, constructing truth tables, and performing consistency and coverage tests. Finally, fully considering the construction of sports star media images, this study will sort out the combinations of multiple conditional variables to find out

the most typical causal factor. In this paper, female sports stars such as Eileen Gu are classified based on the difference in winter and summer sports events, representing the official standardized classification. It has been discovered through long-term observation of the TikTok ranking that TikTok, as a short-video communication platform, can present the trajectory of female sports stars' communication status. Such a research object is convenient in practice and facilitates data collection and analysis.

Since fsQCA applies to the study of small and medium-sized samples, this study only focuses on the research field of TikTok and sorts out the communication data of 10 representative female sports stars on TikTok (Table 2). To avoid subjective tendencies, this study focuses on the number of forwarding, comments, favorites, and likes to ensure authenticity and accuracy. These cases are typical as they are from homogeneous fields and diversified owing to their diverse backgrounds and characteristics.

Table 2. Classification of the 10 female sports stars and their characteristics in the TikTok

Type	Features	Number	Typical case	Sports event	TikTok Hotness (Number of followers)
Winter Project	Specialising in winter sports such as skiing and skating, the TikTok buzz is mainly focused on the Beijing Winter Olympics period.	01	Eileen Gu	Women's Freestyle Skiing	2056.2w
		02	Xu Mengtao	Women's Freestyle Aerials	59.8w
		03	Wang Meng	Women's Short Track Speed Skating	640.2w
		04	Zhu Yi	Women's Figure Skating	71.0w
		05	Zhang Yuting	Women's Short Track Speed Skating	15.8w
		06	Wang Shiyue	Women's Figure Skating	87.6w
Summer project	Specialising in summer sports such as volleyball and table tennis, TikTok hotness is mainly focused on the Summer Olympics.	07	Liu Shiwen	Women's Table Tennis	250.4w
		08	Zhang Jiaqi	Women's Diving	281.5w
		09	Yang Qian	Women's Shooting	948.5w
		10	Zhu Ting	Women's Volleyball	197.8w

3.2 Variable Design and Assignment

Regarding variable design and value assignment, the variables of this research are classified into the following two categories: explanatory variables and outcome variables. Explanatory variables

refer to an individual cause or compound causes, while outcome variables refer to the results produced. Currently, there has been no fixed analytical framework for the media image building of female sports stars and the communication logic of their short videos. In this regard, Peng Lan[19] argues that the explanatory variables or conditional variables that influence the continuous dissemination of short videos mainly consist of technical basis, production threshold, context adaptation, emotional evocation, user cost, and social capital. Regarding the evaluation of the media image building of athletes, Xuan Baojian[20] believes that their media image can be classified into material image, value image, and aesthetic image. In addition, the number of comments, forwarding, favorites, and likes of short videos in some studies can also be considered explanatory variables. The outcome variables reflect the high popularity of female sports stars and the level of popularity of the selected cases.

On this basis, this study argues that the main mechanisms for the media image building of female sports stars consist of two frameworks, namely content attributes, and contextual attributes. Content attributes are manifested as media images, or rather direct influencing factors, including three explanatory variables, namely material image, value image, and aesthetic image. Contextual attributes are shown as non-content marginal content, or rather indirect influencing factors, consisting of 6 explanatory variables, namely technical basis, production threshold, contextual adaptation, emotional evocation, user cost, and social capital. Meanwhile, the outcome variable is the level of popularity or rather the popularity of the content communicated by female sports stars on short video platforms.

The content attributes are specified as follows.

(1) Material image: The philosopher Nikolay Chernyshevsky argues that any human-related theory must first answer the question of what a man should look like, what a man actually looks like, and how a man can shift from the latter to the former[21]. The first question this study is supposed to answer is “What a man should look like?” when it comes to media images. The image building of an organization can be reflected through individuals. In the traditional TV era, the group image and the individual image are mutually reinforcing. In the short video space, the image of the communicator certainly includes the personal media image of the live streamer, such as the dressing and grooming of the female sports star, which is the “individual” side of the communicator’s image. Meanwhile, as a public figure, the communicator’s image also includes symbolic capital features, such as the political, economic, and cultural factors of the media as well as the carrier, content, and dissemination, such as the number of followers, view counts, and conversion rate, which is the “material” side of the image. Then, these can be measured and calculated based on a certain proportion and shown in popularity, which is the “material image” of the communicator. For this reason, short videos containing more than 2 stars are denoted as 1, and the rest as 0.

(2) Value image: The progress in media technology has directly contributed to the advent of the era of mass media, with digitalized media information, diversified communication channels, and the equalized relationship between disseminators and recipients gradually becoming new features of the modern information society. During mass communication, TikTok, a platform of communication media, acts as an intermediary. User-generated information and social hotspots can be known to the public more quickly and extensively through TikTok, thus producing certain communication effects[22]. Regarding functions, the mass communication media disseminates information, guides public opinion, educates the public, and entertains the public. Through TikTok, female sports stars convey information in the form of videos or photo & text posts more conveniently and clearly to complete the “coding” process. Meanwhile, short and easy-to-understand messages help users timely and accurately extract information to complete the “decoding” process. As a kind of symbolic capital, female sports stars can use their social influence to grab some social discourse on TikTok, eventually guiding positive public opinion. The sports knowledge, bodybuilding knowledge, and training routine disseminated by them can also guide public users, thus playing an educational role. As an entertainment-centered platform, TikTok videos released and disseminated by female sports stars can also entertain the public. Accordingly, the efforts made by female sports stars in the process of mass communication can reflect their “value image” through credibility. Therefore, this study denotes

explanatory variable 1 as informative short videos, while the rest are denoted as 0.

(3) Aesthetic image: With the advent of the new media age, great changes have taken place to social aesthetics, giving rise to new aesthetic forms, consciousness, and experiences, incubating new aesthetic behaviors based on this, and ultimately offering a broader development space for social aesthetic behaviors[23]. Social in nature, human beings also need spiritual fulfillment aside from basic physiological satisfaction. Pursuing beautiful experiences and fulfilling basic aesthetic needs are the most immediate ways to meet people's spiritual fulfillment[24]. Media carries with it a certain aesthetic taste, be it noble or vulgar. Users can feel pleasure and beauty through the media products produced by female sports stars and the media content disseminated by them. In essence, this is a positive aesthetic experience. Such sensory stimulation and physical and mental experience are linked to "aesthetic value". To sum up, this study denotes explanatory variable 3 as conformity to the basic aesthetic laws.

The contextual attributes are described below.

(1) Technical basis: With the advent of the 5G era, the Internet and the fifth generation mobile communication technology have integrated more closely, incubating the diversified integration of emerging technologies, such as 4K, VR, and AR with media[25]. With the communication features of low latency and high rate, short-video businesses have achieved leapfrogging development in the era of 5G. In this background, short video content producers can use existing technologies to package their communication content, such as rhythm-filled soundtracks, eye-catching video covers, and quirky digital special effects, and will occupy a large share of the short video market. Owing to the special attributes of TikTok and short videos, sports athletes only need certain Internet skills to release videos and communicate information on short-video platforms, thereby attracting traffic. Some short videos can attract huge traffic even without editing. Therefore, this study sets the explanatory variable 4 as the use of video technology.

(2) Production threshold: As far as the video industry is concerned, long videos have been dominating the video industry with their long history and diversified and complete content. However, with the progress in Internet technology and the scattering of users' concentration, short videos with a lower production threshold have injected new vitality into the video industry. In the past, it required advanced filming equipment, mastery of video production capabilities, and a long period to produce popular long videos. Now, only a mobile device and a video platform are required for the filming, production, and publishing of videos. In comparison, short videos have a lower production threshold and can attract producers to persist in producing content. Thus, producers capable of creating quality videos and seeking novel videos will have more platform exposure and attract more video viewers. In summary, this study denotes the female sports stars capable of creating quality videos as 1 and the rest as 0.

(3) Context adaptation: Scoble argues that "context" is an applied information technology and exists mainly based on the progress of digital mobile devices, interactive media, big data, sensors, and positioning systems in the Internet era, hence creating a sense of being personally present. The definition reflects the characteristics of contexts as being experienced and specific. Meanwhile, he combines the "hard elements" required for space and the "soft elements" required for psychological behavior, which is in line with the essence of the mobile communication era [26]. Contexts can not only present users' consumption behavior and characteristics but also show their cultural identity and define their social network. As opposed to long videos, short videos are more adapted to being developed and communicated in diversified contexts, while using the cultural field of contexts to empower industries from various aspects, thus building the new communication logic for contexts and short videos. In the case of TikTok, its essence is still a short-video community platform, but it has incorporated photo & text options for the posting content. Therefore, to explore which type of work will influence the image building of female sports stars on TikTok, this study denotes those with the number of posted videos accounting for 90% of the total number of works as 1 and the rest as 0.

(4) Emotional evocation: Collins uses the term “emotional energy” to describe the emotional state of people who feel confident, enthusiastic, and want to take initiative while believing that emotions can dominate humans to some extent. As opposed to the emotional power conveyed by words, videos bring a more diversified visual impact and a more direct sensory experience. Being short and simple, short videos force content producers to concentrate their emotional climax to a few minutes or seconds to catch the attention of viewers. At the same time, continuous and stable video content and a fixed style also have an impact on evoking users’ stable emotions. Therefore, this study denotes female sports stars with a fixed style as 1 and the rest as 0.

(5) User cost: In the Internet era, companies are committed to maximizing product value by improving user experience to grab the rare resources of user attention when content tends to be homogeneous. The equal discourse system of TikTok and the simplified information transmission of short videos can help minimize the “user cost”. Moreover, the short video platform can use a personalized recommendation system to customize personalized information services according to the different attributes of users. This will not only help users acquire the information they need in a short period and eliminate the tedious steps of searching, thus catering to users’ laziness to a large extent[27]. Therefore, this study explores the level of user satisfaction through the number of comments on TikTok. Thus, videos with over 10,000 comments are denoted as 1 and the rest as 0.

(6) Social capital: Stig Hjarvard argues that though media-based exchanges and interactions occur in different spatio-temporal situations, they are as real as non-media-based ones[28]. TikTok is a short video platform that focuses on building social networks and creating content to share with content-based interpersonal communication values. With young people as its dominant users, TikTok has not only shocked the traditional offline social model but also shown more tolerance and respect for the creative personality of young people. Based on the mutual sharing of content among users, physical presence is no longer the prerequisite for establishing social relations[29]. As opposed to long videos, short videos are more readable and communicative and are therefore in a better position to link different users’ understanding of the same content. Moreover, short videos can be easily shared, so they are more likely to become social capital. Therefore, this study denotes a single video shared more than 1,000 times as 1 and the rest as 0.

The outcome variables are listed below.

This study takes the popularity of female sports stars as the outcome variable and the communication of short video content as the criterion to determine the level of popularity. Female sports stars with more than 5 million fans on TikTok are denoted as 1, indicating their high popularity. Those with less than five million fans are denoted as 0 and are believed to be less popular.

3.3 Truth Table Construction

Table 3. The Truth Table for Cases

Character number	Material image	Value image	Aesthetic image	Technical basis	Production threshold	Contextual adaptation	Emotional evocation	User cost	Social capital	The level of popularity
01	0	1	1	1	0	1	1	1	1	1
02	1	1	1	1	0	1	0	0	0	0
03	1	1	0	1	1	1	1	1	1	1
04	0	0	1	0	0	1	0	0	0	0
05	1	1	0	1	0	1	0	0	1	0
06	1	1	1	1	1	1	0	0	0	0
07	1	1	0	1	0	1	0	0	0	0
08	1	0	0	1	0	1	0	0	0	0

09	1	1	1	1	0	0	0	1	1	1
10	1	1	0	1	0	1	1	0	1	0

Based on the research steps of fsQCA, this study encodes and summarizes each case to arrive at the combined data of explanatory and outcome variables, thereby constructing the truth table for cases and regarding it as the basis for QCA. The researcher then selects “material image”, “value image”, “aesthetic image”, “technical basis”, “production threshold”, “contextual adaptation”, “emotional evocation”, “user cost”, and “social capital” as the explanatory variables and “the level of popularity” as the outcome variable. The detailed truth table construction is listed below.

4. Research Findings

4.1 Univariate Necessity Analysis

The measurement of consistency and coverage is of primary importance among the scientific steps of QCA as it influences the reliability and validity of the explanatory variables. This study imports a well-constructed truth table into the fsQCA software for preliminary data analysis, and takes the outcome variable “the level of popularity” as the output variable to determine the correlation between explanatory variables.

Through an analysis of whether an individual variable can constitute the prerequisite for “the high popularity of a female sports star”, this study discovers that as far as consistency and coverage are concerned, several individual explanatory variables, such as “value image,” “technical basis,” “user cost,” and “social capital”, exert a direct impact on the outcome variable, forming a stronger correlation with the outcome variable and showing a consistency result of 1.0.

In addition, the research findings show that the essential consistency of some individual variables is lower than 0.9, thus being unable to constitute the prerequisite for the high popularity of female sports stars. In other words, a single variable cannot explain the emergence of the outcome variable. In this study, the high popularity of female sports stars is the result of multiple factors.

Analysis of Necessary Conditions

Outcome variable: LXCD

Conditions tested:

	Consistency	Coverage
WZXX	0.666667	0.250000
JZXX	1.000000	0.375000
SMXX	0.666667	0.400000
JSJC	1.000000	0.333333
SCMK	0.333333	0.500000
CJSY	0.666667	0.222222
QGHQ	0.666667	0.666667
YHDJ	1.000000	1.000000
SJZB	1.000000	0.600000

Fig 1. Univariate necessity analysis diagram based on fsQCA software

4.2 fsQCA Results

It is found in this study that different compound paths of explanatory variables such as “material image”, “aesthetic image”, “production threshold”, “contextual adaptation”, and “emotional evocation” exert different levels of influence on the result. Among them, three basic compound paths are typical with a consistency of 1.0 with the outcome variable, thus having strong explanatory power.

Analysis of Necessary Conditions

Outcome variable: LXCD

Conditions tested:

	Consistency	Coverage
WZXX+SMXX+SCMK+CJSY	1.000000	0.300000
WZXX+SMXX+SCMK+QGHQ	1.000000	0.300000
SMXX+SCMK+CJSY+QGHQ	1.000000	0.300000

Fig 2. Effect of different combinations of paths of explanatory variables on outcome variables

From the above data, it can be seen that there are three different compound paths below:

(1) “material image” + “aesthetic image” + “production threshold” + “contextual adaptation” = 30%

This compound path means that a female sports star will be highly popular when she has a certain material influence with an image that conforms to the basic aesthetic logic, is capable of creating quality videos, and can adapt to the communication logic of TikTok. In this study, “Eileen Gu” conforms to this compound path. Her TikTok account contains not only cooperative videos with other athletes but also videos of commercial advertisements endorsed by her, thereby paving the way for building her material and aesthetic images. Meanwhile, Eileen Gu is aware of the ecosystem of TikTok videos and videos released by her require certain skills. For instance, most of her videos are vertical. Some are promotional videos made by advertisers on behalf of her. The videos released by Liu Shiwen are mostly taken from a third-person perspective, with advertisements and festival promotions accounting for a large proportion. Also, all her videos are vertical, so they can help her build a good media image and attract a large number of viewers.

(2) “Material image” + “aesthetic image” + “production threshold” + “emotional evocation” = 30%

This compound path means that a female sports star is highly popular when she has a certain material influence with an image that conforms to the basic aesthetic logic, is capable of creating quality videos, and can establish a good, continuous, stable emotional link with users. In this study, the account of “Wang Meng” belongs to this compound path. She appears in person in her videos, while her account is jointly operated by her MCN and herself. While having material and aesthetic images, she has formed a uniform style for her videos, thereby keeping users emotionally linked to her to a large extent. In the videos released by “Wang Shiyue”, her uniform training teaching videos have attracted a large number of fans for her. Users can achieve better training results through instructions by a professional athlete. In so doing, she has not only formed a uniform style for her videos but also established continuous, stable relations with her users, which has become one of the effective ways to build a good media image.

(3) “Aesthetic image” + “production threshold” + “contextual adaptation” + “emotional evocation” = 30%

This compound path means that a female sports star is highly popular when she has a personal image that conforms to the basic aesthetic logic, is capable of creating quality videos, can adapt to the communication logic of TikTok, and can establish a good, continuous, stable emotional link with users. In this study, “Yang Qian” belongs to this compound path. Her videos are mostly a combination of a cute style and music tempo, thus conforming to the communication logic of TikTok short videos. Also, users can directly perceive Yang Qian’s lovely personality. Hence, she can attract a cluster of followers by building her aesthetic images and producing high-quality videos. As a post-2000s new-generation female sports star, “Yang Jiaqi” releases videos that not only have emerging personalities and characteristics but also conform to the habits of the younger generation in using and viewing videos on TikTok, thereby resonating with young people on TikTok, building a young media image, and winning some followers.

All the above compound paths of different explanatory variables have a coverage of over 30%, thus constituting the optimal compound paths of influencing factors under the condition of this study.

5. Summary and Discussion

Through the above microscopic analysis, the study arrives at the key influencing factors and three compound paths for the media image building and short-video communication logic of female sports stars, which help them optimize their short-video content and build a good media image.

Regarding the image composition of female sports stars, the material and aesthetic images are especially crucial. For example, Eileen Gu released a short video on February 18, 2022, featuring Eileen Gu biting a gold medal after winning the award together with the text "Yummy!". This video received nearly 4 million likes. The image of Eileen Gu herself and the gold medal allowed users to feel the exciting experience of beauty and the transmission of symbolic value. Material and aesthetic images carry the extension of the personal significance of female sports stars, while fully leveraging the significance itself can make the video more unique.

The production threshold and contextual adaptation are also two prominent essential conditions for the communication of short videos. For instance, the cooperation of Wang Meng with an MCN can significantly enhance the video quality and form a uniform style, allowing users to further improve their video-viewing experience. During the Winter Olympics, Wang Meng used TikTok to publicize the co-produced program "Master Meng is Coming". She released promotional videos with a uniform form and language style, thus leaving a deep impression on users. In the era of short videos with serious content homogenization, producing professional video scripts has been a key way to attract viewers. Moreover, adapting to the communication characteristics of short video platforms can also pave the way for the widespread communication of video content.

The emotional evocative ability of female sports stars also matters a lot as it can add some symbolic value to their media images. For example, all the dialogues close to life in Yang Qian's videos help her establish a media image close to the audience, build her fan group, and attract the attention of young people, accounting for a large proportion of the audience. Making full use of the straightforward and intense emotional transmission of short videos, they can significantly leverage their emotional power as female sports stars, such as the spirit of the women's volleyball team conveyed by Zhu Yi.

The American scientist Mancher argues that the feelings, observations, or attitudes conveyed by authors are reflected in their work. The works communicated by female sports stars can also present their basic image, emotional colors, and representative spirits, thus enriching their media images to a large extent.

References

- [1] Yang Wenyun, Ma Guoqiang, et al. Semiotic interpretation of sports stars. *Journal of Physical Education*. (2007) No. 08, p. 24-27.
- [2] Zeng Xiangmin, Dai Jinrong, et al. Research on Reversal News, Public Opinion Generation Mechanism and Governance Path in the Context of New Media: Based on the Qualitative Comparative Analysis (QCA) Study of Typical Reversal News Events from 2014 to 2020. *Journal of Social Sciences*. (2020) No. 07, p. 168-184.
- [3] Fan Pang, Lang Jingsong, et al. How Environmental Movements Spread in Mediated Society: An Analysis of the Environmental Events in 2007- 2016 in QCA. *Chinese Journal of Journalism & Communication*. (2019) No. 11, p. 115-126.
- [4] Liu Siqi, Zeng Xiangmin, et al. Research on Key Components and Communication Logic of Knowledge-Based Short Videos: A Qualitative Comparative Analysis Based on Knowledge-Based Short Videos in Bilibili. *Journalism and Mass Communication*. (2022) No. 02, p. 30-39+48.
- [5] Wu Zhensheng, et al. Coping Measures of Public Relations Crisis for "Sports Stars" in China under the Perspective of Symbolic Capital. *Journal of Guangzhou Sport University*. (2020) No. 06, p. 40-43.

- [6] Gong Liuji, et al. *Capital: A Tool of Social Practice -- Bourdieu's Capital Theory*. Kaifeng: Henan University Press, 2010, p. 103-104.
- [7] Vilfredo Pareto, et al. *The Rise and Fall of Elite: An Investigation Based on Theoretical Sociology*. Translated by Gong Weiming in Chinese. Beijing: Beijing Publishing Group, 2010, p. 13.
- [8] BOURDIEU P, et al. *The logic of practice*. Cambridge: Cambridge University Press, 1990, p. 112-121.
- [9] Charles Wright Mills, et al. *The Power Elite*. Translated by Yin Hongyi & Fa Lei in Chinese. Beijing: Xinhua Publishing House, 2017.
- [10] Huang Qilong, Deng Xinghua, et al. The generation logic and accumulation paths of the symbol capital of "sports stars". *Journal of Physical Education*. (2019) No. 26(01), p. 47-51.
- [11] Guo Qing, et al. Beckham Phenomenon. Idolworship and Media Creation Against the Backdrop of Consumptive society. *Journal of Chengdu Sport University*. (2009)No.03, p. 8-11.
- [12] Li Chunyang, Wang Qingjun, et al. Virtual myth: the mode of making sports stars in the context of consumption society. *Journal of Shandong Sport University*. (2018)No.34(02), p. 39-43.
- [13] Benoit, R Bojana, L, et al. The case for Qualitative Comparative Analysis(QCA): adding leverage for thick cross-case comparison. In David Byrne, Charles C. Ragin (eds). *The sage handbook of case-based methods*, London: SAGE Publications Ltd. 2009, p. 222-242.
- [14] Mao Zhanwen, et al. An Introduction to Comparative Analysis (QCA) and Its Application Prospect in Journalism & Communication Research. *Chinese Journal of Journalism & Communication*. (2016)NO.04, p. 6-25.
- [15] Zeng Xiangmin, Weng Xudong, et al. A study of the combination of elements in the formation and spread of information epidemics - a qualitative and comparative analysis of fuzzy sets of epidemic-related fake news. *Youth Journalist*. (2021)No.23, p. 51-55.
- [16] Fan Pan, Lang Jingsong, et al. How Environmental Movements Spread in Mediated Society: An Analysis of the Environmental Events in 2007- 2016 in QCA. *Chinese Journal of Journalism & Communication*. (2019)No.41(11), p.115-126.
- [17] Zhou Jun, Wang Min, et al. How Internet Buzzwords Spread in China: Crisp-set Qualitative Comparative (csQCA) Analysis of 12 Public Events. *Chinese Journal of Journalism & Communication*. (2016) NO.38 (04), p. 26-46.
- [18] Zhang Ming, Chen Weihong, Lan Hailin, et al. What Makes Chinese Firms Fully Acquire Foreign High-Tech Firms: A Qualitative Comparative Analysis of Fuzzy Sets Based on 94 Cases (fsQCA). *China Industrial Economics*. (2019)No.04, p.117-135.
- [19] Peng Lan, et al. Short videos: genetic modification and re-cultivation of video productivity. *Journalism and Mass Communication*. (2019)No.01, p.34-43.
- [20] Xuan Baojian, et al. Media image connotation analysis. *China Radio & TV Academic Journal*. (2008)No.03, p. 27-28+24.
- [21] Nikolay Gavrilovich Chernyshevsky, et al. *Life and Aesthetics*. Translated by Zhou Yang. Beijing: The People's Literature Publishing House, 1957, p. 51.
- [22] Guo Bingyang, et al. An Analysis of the Communication Mechanism of Shake Shack Short Video - An Example of Wilbur Schramm's Mass Communication Model. *Journalist Cradle*. (2020)No.04, p.127-128.
- [23] Huang Lingyu, et al. A Study of Social Aesthetic Pluralism in the New Media. *Jiangxi Social Sciences*. (2018)No.38(07), p. 240-246.
- [24] Guo Zhengwei, et al. The Beauty and Pleasure of a Mediated Aesthetic. *Media Forum*. (2021)No.4(24), p. 116-118.
- [25] Wang Fuqiu, et al. Research on Media Tendency and Guidance Mechanism of Sports Short Video Production and Dis-semination in the 5G Era. *Sports & Science*. (2021)No.10, p. 54-60.
- [26] Yu Guoming, et al. The evolutionary logic of the media of the future: the iteration, reorganization and sublimation of the "human connection" - from the "scene era" to the "Metaverse" to the future of "The Mind World". *Journalism and Mass Communication*. (2021)No.10, p. 54-60.
- [27] Xiong Kairong, Liu Chao, Gan Zimei, et al. Is Swiping TikTok Addictive? --Factors influencing the immersive experience of short video app users and the formation mechanism. *Shanghai Journalism Review*. (2021)No.05, p. 83-96.

- [28] Stig Hjarvard, et al. *The Mediatization of Culture and Society*. Translation by Liu Jun, Li Xin, Chia Junyi. Shanghai: Fudan University Press, 2020, p. 32.
- [29] Zhao Hongxun, Wang Wenjing, et al. Text, Space and Medium: An Exploration of the Social Logic of Jitterbug Short Video for Youth Groups. *Science & Technology for China's Mass Media*. (2021)No.10, p. 10-13.
- [30] Leon·Nelson·Flint, et al. *The Conscience of the Newspaper*. Beijing: China Renmin University Press, 2005.