Psychology Research and Behavior Management

Dovepress

open access to scientific and medical research

Open Access Full Text Article

ORIGINAL RESEARCH

Effect of Listening Channels for Sport-Event Theme Songs on Willingness to Share

Xi Zhao[1], Yongtao Zhang[1], Hong Wang[2], Mingtao Wang[1]

[1]School of Economics and Management, Chengdu Sport University, Chengdu, Sichuan, People's Republic of China; [2]Business School, Chengdu University of Technology, Chengdu, Sichuan, People's Republic of China

Correspondence: Yongtao Zhang, School of Economics and Management, Chengdu Sport University, No. 2 Tiyuan Road, Wuhou District, Chengdu, Sichuan, 610041, People's Republic of China, Email 294026440@qq.com

Purpose: The sport-event theme songs is a crucial means to evoke consumer enthusiasm and boost the influence of sport event. This research aims to examine the effects of direct and indirect listening channels for sport-event theme songs on consumers' willingness to share.

Methods: In this research, three between-subjects experiments were conducted to measure the effect of listening channels for sport-event theme songs on the willingness to share, along with the moderating effects of fans' fanaticism and sport-event type. All participants in the experiments were social populations from China.

Results: Study 1 reveals that direct listening is more likely to cause consumers to share cognitive information about sport-event theme songs; indirect listening, meanwhile, makes them more willing to share the emotional value of the songs. Study 2 indicates that fans' fanaticism moderates the relationship between listening type and shared content. In the case of low fanaticism, indirect listening can increase consumers' willingness to share sport-event theme songs compared with direct listening. Study 3 reveals that sport-event type moderates the relationship between listening type and shared content. For public welfare sport events, indirect listening is more likely than direct listening to cause consumers to share the emotional value of sport-event theme songs. For commercial events, compared with indirect listening, direct listening is more likely to cause consumers to share cognitive information about sport-event theme songs.

Conclusion: The results of this research unveiled the effect of listening channels for sport-event theme songs on the willingness to share, as well as the theoretical mechanisms behind them. In addition, this research enriches the research on listening channels in the field of psychology and provides an important basis for improving the effectiveness of sport-event theme songs.

Keywords: direct listening, indirect listening, content sharing, fan fanaticism, sport-event type, sport-event theme song

Introduction

A sport-event theme song is an officially released song intended to represent the spirit, main idea, and culture of a given sport event.[1] Aiming to increase the visibility and influence of the event, some sport events will release exclusive theme songs through direct listening channels before the official start of the event.[2] What consumers share after listening to the theme song is a crucial aspect of the effectiveness of the marketing for the sport event. Consumer listening (and subsequent sharing) can be divided into two categories: listening to sport-event theme songs through official (direct) channels and listening to them through unofficial (indirect) channels.[3]

Many studies have investigated consumer listening behavior and sport-event theme songs.[2–12] Few, however, have considered the effect of sport-event theme songs listening channels on content sharing. Although some researchers have proposed a connection between listening channels for sport-event theme songs and consumers' attention to event information, they have not systematically explained how the listening channels for sport-event theme songs affect content sharing.[7] In terms of theory development, current research on the effect of sport-event theme song listening channels on sharing content is insufficient. Firstly, there is no differentiation between the effects of different consumer listening channels. Secondly, there is still considerable research space regarding the moderating effect of fans' fanaticism on the willingness to share of sport-event theme songs. Finally, studies have not considered whether the sport-event type influences the effect of the listening channel on consumers' willingness to share theme songs.

Received: 18 December 2023
Accepted: 18 March 2024
Published: 30 March 2024

In light of the above, this article aims to further explore the practical issues related to sport-event theme songs and consumer listening, as well as the theoretical mechanisms behind them. To this end, we examine whether there is a difference in sharing content between direct listening and indirect listening and what the related mechanism might be. On one hand, our findings can provide a theoretical reference to help sport-event managers handle the influence of consumer listening on the sharing of sport-event theme songs. On the other hand, by further exploring consumer listening in terms of event theme song listening, this article can provide a theoretical foundation for more in-depth research on consumer listening and sport-event theme songs.

Literature Review and Research Hypotheses

Research on the Influence of Sport-Event Theme Songs

Atkinson (2004) found that high-intensity sports generally use fast-paced theme songs, and athletes' performance will be enhanced if the song's tempo exceeds 140 beats per minute.[5] Even in low-intensity sports, athletes are more likely to favor fast or medium-tempo theme songs. Meanwhile, slower theme songs are generally not suitable for exercise or training unless used to moderate the intensity of the exercise or to warm up and relax. Theme songs help ease athletes' post-competition nerves and calm post-competition emotions. A relaxing theme song can help relieve athletes' post-competition tension and anxiety. Furthermore, the melody, emotion, rhythm, and other elements of sport-event theme songs can enhance athletes' excitement and help achieve a virtuous circle between theme song–sport event–sports–theme song.[13]

Others have examined the influence of sport-event theme songs on sport events. Under globalization, sport-event theme songs have transcended the music itself, with themes related to epoch, nationality, unity, and innovation. This transformation becomes a bridge that connects sports and music, allowing individuals to perceive sporting events and understand the world through the related theme songs. Analyzing the relationship between sports and theme songs, Zhou (2021) studied the theme songs of the Olympic Games and identified their unique aesthetic concepts.[14] Park (2021) analyzed the traditional Korean folk songs played at the 2018 Winter Olympics in Pyeongchang, considering the relationship between theme songs and sport events in terms of culture and ideology.[15] That study suggested that theme songs can enhance the effectiveness of the Olympic Games for shaping specific ideologies.

Regarding the influence of sport-event theme songs on sports consumption, Ballouli and Heere (2015) suggested that songs can influence many sports-consumption contact points, most effectively in the stadium setting.[2] Ballouli and Bennett (2014) found that when a sport-event theme song is used for background music in a sports shop, it will positively affect consumption behavior.[16] Further, if the theme song matches the visual expression of an advertisement, it will enhance the advertising effect. Loustaunau (2019) found that sport-event theme songs can significantly influence consumers' sports consumption experience and satisfaction.[9] Allan and Tryce (2016) found that combining dynamic sports images with rhythmic sport-event theme songs can promote sports consumers' shopping behavior.[17] Based on arousal theory, Uhm (2022) found that adding event theme songs to sports advertisements can better attract consumers' attention.[18]

Consumer Listening Channels: Direct Listening and Indirect Listening

The concept of consumer listening channels can be traced to Holbrook and Hirschman (1982),[19] who inspired future research by suggesting that consumer listening involves symbolic meanings, hedonic responses, and aesthetic criteria.[20,21] Research on consumer listening has identified the positive effect of superior consumer listening on firms' ability to improve customer loyalty, spread word-of-mouth, and improve performance.[22] However, the mainstream research on consumer listening is still in the conceptualization and measurement.[23,24] Helkkula (2011) conceptualized consumer listening as a process, emphasizing the forming elements, forming processes, and stages of listening.[25,26] Verhoef (2009) suggested that consumer listening could be divided into functional experience and emotional experience, emphasizing the objective functional characteristics of products and services and the feelings consumers derive from them respectively.[24] Consumer listening is also regarded as a phenomenon that is a personal and subjective response caused by direct or indirect interaction between consumers and market participants, and this interactive contact is an important trigger for consumer listening. Moreover, consumer listening is situational and social, meaning it is closely related to the specific experiential event scenario and the social class collective the consumer is located in.[27,28] In short, it

is widely acknowledged that consumers have subjective and internal cognitive, emotional, physical, sensorial, and social reactions to any direct or indirect contact with enterprise products.[23,24]

Dube and Helkkula (2015) divided consumer listening into direct and indirect listening. Direct listening refers to the perception of products through official channels.[3] Indirect listening refers to the acquisition of information or understanding of others' viewpoints, emotions, or intentions through non-direct means, which may include observing others' behaviors, listening to others' accounts, or relying on others' comments.[29,30] In this article, direct listening is viewed as listening to sport-event theme songs through official channels, while indirect listening is viewed as listening to sport-event theme songs from unofficial channels, such as friends, social media platforms, and short videos. While studies have focused on the information and value derived from direct listening,[16,31] they have not considered indirect listening, which does not require direct listening.

Consumer Listening to Sport-Event Theme Songs

Sport-event theme songs, as an important promotional tool, often represent the unique image of sport event. The different ways consumers listen to sport-event theme songs often change their perception of sport event.[6,10] Particularly, the difference between obtaining information directly from official channels and indirectly from other channels is very significant. When consumers directly hear a sport-event theme song (direct listening), they initiate a more specific level of information processing and pay more attention to various aspects of the song.[7,32] This in turn helps them form information such as the full range of sport-event theme songs (cognitive information). According to shared reality theory,[33,34] this cognitive information helps construct consumers' cognitive needs for sport-event theme songs and confirm facts about their experience of using sport-event theme songs. At the same time, by sharing the cognitive information they acquired through direct listening, consumers help other consumers who have not used the sport-event theme songs in constructing their cognition.[35] This enhances their close connection with other consumers, satisfies the need to belong, and strengthens interpersonal relationships in the online community. We argue, therefore, that consumers are more likely to share cognitive information following direct listening. When consumers listen to a sport-event theme song indirectly and without personal experience, they initiate a more abstract level of information processing.[7] They pay more attention to the emotional value of the sport-event theme song and thus to the emotional value they can obtain based on the song.[32] Shared reality theory suggests that these acquired affective values are the result of not only the sport event theme song but also the sharing of the song. According to shared reality theory, the sharing of these received emotional values contributes to consumers' confirmation of indirect listening and relational affiliation to the perceived sport-event theme song.[33,34] Therefore, we hypothesize that consumers are more likely to share received emotional value after experiencing indirect listening:

H1a: Direct listening is more likely than indirect listening to trigger the sharing of consumers' cognitive information about sport-event theme songs.

H1b: Compared with direct listening, indirect listening is more likely to trigger consumers' sharing of the emotional value of sport-event theme songs.

Moderating Effect of Fans' Fanaticism

Fans' fanaticism in sport event not only represents the level of consumer involvement in sport event, but is also an important factor influencing consumer behavior.[36] Fans' consumption behavior is influenced by factors such as tournament identification, emotional attachment, experience, loyalty, and frequency of sport-event viewing.[37] Each stage of fan formation and development is accompanied by increases in self-perception, emotional importance, and attitudinal persistence.[38] Certain academics believe that sport-event theme songs, as a unique aspect of sport-event culture, play a crucial role in the creation of fans' identities.[8] Through sport-event theme songs, fans can acquire a sense of belonging to a specific sport event, thereby accelerating the construction of fan identity.[39] Besides, fluctuations in fans' emotions can impact the effectiveness of sport-event theme songs.[2] Fans with higher levels of fanaticism exhibit noticeable differences in brain activation and information connectivity patterns compared to those with lower levels of fanaticism. Highly fanatical fans will exhibit higher levels of activity and neural responses in brain activity. Therefore, in emotionally charged contexts, fans may generate higher emotional value attribution and stronger motivation, thus altering

their attitudes toward sport-event theme songs.[40,41] This implies the connection between fans' fanaticism and sport-event theme songs.[42] Depending on the level of fans' fanaticism, consumers may focus on different motivational factors during the listening process, including both direct and indirect listening.[7] Meanwhile, the information cues that trigger associations and simulations of sport-event theme songs may vary, thereby leading to changes in willingness to share.[43] We propose that fans with high levels of fanaticism, who pay more attention to the sport-event theme song itself, are less likely to be influenced by other factors in their willingness to share. Fans with low levels of fanaticism, who are less loyal and attached to the sport-event theme song itself, are more likely to be influenced by other factors in their willingness to share. Therefore, we propose the following:

H2: Fans' fanaticism moderates the effect of sport-event theme song listening channels on willingness to share.

H2a: At higher levels of fan fanaticism, the effect of sport-event theme song listening channels on consumers' willingness to share is not significant.

H2b: At lower levels of fan fanaticism, compared with direct listening, indirect listening increases consumers' willingness to share sport-event theme songs.

Moderating Effect of Sport-Event Type

A sport event is a special product that delineates the boundary between the market and the government, with both commercial and public-interest characteristics.[44] A commercial sport event (CSE) is a sports activity organized for profit-making, intended to attract audiences, sponsors, and media attention through athletic competitions in order to maximize economic gains.[45] Examples include the Chinese Basketball Association (CBA) league and the Chinese Super League (CSL). Presently, the majority of CSE exhibit high levels of competition, wide public interest, and significant entertainment value, offering consumers a unique form of spiritual gratification separate from their daily routines.[46] Driven by their interest, consumers enhance their attention to event-related information, including match outcomes, athlete performances, and event developments. Furthermore, they actively share the information they acquire on social media platforms.[47] A public welfare sport event (PWSE) is a non-profit sport event organized by governmental bodies, non-profit organizations, or commercial entities, aiming to serve society and benefit the public.[48] Examples include the 2020 Unitech Cup China-North and South Lakes Mountain Running Race and the China Farmers' Games. Such events feature characteristics like public welfare orientation, social interaction, harmonious inclusiveness, and social educational qualities.[49] Consumers frequently view supporting PWSE aligned with their values as a means of contributing to society, anticipating fulfillment of their emotional needs from these endeavors.[50] Consequently, upon encountering information about PWSE, consumers may unintentionally strengthen their emotional and spiritual connections with these events, thereby enhancing their emotional identification with PWSE.[51] Based on the above, we propose that there is a matching effect between theme song-sharing content and event type. Specifically, for CSE, consumers value information about the event, and direct listening can bring consumers a higher perception of information; thus, they are more willing to share cognitive information about the theme songs. For PWSE, consumers value the emotional features of the event, and indirect listening can bring them a higher perception of warmth; therefore, consumers are more willing to share the emotional value of sport-event theme songs. Thus, we propose the following:

H3: Event type moderates the influence of sport-event theme song listening channels on willingness to share.

H3a: For PWSE, indirect listening is more likely than direct listening to trigger consumers to share the emotional value of sport-event theme songs.

H3b: For CSE, direct listening is more likely than direct listening to trigger the sharing of consumers' cognitive information about sport-event theme songs.

Study 1: Effect of Sport-Event Theme Song Channels on Shared Content

The purpose of Study 1 is to test hypothesis H1 (H1a and H1b). In Study 1, we employed a situational experiment method to examine the influence of direct and indirect listening on the willingness to share sport-event theme songs. Specifically, we utilized a one-way experimental group design (listening type: direct listening vs indirect listening) in which we presented the listening material to two groups of participants through official and unofficial channels, respectively, and subsequently measured their willingness to share. Finally, we conducted a one-way ANOVA to analyze the collected data to test hypothesis H1.

Methods

Participants

A total of 146 participants were recruited through social networking platforms (QQ and WeChat) to participate in the experiment, with the criterion of having no hearing impairment. Participants were randomly assigned to the "direct listening" group (N = 73, M_{age} = 19.92, SD = 2.38; 40 females, 54.8%) and the "indirect listening" group (N = 73, M_{age} = 20.23, SD = 1.78; 51 females, 69.9%). The research procedure received approval from the ethics committee of School of Economics and Management of Chengdu Sport University, adhering to the principles outlined in the Declaration of Helsinki.

Experimental Materials

In order to mitigate the influence of participants' preconceived impressions of sport-event theme songs on the experimental outcomes, we selected sport-event theme songs with minimal broadcast exposure in China as the listening material for the experiment. Based on data from prominent music streaming platforms in China, we selected the theme song of the 30th Napoli Summer Universiade as the listening material. The listening material was played to the participants in the direct listening group via the official website. The listening material was presented to the participants in the indirect listening group through short videos on WeChat.

Design and Procedures

We used a between-subjects design (listening type: direct listening vs indirect listening) for the experiment in Study 1.

The experiment in Study 1 was conducted in a professional marketing simulation laboratory at a university with good soundproofing and an anti-interference environment. At the beginning of the formal experiment and pre-experiment, the researcher introduced the experimental procedures and related precautions, followed by asking the participants to read and sign the informed consent forms. Then, subjects were asked to provide demographic information such as gender and age. Next, subjects were asked to identify the type of listening channel (direct listening vs indirect listening), and then they listened to the experimental material. Subsequently, based on the measurement items from previous studies, subjects completed an evaluation of the judgment of the type of listening channel for the sport-event theme songs, recognition of the type of listening channel for the sport-event theme songs, acceptance of the type of listening channel for the sport-event theme songs,[52,53] judgment of the type of shared content, familiarity with the shared content, and recognition of the shared content.[54] Finally, they completed their responses to the shared content (cognitive information vs emotional value).[55] All measurement items in the experiment require participants to rate themselves based on self-perception. The whole experiment took 6–8 minutes. A seven-point Likert scale was used in this experiment (1: completely disagree, 7: completely agree). Variables involving multiple items were used as the mean of their scores as the variable values.

Pre-Experiment

The purpose of pre-experiment 1 was to determine the type of listening channel. Seventy-nine participants (N = 79, M_{age} = 21.42, SD = 2.21; 43 females, 54.43%) were recruited for pre-experiment 1. First, the subjects were assigned to direct listening (36 subjects, 46%) and indirect listening (43 subjects, 54%). The direct listening group was asked to recall the last time they had heard sport-event theme songs and the entire process. For the indirect listening group, subjects were asked to recall the last time they had heard sport-event theme songs from someone else. All of the subjects were given three minutes to complete the recall and writing task. Referring to the study of Goldsmith (2002) and Molander (2022),[52,53] we evaluated the variables of the recognition and acceptance of the listening channel (seven-point Likert

scale, 1: completely disagree, 7: completely agree). The measurement item for listening channel recognition was "I approve of both listening channels"; the measurement item for acceptance of the listening channel was "I can accept the division of listening channels." The results of the independent-samples *t*-test showed that there was no significant difference between the two groups in the recognition and acceptance of the listening channels (p-values were greater than 0.05). The mean score of the subjects' perceptions of direct listening and indirect listening was significantly higher than the median of 4, and the difference was significant ($p < 0.05$).

The purpose of pre-experiment 2 was to determine the content of sharing. We investigated the effect of participants listening to the World Cup theme song on sharing content. Thirty participants (N = 30, M_{age} = 23.58, SD = 1.81; 15 females, 50%) recruited through social networking platforms (QQ and WeChat) were interviewed, of whom 15 had heard the theme song directly and 15 had not heard it directly but had seen others listen to it. For those who had heard the theme song themselves, they talked more about the perception of the event (80% of respondents); for those who had not heard the theme song but had seen others listen to it, they talked more about the emotional aspects of the theme song (70% of respondents). Referring to the study of Gool (2015),[54] we evaluated the variables of familiarity with and recognition of the shared content (seven-point Likert scale, 1: completely disagree, 7: completely agree). The measurement items for familiarity were "I am familiar with these two types of content" and "These two types of content are not new to me." The measurement item for recognition was "I can accept these two types of content." The results of the independent-samples *t*-test showed that there was no significant difference between the two groups in terms of familiarity with and acceptability of the shared content (p-values were greater than 0.05).

In conclusion, the pre-experiment indicated that the experimental design was valid, and the formal experiment could be conducted.

Results

We used SPSS 26.0 for all of the data analysis. Analyzing the reliability (Cronbach's α) of the measurement items of the Study 1 questionnaire, we found that the Cronbach's α values for the judgment of the type of listening channel for the sport-event theme songs, recognition of the type of listening channel for the sport-event theme songs, acceptance of the type of listening channel for the sport-event theme songs, judgment of the type of shared content, familiarity with the shared content, and recognition of the shared content were 0.81, 0.84, 0.83, 0.83, 0.85, and 0.80, respectively. All of the reliability values were greater than 0.8. Thus, the questionnaire scale in Study 1 had high reliability.

The measurement questions for the variables in Study 1 were directly or indirectly based on mature scales from previous studies, which guaranteed the validity of the scales. Meanwhile, validity analysis was conducted on the variables, including recognition of the type of listening channel for the sport-event theme songs, acceptance of the type of listening channel for the sport-event theme songs, familiarity with the shared content, and recognition of the shared content. The results of the KMO test and Bartlett's test of sphericity showed that the variables including recognition of the type of listening channel for the sport-event theme songs (KMO: 0.75), acceptance of the type of listening channel for the sport-event theme songs (KMO: 0.73), familiarity with the shared content (KMO: 0.74), and recognition of the shared content (KMO: 0.76) all had KMO values greater than 0.7, and Bartlett's test of sphericity was significant ($p < 0.001$). The exploratory factor analysis showed that the cumulative explained variance rate of one factor was 80.53%. Thus, all of the relevant indicators met the requirements, indicating good validity of the questionnaire.

Table 1 shows the results of one-way ANOVA for the control variables; none of their scores are significantly different. Testing the independent variables, we find that the mean scores of subjects' perceptions of listening channel types are all significantly higher than 4, and the differences are significant ($p < 0.05$). Thus, the stimulus design proved to be valid.

To test for common-method bias, all question items in the questionnaire were analyzed, and the CMV value was 32.029% (less than 40%). This does not constitute a majority; thus, common-method bias did not affect our study conclusions. One-way ANOVA showed no significant effect of gender on the variables, including recognition of the type of listening channel for the sport-event theme songs, acceptance of the type of listening channel for the sport-event theme songs, familiarity with the shared content, and recognition of the shared content (all p-values were > 0.05).

When the type of listening channel was direct listening, cognitive information was significantly higher than the affective value in terms of shared content ($M_{cognitive\ information}$ = 6.06, SD = 1.32; $M_{emotional\ value}$ = 3.95, SD = 1.07, p <

Table 1 Experimental Results for Study 1

	M_{direct}	$M_{indirect}$	F (1, 138)	P
Listening channel type judgment	4.89 (1.36)	3.89 (1.11)	8.65	0.01
Listening channel recognition	1.12 (1.13)	1.44 (1.05)	0.5	0.55
Listening channel acceptance	4.80 (1.01)	4.52 (1.12)	0.49	0.50
Shared content type judgment	4.10 (1.02)	4.32 (1.02)	0.11	0.69
Shared content familiarity	4.74 (1.32)	4.52 (1.11)	0.34	0.67
Shared content recognition	4.74 (1.07)	4.62 (1.13)	0.94	0.68
Cognitive information	6.06 (1.32)	3.96 (1.25)	11.34	0.01
Emotional value	3.95 (1.07)	5.12 (1.15)	11.23	0.01

Note: standard deviations (SDs) are in parentheses.

0.01, $\eta_p^2 = 0.12$). When the type of listening channel was indirect listening, the affective value was significantly higher than cognitive information in terms of shared content ($M_{emotional\ value} = 5.12$, SD = 1.25; $M_{cognitive\ information} = 3.96$, SD = 1.15, $p < 0.01$, $\eta_p^2 = 0.13$). As a result, H1a and H1b are supported (Figure 1).

Study 2: Moderating Effect of Fans' Fanaticism

The purpose of Study 2 is to test hypothesis H2 (H2, H2a, and H2b). In Study 2, we utilized the same situational experiment method as in Study 1. The independent variables were direct listening and indirect listening, and the moderating variable was fans' fanaticism (higher vs lower). Therefore, a between-subjects design of 2 (listening type: direct listening vs indirect listening) x 2 (fans' fanaticism: higher vs lower) was used. Based on the experimental procedure of Study 1, we adjusted participants' perception of fans' fanaticism through virtual stimuli. Finally, the moderating effect of fans' fanaticism on the willingness to share was measured.

Methods

Participants

A total of 208 participants were recruited through social networking platforms (QQ and WeChat) to participate in the formal experiment, with the criterion of having no hearing impairment. They were randomly assigned to the "direct listening vs higher fans' fanaticism" group (N = 52, $M_{age} = 22.34$, SD = 1.88; 26 females, 50.0%), "direct listening vs lower fans' fanaticism" group (N = 52, $M_{age} = 20.93$, SD = 2.12; 30 females, 57.7%), "indirect listening vs higher fans' fanaticism" group (N = 52, $M_{age} = 21.12$, SD = 2.58; 31 females, 59.6%), or "indirect listening vs lower fans'

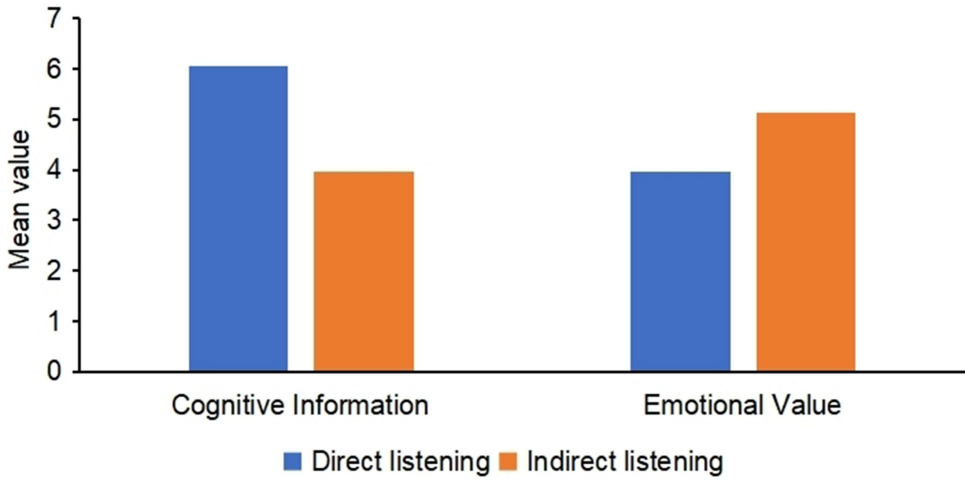

Figure 1 Influence of listening channels.

fanaticism" group (N = 52, M_{age} = 19.23, SD = 1.83; 26 females, 50%). The research procedure received approval from the ethics committee of School of Economics and Management of Chengdu Sport University, adhering to the principles outlined in the Declaration of Helsinki.

Experimental Materials

The listening material used in this experiment is consistent with that in Study 1. Participants in the direct listening group were exposed to the sport-event theme songs via the official website. Participants in the indirect listening group were presented with the sport-event theme songs through short videos on WeChat. Regarding stimuli for fans' fanaticism, we chose two types of virtual informational stimuli. Participants in the high fans' fanaticism group were provided with positive information about the 30th Napoli Summer Universiade and depicted the situational information of high fans' fanaticism. Participants in the low fans' fanaticism group were presented with negative information about the 30th Napoli Summer Universiade and depicted the situational information of low fans' fanaticism.

Design and Procedure

The experiment in Study 2 used a 2 (type of channel: direct listening vs indirect listening) x 2 (level of fans' fanaticism: higher vs lower) between-subjects design.

The experiments were conducted in a professional marketing simulation laboratory at a university with good sound insulation and an anti-interference environment. Steps one and two in this experiment were the same as in Study 1. The third step required the experimenter to describe the level of fans' fanaticism to the subject, who then listened to the experimental material. Subsequently, based on the measurement items from previous studies, they completed the evaluation of the judgment of the type of listening channel for the sport-event theme songs, recognition of the type of listening channel for the sport-event theme songs, acceptance of the type of listening channel for the sport-event theme songs,[52,53] type of fans' fanaticism, acceptance of fans' fanaticism, and recognition of fans' fanaticism.[56] Finally, referring to the study of Dodds (1991) and Casimir (2012),[57,58] participants have completed the items of willingness to share. All measurement items in the experiment require participants to rate themselves based on self-perception. The entire experiment took 6–8 minutes, and the variable values were measured in the same way as in the experiment in Study 1.

Pre-Experiment

The pre-experiment 1 was identical to the pre-experiment 1 of Study 1. Forty-eight participants (N = 48, M_{age} = 21.46, SD = 2.38; 21 females, 43.8%) without hearing impairment were recruited on social networking platforms (QQ and WeChat). The results of the independent-samples *t*-test showed that there was no significant difference between the two groups in the recognition and acceptance of the listening channels (p-values were greater than 0.05). The mean score of the subjects' perceptions of direct listening and indirect listening was significantly higher than the median of 4, and the difference was significant ($p < 0.05$).

The purpose of pre-experiment 2 was to determine the level of fans' fanaticism. A dummy variable of one was set as a higher fanaticism level, indicating a higher level of love for sport events. A dummy variable of two was set as a lower level of love for sport events. Using social networking platforms (QQ and WeChat), 52 participants (N = 52, M_{age} = 20.86, SD = 2.52; 27 females, 51.9%) were recruited with the criterion of having no hearing impairment. They were randomly divided into two groups. Referring to the study of Goldsmith (2002) and Cheah (2019),[52,56] the acceptance and recognition of fans' fanaticism were evaluated in the laboratory by describing two types of events to the subjects (seven-point Likert scale, 1: completely disagree, 7: completely agree). Acceptance of fans' fanaticism was measured as "I can accept this description of fans' fanaticism"; recognition of fans' fanaticism was measured as "I think the fans' fanaticism setting is reasonable." The results of the independent-samples *t*-test showed no significant difference in the acceptance and recognition of fans' fanaticism between the two groups of subjects (p-values were > 0.05). Dummy variable 1 could be considered a higher fanaticism level and dummy variable 2 a lower fanaticism level. In conclusion, dummy variable 1 can be regarded as a higher degree of fans' fanaticism, and dummy variable 2 can be regarded as a lower degree of fans' fanaticism.

The pre-experiment indicated that the experimental design was valid, and the formal experiment could be conducted.

Results

All of the data were analyzed using SPSS 26.0. The reliability analysis of the items measured in the questionnaire in Study 2 showed that Cronbach's α values for the judgment of the type of listening channel for the sport-event theme songs, recognition of the type of listening channel for the sport-event theme songs, acceptance of the type of listening channel for the sport-event theme songs, type of fans' fanaticism, acceptance of fans' fanaticism, and recognition of fans' fanaticism were 0.81, 0.80, 0.85, 0.83, 0.83, and 0.81, respectively. The Cronbach's α of the overall scale was 0.82, and all reliability values were > 0.8. Thus, the reliability of the questionnaire scale in Study 2 was high.

The measurement questions for the variables in Study 2 were directly or indirectly based on mature scales from previous studies, which guaranteed the validity of the scale. Meanwhile, we conducted a validity analysis of the variables, including judgment of the type of listening channel for the sport-event theme songs, recognition of the type of listening channel for the sport-event theme songs, acceptance of the type of listening channel for the sport-event theme songs, and fans' fanaticism type. The results of the KMO test and Bartlett's test of sphericity showed that the variables including judgment of the type of listening channel for the sport-event theme songs (KMO: 0.72), recognition of the type of listening channel for the sport-event theme songs (KMO: 0.74), acceptance of the type of listening channel for the sport-event theme songs (KMO: 0.76), and type of fans' fanaticism (KMO: 0.76) all had KMO values greater than 0.7, and Bartlett's test of sphericity was significant ($p < 0.001$). Exploratory factor analysis showed that the cumulative explained variance rate of one factor was 81.55%. We can see that all relevant indicators met the requirements, indicating good questionnaire validity.

Table 2 shows the results of ANOVA for the control variables. None of their scores are significantly different. By testing the independent variables, we found that the mean scores of subjects' perceptions of the types of direct listening and indirect listening were significantly higher than 4, and the differences were significant ($p < 0.05$). Thus, the stimulus design was valid.

Using the common-method bias test, all question items in the questionnaire were analyzed, and the CMV value was 33.061% (less than 40%). This does not account for the majority; thus, common-method bias did not affect our study conclusions. ANOVA showed no significant effect of gender on the variables, including judgment of the type of listening channel for the sport-event theme songs, recognition of the type of listening channel for the sport-event theme songs, acceptance of the type of listening channel for the sport-event theme songs, and type of fans' fanaticism (all p-values were > 0.05).

The results of two-factor ANOVA showed that the interaction between the type of sport-event theme song listening channel and the type of fans' fanaticism was significant ($F(1, 196) = 5.42$, $p < 0.05$, $\eta_p^2 = 0.01$). The main effect of the type of fans' fanaticism on willingness to share was not significant ($F(1, 196) = 4.32$, $p = 0.105$, $\eta_p^2 < 0.01$). The type of fans' fanaticism (higher vs lower) played a moderating role in the effect of the type of sport-event theme song listening channel on willingness to share. H2 was supported.

The simple effect test further showed that when the type of fans' fanaticism was high, the listening channel had no significant effect on willingness to share ($M_{direct} = 3.95$, $SD = 1.21$; $M_{indirect} = 3.96$, $SD = 1.45$; $F(1, 196) = 18.45$, $p < 0.001$, $\eta_p^2 = 0.05$). When fans' fanaticism level type was low, indirect listening was more likely to increase consumers' willingness to share sport-event theme songs compared with direct listening ($M_{direct} = 3.95$, $SD = 1.42$; $M_{indirect} = 6.06$, $SD = 1.30$; $F(1, 196) = 1.67$, $p < 0.001$, $\eta_p^2 < 0.01$). H2a and H2b are supported (Figure 2).

Table 2 Experimental Results of Study 2

	$M_{direct\ vs.high}$	$M_{direct\ vs.low}$	$M_{indirect\ vs.high}$	$M_{indirect\ vs.low}$	F (3, 197)	P
Listening channel type judgment	4.89 (1.36)	5.26 (1.12)	3.89 (1.11)	3.26 (1.45)	0.26	0.25
Listening channel recognition	1.12 (1.13)	1.37 (1.00)	1.44 (1.05)	1.28 (1.10)	1.23	0.24
Listening channel acceptance	4.80 (1.01)	4.89 (1.05)	4.52 (1.12)	4.85 (1.06)	1.01	0.31
Fans' fanaticism level type judgment	4.74 (1.32)	4.88 (1.23)	4.52 (1.11)	4.48 (1.12)	0.98	0.63
Fans' fanaticism acceptance	4.74 (1.07)	4.49 (1.05)	4.62 (1.13)	4.69 (1.21)	0.94	0.14
Fans' fanaticism recognition	4.44 (1.08)	4.52 (1.17)	4.65 (1.14)	4.41 (1.33)	1.01	0.39
Willingness to share	3.95 (1.21)	3.95 (1.42)	3.96 (1.45)	6.06 (1.30)	0.25	0.25

Note: standard deviations (SDs) are in parentheses.

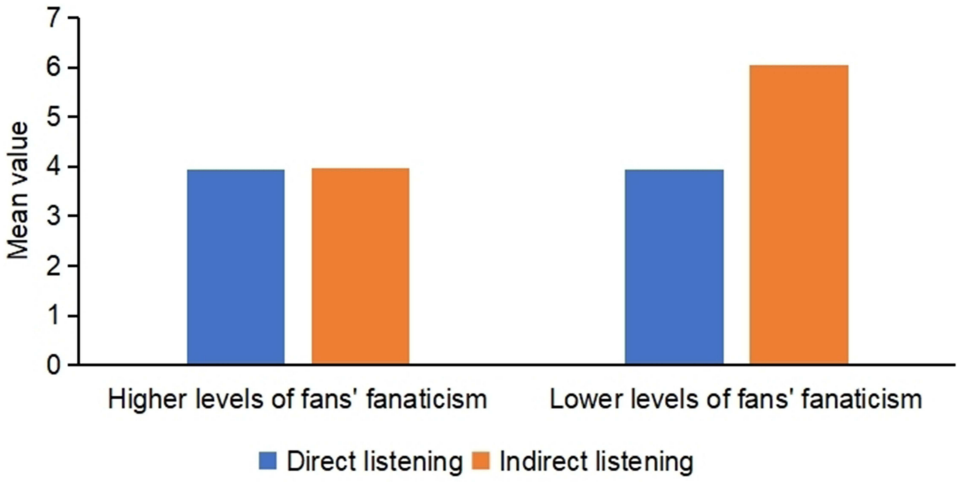

Figure 2 Moderating role of level of fans' fanaticism.

Study 3: Moderating Effect of Sport-Event Type

The purpose of Study 3 is to test hypothesis H3 (H3, H3a, and H3b). The research methodology of Study 3 is identical to that of Study 1 and Study 2. The independent variables were direct listening and indirect listening, and the moderating variable was the sport-event type (PWSE vs CSE). Thus, a between-subjects design of 2 (listening type: direct listening vs indirect listening) x 2 (sport-event type: PWSE vs CSE) was used. Based on the experimental process of Study 2, we adjusted participants' perceptions of sport-event types through two virtual sport-event stimuli. Finally, the moderating effect of sport-event types on willingness to share was measured.

Methods

Participants

A total of 208 participants were recruited through social networking platforms (QQ and WeChat), with the criterion of having no hearing impairment. Subjects were randomly assigned to the "direct listening vs PWSE" group (N = 52, M_{age} = 20.84, SD = 1.98; 28 females, 50.0%), "direct listening vs CSE" group (N = 52, M_{age} = 21.69, SD = 2.17; 25 females, 48.1%), "indirect listening vs PWSE" group (N = 52, M_{age} = 21.63, SD = 2.33; 27 females, 51.9%), and "indirect listening vs CSE" group (N = 52, M_{age} = 22.11, SD = 2.04; 30 females, 57.7%). The research procedure received approval from the ethics committee of School of Economics and Management of Chengdu Sport University, adhering to the principles outlined in the Declaration of Helsinki.

Experimental Materials

The listening material used in this experiment is consistent with that in Study 1. Participants in the direct listening group were exposed to the sport-event theme songs via the official website. Participants in the indirect listening group were presented with the sport-event theme songs through short videos on WeChat. In terms of stimuli for sport-event type, in order to mitigate the influence of participants' preconceived impressions on the experimental outcomes, we utilized two virtual sport events as stimuli. For the participants in the CSE group, we presented them with the virtual event identifier of virtual event 1 and described the information of virtual event 1, which was adapted from the information of real CSE. For the participants in the PWSE group, we presented them with the virtual event identifier of virtual event 2 and described the information of virtual event 2, which was adapted from the information of real PWSE information.

Design and Procedure

The experiment in Study 3 used a 2 (listening type: direct listening vs indirect listening) x 2 (sport-event type: PWSE vs CSE) between-subjects design.

The formal experiment was conducted in a professional marketing simulation laboratory at a university with good sound insulation and an anti-interference environment. Steps one and two of this experiment were the same as in the formal experiment in Study 1. The third step required the experimenter to describe the sport-event type to the subject, who then listened to the experimental material. Subsequently, based on the measurement items from previous studies, they completed the evaluation of the judgment of the type of listening channel for the sport-event theme songs, recognition of the type of listening channel for the sport-event theme songs, acceptance of the type of listening channel for the sport-event theme songs,[52,53] judgment of the sport-event type, acceptance of the sport-event type, recognition of the sport-event type,[59] judgment of the type of shared content, familiarity with the shared content, and recognition of the shared content.[54] Finally, they completed their responses to the shared content (cognitive information vs emotional value).[55] All measurement items in the experiment require participants to rate themselves based on self-perception. The whole experiment took 6–8 minutes. The variable values in this experiment were measured in the same way as in the formal experiment in Study 1.

Pre-Experiment

The purpose and procedures of pre-experiment 1 and pre-experiment 2 were consistent with those of pre-experiment 1 and pre-experiment 2 in Experiment 1. Pre-experiment 1 recruited 50 participants without hearing impairments, while pre-experiment 2 recruited 48 participants without hearing impairments, both through social networking platforms (QQ and WeChat). The results of pre-experiment 1 showed that there was no significant difference between the two groups in the recognition and acceptance of the listening channels (p-values were greater than 0.05). The mean score of the subjects' perceptions of direct listening and indirect listening was significantly higher than the median of 4, and the difference was significant ($p < 0.05$). The results of pre-experiment 2 showed no significant difference between the two groups in terms of familiarity with and acceptability of the shared content (p-values were < 0.05).

The purpose of pre-experiment 3 was to determine the sport-event type. Virtual event 1 was a CSE, described as a sport event that aims to maximize profits, such as the CBA league and Chinese Super League. It is associated with ability, competition, and winning. Consumers mainly value its competitive level and viewing experience. Virtual event 2 was a PWSE, described as a sport event that does not aim for profit and is associated with harmony, tolerance, and warmth. Consumers mainly value its public-service emotion. The main focus is on public welfare emotions. At the same time, we ensured that other control factors for the two types of events were the same (the scale of the event, the level of the event). Sixty participants ($N = 60$, $M_{age} = 22.73$, $SD = 2.18$; 32 females, 53.3%) were recruited through social networking platforms (QQ and WeChat), with the criterion of having no hearing impairment. Referring to the study of Carrillat (2015),[59] participants were randomly divided into two groups. Two types of sport events were described to them, and their judgment, acceptance, and recognition of the sport-event type (seven-point Likert scale, 1: completely disagree, 7: completely agree) were evaluated. The measurement item for the acceptability of sport-event type was "I can accept this description of a sport event", and the measurement item for the recognition of sport-event type was "I think the sport setting of this sport event is reasonable." The measurement item for CSE group was "I think this sport event is a commercial sport event", and the measurement item for PWSE group was "I think this sport event is a public welfare sport event." Independent-sample t-tests showed no significant difference in the acceptance and recognition of sport-event type between the two groups (p-values were > 0.05). The scores for two groups on judgment of the sport-event type were higher than the mean of 4. Virtual event 1 could be regarded as a CSE and virtual event 2 as a PWSE. Thus, virtual event 1 could be considered CSE stimulus material, and virtual event 2 could be considered PWSE stimulus material.

In conclusion, the pre-experiment indicated that the experimental design was valid, and the formal experiment could be conducted.

Results

We used SPSS 26.0 to analyze all data. The reliability analysis (Cronbach's α) of the measurement items of the three questionnaires indicated that the Cronbach's α values for the judgment of the type of listening channel for the sport-event theme songs, recognition of the type of listening channel for the sport-event theme songs, acceptance of the type of listening channel for the sport-event theme songs, judgment of the sport-event type, acceptance of the sport-event type,

recognition of the sport-event type, judgment of the type of sharing content, familiarity with the sharing content, and recognition of the sharing content were 0.82, 0.84, 0.85, 0.84, 0.81, 0.82, 0.84, 0.88, and 0.85, respectively. The Cronbach's α for the overall scale was 0.83, and all of the reliability values were greater than 0.8. Thus, the questionnaire in Study 3 had high reliability.

The measurement questions for the variables in Study 3 were directly or indirectly based on mature scales from previous studies, thus guaranteeing the validity of the scales. Meanwhile, validity analysis was conducted on the variables, including judgment of the type of listening channel for the sport-event theme songs, recognition of the type of listening channel for the sport-event theme songs, acceptance of the type of listening channel for the sport-event theme songs, and judgment of the sport-event type. The results of the KMO test and Bartlett's test of sphericity showed that the variables such as judgment of the type of listening channel for the sport-event theme songs (KMO: 0.74), recognition of the type of listening channel for the sport-event theme songs (KMO: 0.78), acceptance of the type of listening channel for the sport-event theme songs (KMO: 0.77), and judgment of the sport-event type (KMO: 0.76) all had KMO values greater than 0.7, and Bartlett's test of sphericity results were significant ($p < 0.001$). The exploratory factor analysis results showed that the cumulative explained variance rate of one factor was 80.53%. We can see that all relevant indicators met the requirements, indicating the good validity of the questionnaire.

Table 3 shows the results of ANOVA for the control variables; none of their scores are significantly different. By testing the independent variables, we found that the mean scores of subjects' perceptions of the types of direct and indirect listening were significantly higher than 4, and the differences were significant ($p < 0.05$). Thus, the stimulus design proved to be valid.

The common-method bias test was used to analyze all of the question items in the questionnaire. The CMV value was 34.725% (less than 40%), which does not account for the majority. Thus, common-method bias did not affect the conclusions. ANOVA showed no significant effect of gender on variables such as judgment of the type of listening channel for the sport-event theme songs, recognition of the type of listening channel for the sport-event theme songs, acceptance of the type of listening channel for the sport-event theme songs, and judgment of the sport-event type (all p-values were > 0.05).

Two-factor ANOVA showed that the interaction between sport-event theme song listening channel type and sport-event type was significant ($F(1, 198) = 5.44$, $p < 0.05$, $\eta_p^2 = 0.10$). The main effect of sport-event type on willingness to share was not significant ($F(1, 198) = 4.34$, $p = 0.105$, $\eta_p^2 < 0.01$). The sport-event type (PWSE vs CSE) played a moderating role in the effect of the type of sport-event theme song listening channel on willingness to share. Thus, H3 is supported.

The simple effect test further revealed that when the sport-event type was PWSE, indirect listening was more likely to trigger consumers' sharing of the emotional value of the theme song than direct listening ($M_{direct} = 2.95$, $SD = 1.20$; $M_{indirect} = 4.96$, $SD = 1.43$; $F(1, 198) = 18.40$, $p < 0.001$, $\eta_p^2 = 0.05$). When the sport-event type was CSE, direct listening was more likely to trigger consumers' sharing of cognitive information about the theme song compared with indirect listening ($M_{direct} = 5.95$, $SD = 1.22$; $M_{indirect} = 3.06$, $SD = 1.32$; $F(1, 198) = 1.61$, $p < 0.001$, $\eta_p^2 < 0.01$). Thus, hypotheses H3a and H3b hold (Figure 3).

Table 3 Experimental Results of Study 3

	$M_{direct\ vs.PWSE}$	$M_{direct\ vs\ CSE}$	$M_{indirect\ vs\ PWSE}$	$M_{indirect\ vs\ CSE}$	F (3, 238)	P
Listening channel type judgment	4.79 (1.35)	5.36 (1.52)	3.89 (1.11)	3.66 (1.35)	0.26	0.25
Listening channel recognition	1.23 (1.03)	1.77 (1.50)	1.44 (1.05)	1.48 (1.20)	1.33	0.24
Listening channel acceptance	4.89 (1.21)	4.79 (1.55)	4.52 (1.12)	4.75 (1.36)	1.03	0.31
Sport-event type judgment	4.68 (1.82)	4.68 (123)	4.52 (1.11)	4.46 (1.62)	0.78	0.63
Sport-event acceptance	4.38 (1.17)	4.69 (1.65)	4.62 (1.13)	4.39 (1.21)	0.86	0.14
Sport-event recognition	4.84 (1.48)	4.32 (1.77)	4.65 (1.14)	4.61 (1.43)	1.03	0.39
Cognitive information	3.85 (1.12)	5.95 (1.22)	2.26 (1.43)	3.06 (1.32)	0.28	0.28
Emotional value	2.95 (1.21)	2.96 (1.45)	4.96 (1.43)	3.95 (1.20)	0.25	0.25

Note: standard deviations (SDs) are in parentheses.

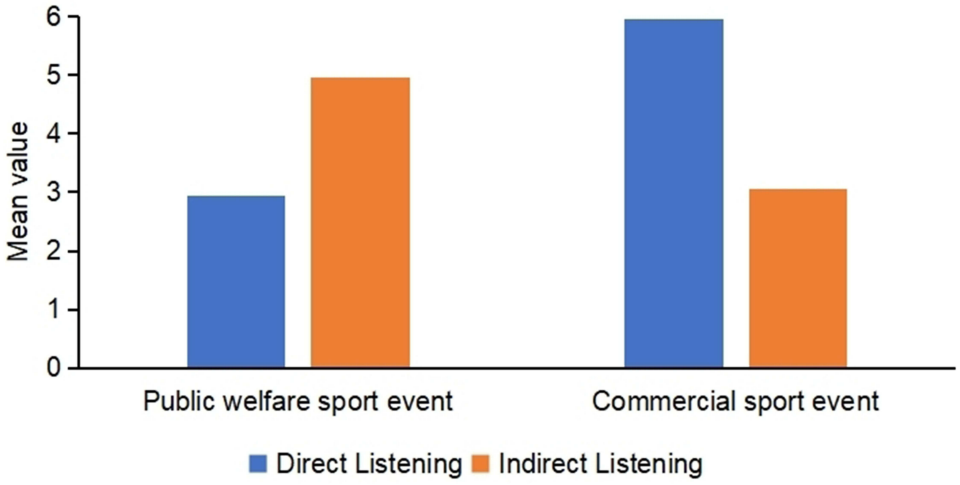

Figure 3 Moderating role of the sport-event type.

Discussion

This article explores the mechanism between sport-event theme songs and consumer listening, analyzes the differences in the mechanisms of sharing content through different listening channels, and provides a theoretical reference for sport-event managers to formulate marketing strategies. We focus on consumer listening channels and divide consumer listening into direct listening and indirect listening. Based on three experiments, we explore the influence of listening channels for sport-event theme songs on sharing content and test the moderating effects of fans' fanaticism and sport-event type.

The results of Study 1 indicate that consumers' direct listening to sport-event theme songs will produce sharing behavior, while indirect listening will also generate sharing behavior. Compared with indirect listening, direct listening is more likely to initiate consumers' sharing of cognitive information about sport-event theme songs. Compared with direct listening, indirect listening is more likely to initiate consumers' sharing of the emotional value of sport-event theme songs. It is reflected that when consumers indirectly listen to sport-event theme songs, it triggers indirect memory nodes in their minds, stimulating their emotions and resulting in a stronger emotional experience, thereby enhancing the likelihood of sharing emotional value.[60] When consumers directly listen to sport-event theme songs, they engage in a more specific level of information processing, focusing more on comprehending the information conveyed by the sport-event theme songs. These results support the assertions of previous scholars.[7,32] It's worth noting that in the social media environment, where consumers might see official channels recommend directly listening to sport-event theme songs or see others recommend theme songs, consumers will also generate sharing behavior afterward, which will further affect consumers' attention to sport events.[33,34] Therefore, sport-event managers should pay attention not only to how consumers form sharing after direct listening but also to the phenomenon of potential consumers' indirect listening and how it forms sharing, which could help improve the management of sharing sport-event theme songs on social media. Meanwhile, the connection between listening behavior and attitude change has been widely discussed in previous studies,[22,61,62] but there remains considerable research space regarding the impact of listening channels on willingness to share. This study begins with examining the listening channels of sport-event theme songs, explores the intrinsic relationship between direct and indirect listening and the willingness to share, enriches the understanding of sport-event theme songs in the domain of listening behavior, and lays a theoretical foundation for future research on the listening channels of sport-event theme songs.

The results of Study 2 confirm that the level of fans' fanaticism (high vs low) moderates the effect of listening channels for sport-event theme songs on sharing content. Different levels of fans' fanaticism will affect consumers' attention to information in sport-event theme songs and their willingness to share through direct or indirect listening.[7] In the case of higher fans' fanaticism, consumers pay more attention to the theme song itself, and their willingness to share is less susceptible to other factors. The influence of listening channels on willingness to share sport-event theme songs is

not significant. In the case of lower fans' fanaticism, consumers are not very loyal to the theme song itself, and their willingness to share is more susceptible to other factors. This finding corroborates prior research that fans' emotions will affect their behavioral intentions,[40,41,63,64] and provides additional insight into the significant role of fans' fanaticism in shaping consumer behavior and attitudes.[6,10] Furthermore, it provides researchers with a broader perspective to comprehend the psychological mechanisms underlying the impact of fans' fanaticism on consumer behavior from the standpoint of consumer listening. In reality, fans' support for teams or sport events can activate brain areas associated with emotional cognition, resulting in the formation of specific emotions, whether positive or negative.[65] The impact of various types of fans' fanaticism resulting from these emotions on sport events varies.[66] This also often leads sport-event managers to consider fans' fanaticism as a reference indicator for adjusting marketing strategies.[67] Concerning sport-event theme songs, fans' fanaticism can moderate the impact of listening channels on shared content. Hence, sport-event managers should seriously understand the relationship between fans' fanaticism and willingness to share, selecting promotional strategies for sport-event theme songs based on fans' fanaticism to maximize their revenue.

The verification of H3 in Study 3 confirms that sport-event type (PWSE vs CSE) moderates the influence of listening channels for sport-event theme songs on sharing content. In PWSE contexts, consumers display a greater propensity to share emotional value, while in CSE contexts, they manifest a stronger inclination toward sharing cognitive information. This phenomenon may be attributed to the tendency of PWSE to evoke collective emotions among individuals, resulting in a heightened focus on the emotional dimensions of such events.[48] Consumers tend to resonate emotionally with sport-event theme songs to a greater extent.[49] When indirectly listening to the theme songs of PWSE, consumers are more likely to share emotional value. CSE is frequently perceived as comprising highly competitive sport events.[68] Consumers may be more focused on sports-related information such as athletes' performance, technical aspects of the competition, and competition rules.[47] Thus, they are inclined to obtain cognitive information conveyed by sport-event theme songs through direct listening. Moreover, according to Coakley (2009), the essence of PWES lies in its core of public welfare goals, promoting social development, fostering social harmony, and propagating the spirit of sports through organizing sport events. It is evident that PWES places greater emphasis on creating emotional and spiritual value in society rather than commercial value.[69] Consumers involved in PWES are more inclined to share emotional value when they indirectly listen to the sport-event theme songs. Therefore, managers of PWES should increase the promotion of sport-event theme songs through indirect listening channels.

In summary, this article reveals the inherent mechanism between "listening-sharing" and considers the influence of fans' fanaticism level and sport-event type on the relationship between listening type and sharing content. This not only uses the impact of direct and indirect listening on consumer behavior as a starting point, enhancing the study of the relationship between listening channels of sport-event theme songs and willingness to share, offering insights for the development of theories related to listening behavior of sport-event theme songs. But it can also aid managers in effectively managing the "listening-sharing" relationship, offering a fresh perspective for managers to comprehend consumer listening behavior. Prompting managers to pay attention to the specific content that consumers are willing to share after experiencing direct and indirect listening, namely the cognitive information or emotional value of the theme song.

Limitations and Future Research

This article has some limitations. We only measured the effect of sport-event theme songs on sharing content and the moderating effects of fans' fanaticism level and sport-event type. We did not explore the mediating variables of the effect of sport-event theme songs on sharing content. In addition, the experiment only considered a situation in which consumers listen to a sport-event theme song once, ignoring the influence of multiple listens. The number of times consumers listen to a sport-event theme song might change their sharing attitude. Further, given that this article was conducted within a controlled laboratory environment, variations may arise when compared to real-world scenarios where consumers engage with sport-event theme songs, which could affect the applicability of the experimental results. In the future, we should focus on qualitative research. By analyzing qualitative data gradually refine the theoretical model of the impact of sport-event theme songs on willingness to share. Meanwhile, we should include more influencing factors, such as the quality of the sport event, the number of listens, and the language of sport-event theme songs, to enhance the breadth and depth of the research.

Conclusion

In conclusion, this article thoroughly investigates the relationship between the listening channels for sport-event theme songs and the willingness to share, analyzing the inherent mechanisms through which listening channels for sport-event theme songs influence the willingness to share. The research results confirm the significant impact of different listening channels on the willingness to share. Consumers are more inclined to share cognitive information after direct listening, while they are more likely to share emotional value after indirect listening. Additionally, it is proven that the degree of fans' fanaticism and the sport-event type act as moderators in the process of influencing the willingness to share through the listening channels for sport-event theme songs. Theoretically, it expands the research on the psychology of listening channels for sport-event theme songs, and practically, it offers a valuable reference for enhancing the effectiveness of sport-event theme songs.

Data Sharing Statement

All data generated or analysed during this research are included in this article.

Ethics Approval and Informed Consent

All participants in this research are already aged 18 or older. This research obtained approval from the ethics committee of School of Economics and Management of Chengdu Sport University. All participants were briefed on the relevant aspects of the experiment and provided signed consent forms.

Funding

This research was supported by the Post-Funded Projects of the National Social Science Foundation of China (21FTYB015). The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Disclosure

Professor Yongtao Zhang reports funds to support this research by the Post-Funded Projects of the National Social Science Foundation of China, during the conduct of the study. The authors report no conflicts of interest in this work.

References

1. Girish VG, Lee CK. The relationships of brand experience, sports event image and loyalty: case of Jeju International Ultramarathon Race. *Int J Sports Market Spons*. 2019;20(4):567–582. doi:10.1108/IJSMS-08-2017-0095
2. Ballouli K, Heere B. Sonic branding in sport: a model for communicating brand identity through musical fit. *Sport Manage Rev*. 2015;18(3):321–330. doi:10.1016/j.smr.2014.03.001
3. Dube A, Helkkula A. Service experiences beyond the direct use: indirect customer use experiences of smartphone apps. *J Serv Manage*. 2015;26:224–248. doi:10.1108/JOSM-11-2014-0308
4. Gregson K, Huggins M. Sport, music-hall culture and popular song in nineteenth-century England. *Sport Soc*. 1999;2. doi:10.1080/14610989908721840
5. Atkinson G, Wilson D, Eubank M. Effects of music on work-rate distribution during a cycling time trial. *Int J Sports Med*. 2004;25(8):611–615. doi:10.1055/s-2004-815715
6. McLeod K. "We are the Champions": masculinities, Sports and Popular Music. *Pop Music Soc*. 2006;29(5):531–547. doi:10.1080/03007760500238551
7. Hamilton RW, Thompson DV. Is There a Substitute for Direct Experience? Comparing Consumers' Preferences after Direct and Indirect Product Experiences. *J Consum Res*. 2007;34(4):546–555. doi:10.1086/520073
8. Collinson I. "Singing Songs, Making Places, Creating Selves:" Football Songs & Fan Identity at Sydney FC. *Transforming Cultures eJournal*. 2009;4(1). doi:10.5130/tfc.v4i1.1057
9. Loustaunau L, Degorre A, Galan JP, editors. Effects of Background Music on Sport Leisure Consumption Experience: the Case of a Bouldering Center. Proceedings of the 48th Annual Conference for the European Marketing Academy; 2019 May 24-27; Hamburg, Germany.
10. Davis L. Don't stop the party: exploring the tools used by fans to create atmospheres at live PDC darts events. *Manag Sport Leis*. 2022;1–21. doi:10.1080/23750472.2022.2105252
11. Davis L, Gibbons T. 'We can't participate like this at football, can we'? Exploring in-person performative prosumer fandom at live PDC darts events. *J Consum Cult*. 2023;23(4):1036–1053. doi:10.1177/14695405231168971
12. Sun W, Chang EC, Xu Y. The effects of background music tempo on consumer variety-seeking behavior: the mediating role of arousal. *Front Psychol*. 2023;14. doi:10.3389/fpsyg.2023.1236006Chen

13. Chen CC, Chen Y, Tang LC, Chieng WH. Effects of Interactive Music Tempo with Heart Rate Feedback on Physio-Psychological Responses of Basketball Players. *Int J Environ Res Public Health*. 2022;19(8):4810. doi:10.3390/ijerph19084810
14. Zhou N. Research on the Development of Sports Music from the Perspective of Olympic Theme Song. *J Hum Mov Sci*. 2021;2:36–39. doi:10.23977/jhms.2021.020307
15. Park DJ, Shin NR, Sydnor S, Clarke C. Ice Dancing to Arirang in the 2018 PyeongChang Winter Olympic Games: the Intersection of Music, Identity, and Sport. *Sociol Sport J*. 2021;38(1):78–87. doi:10.1123/ssj.2019-0186
16. Ballouli K, Bennett G. New (sound)waves in sport marketing: do semantic differences in analogous music impact shopping behaviors of sport consumers? *Sport Market Q*. 2014;23:59–72.
17. Allan D, Tryce S. Popular music in Super Bowl commercials 2005-2014. *Int J Sport Market Spons*. 2016;17:333–348. doi:10.1108/IJSMS-11-2016-019
18. Uhm J, Lee H, Han J, Kim DK. Effect of background music and hierarchy-of-effects in watching women's running shoes advertisements. *Int J Sport Market Spons*. 2022;23(1):41–58. doi:10.1108/IJSMS-09-2020-0159
19. Holbrook MB, Hirschman EC. Experiential Aspects of Consumption: consumer Fantasies, Feelings, and Fun. *J Consum Res*. 1982;9(2):132–140. doi:10.1086/208906
20. McColl-Kennedy JR, Gustafsson A, Jaakkola E, et al. Fresh perspectives on customer experience. *J Serv Market*. 2015;29(6–7):430–435. doi:10.1108/JSM-01-2015-0054
21. Klaus P. EXQ: a Multiple-item Scale for Assessing Service Experience. *J Serv Manage*. 2012;23:5–33. doi:10.1108/09564231211208952
22. Homburg C, Jozic D, Kuehnl C. Customer experience management: toward implementing an evolving marketing concept. *J Acad Marking Sci*. 2017;45(3):377–401. doi:10.1007/s11747-015-0460-7
23. Verhoef PC, Lemon KN, Parasuraman A, Roggeveen A, Tsiros M, Schlesinger LA. Customer Experience Creation: determinants, Dynamics and Management Strategies. *J Retail*. 2009;85(1):31–41. doi:10.1016/j.jretai.2008.11.001
24. Jaakkola E, Helkkula A, Aarikka-Stenroos L. Service experience co-creation: conceptualization, implications, and future research directions. *J Serv Manage*. 2015;26(2):182–205. doi:10.1108/JOSM-12-2014-0323
25. Helkkula A. Characterising the concept of service experience. *J Serv Manage*. 2011;22(3):367–389. doi:10.1108/09564231111136872
26. Edvardsson B, Enquist B, Johnston R. Co-Creating Customer Value Through Hyperreality in the Prepurchase Service Experience. *J Serv Res*. 2005;8. doi:10.1177/1094670505279729
27. Groenroos C, Voima P. Critical service logic: making sense of value creation and co-creation. *J Acad Marking Sci*. 2013;41(2):133–150. doi:10.1007/s11747-012-0308-3
28. Vargo S, Lusch R. Service-Dominant Logic" Continuing the Evolution. *J Acad Marking Sci*. 2008;36:1–10. doi:10.1007/s11747-007-0069-6
29. Guerrero LK, Floyd K. *Nonverbal Communication in Close Relationships*. 1st ed. Lawrence Erlbaum Associates Publishers; 2006.
30. Judee KB, Valerie M, Laura K. *Nonverbal Communication*. 2nd ed. Routledge; 2021.
31. Edvardsson B, Enquist B, Johnston R. Design dimensions of experience rooms for service test drives: case studies in several service contexts. *Manag Serv Qual*. 2010;20(4):312–327. doi:10.1108/09604521011057469
32. Trope Y, Liberman N. Construal-Level Theory of Psychological Distance. *Psychol Rev*. 2010;117(2):440–463. doi:10.4135/9781446249215.n7
33. Hardin CD, Higgins ET. *Shared Reality: How Social Verification Makes the Subjective Objective*. 1st ed. Guilford; 1996.
34. Echterhoff G, Higgins ET, Levine JM. Shared Reality: experiencing Commonality With Others' Inner States About the World. *Perspect Psychol Sci*. 2009;4(5):496–521. doi:10.1111/j.1745-6924.2009.01161.x
35. Pourabedin Z, Migin MW. Hotel experience and positive electronic word of mouth (e-WOM). *Int Bus Manag*. 2015;9(4):596–600. doi:10.3923/ibm.2015.596.600
36. Seregina A. *Fanaticism - Its Development and Meanings in Consumers' Lives [Dissertation]*. Helsinki: Aalto University; 2011.
37. Ennis S. *Understanding Fans and Their Consumption of Sport. Sports Marketing a Global Approach to Theory and Practice*. London: Palgrave Macmillan; 2020. 75–100. doi:10.1007/978-3-030-53740-1_4
38. Funk DC, Jam JD. Consumer Loyalty: the Meaning of Attachment in the Development of Sport Team Allegiance. *J Sport Manage*. 2006;20(2):189–217. doi:10.1123/jsm.20.2.189
39. Keaton S. *Sport Team Fandom, Arousal, and Communication: A Multimethod Comparison of Sport Team Identification with Psychological, Cognitive, Behavioral, Affective, and Physiological Measures*. Baton Rouge: Louisiana State University; 2013.
40. Redden J, Steiner CJ. Fanatical consumers: towards a framework for research. *J Consum Mark*. 2000;17(4):322–337. doi:10.1108/07363760010335349
41. Bilgiç B, Kurt E, Makar ÇC, et al. Functional neural substrates of football fanaticism: different pattern of brain responses and connectivity in fanatics. *Psychiatry Clin Neurosci*. 2020;74(9):480–487. doi:10.1111/pcn.13076
42. Lewis L. *The Adoring Audience: Fan Culture and Popular Media*. 1st ed. London and New York: Routledge; 1992.
43. Escalas JE. Imagine Yourself in the Product: mental Simulation, Narrative Transportation, and Persuasion. *J Advert*. 2004;33(2):37–48. doi:10.1080/00913367.2004.10639163
44. Inoue Y, Heffernan C, Yamaguchi T, Filo K. Social and charitable impacts of a charity-affiliated sport event: a mixed methods study. *Sport Manage Rev*. 2018;21(2):202–218. doi:10.1016/j.smr.2017.06.005
45. Daniel FAK. *Strategic Sport Marketing*. 4th. Routledge; 2020. doi:10.4324/9781003117483
46. Stewart RH, Aaron CT, Smith M, Nicholson B. *Sport Management: Principles and Applications*. 4th. Routledge; 2015. doi:10.4324/9781315733371
47. Morgan A, Adair D, Taylor T, Hermens A. Sport sponsorship alliances: relationship management for shared value. *Sport Bus Manag Int J*. 2014;4(4):270–283. doi:10.1108/SBM-12-2013-0044
48. Coalter F. *A Wider Social Role for Sport: Who's Keeping the Score?* 1st. Routledge; 2007. doi:10.4324/9780203014615
49. Fechner D, Filo K, Reid S, Cameron R. A systematic literature review of charity sport event sponsorship. *Eur Sport Manage Quart*. 2023;23(5):1454–1476. doi:10.1080/16184742.2022.2029524
50. Collins MC, Tess Kay M. *Sport and Social Exclusion*. 2nd. Routledge; 2014. doi:10.4324/9780203859728
51. Meenaghan T. Understanding sponsorship effects. *Psychol Mark*. 2001;18(2):95–122. doi:10.1002/1520-6793(200102)18:2
52. Goldsmith RE. Explaining and Predicting Consumer Intention to Purchase Over the Internet: an Exploratory Study. *J Market Theory Pract*. 2002;10(2):22–28. doi:10.1080/10696679.2002.11501913

53. Molander P, Andersson G, Hesser H. Psychological Acceptance in Adults With Hearing Loss—Psychometric Evaluation and Validation of the Hearing Acceptance Questionnaire. *Ear Hear*. 2022;43(6):1752. doi:10.1097/AUD.0000000000001245
54. Van Gool E, Van Ouytsel J, Ponnet K, Walrave M. To share or not to share? Adolescents' self-disclosure about peer relationships on Facebook: an application of the Prototype Willingness Model. *Comput Human Behav*. 2015;44:230–239. doi:10.1016/j.chb.2014.11.036
55. Leonardi PM. Social Media and the Development of Shared Cognition: the Roles of Network Expansion, Content Integration, and Triggered Recalling. *Organ Sci*. 2018;29(4):547–568. doi:10.1287/orsc.2017.1200
56. Cheah I, Liang J, Phau I. Idolizing "My Love from the Star": idol attachment and fanaticism of luxury brands. *Psychol Mark*. 2019;36(2):120–137. doi:10.1002/mar.211631
57. Dodds WB, Monroe KB, Grewal D. Effects of Price, Brand, and Store Information on Buyers' Product Evaluations. *J Mark Res*. 1991;28 (3):307–319. doi:10.1177/0022243791028003
58. Casimir G, Lee K, Loon M. Knowledge sharing: influences of trust, commitment and cost. *J Knowl Manage*. 2012;16(5):740~753. doi:10.1108/ 136732712112627811
59. Carrillat FA, Astous A, Bellavance F, Eid F. On 'being there': a comparison of the effectiveness of sporting event sponsorship among direct and indirect audiences. *Eur J Mark*. 2015;49(3/4):621–642. doi:10.1108/EJM-03-2013-0156
60. Vuoskoski JK, Eerola T. Extramusical information contributes to emotions induced by music. *Psychol Music*. 2015;43(2):262–274. doi:10.1177/ 0305735613502373
61. Itzchakov G, Demarree K, Kluger A, Turjeman-Levi Y. The Listener Sets the Tone: high-Quality Listening Increases Attitude Clarity and Behavior-Intention Consequences. *Pers Soc Psychol Bull*. 2018;44. doi:10.1177/0146167217747874
62. DeMarree KG, Chang YH, Lee T, Venezia A. Listening and attitude change. *Curr Opin Psychol*. 2023;53:101641. doi:10.1016/j. copsyc.2023.101641
63. Mastromartino B, Zhang JJ. Affective Outcomes of Membership in a Sport Fan Community. *Front Psychol*. 2020;11:881. doi:10.3389/ fpsyg.2020.00881
64. Shakina E, Gasparetto T, Barajas A. Football Fans' Emotions: uncertainty Against Brand Perception. *Front Psychol*. 2020;11:659. doi:10.3389/ fpsyg.2020.00659
65. Duarte IC, Afonso S, Jorge H, Cayolla R, Ferreira C, Castelo-Branco M. Tribal love: the neural correlates of passionate engagement in football fans. *Soc Cogn Affect Neurosci*. 2017;12(5):718–728. doi:10.1093/scan/nsx003
66. Chung E, Farrelly F, Beverland MB, Karpen IO. Loyalty or liability: resolving the consumer fanaticism paradox. *Mark Theory*. 2018;18(1):3–30. doi:10.1177/1470593117705696
67. Dwyer B, LeCrom C, Greenhalgh GP. Exploring and Measuring Spectator Sport Fanaticism. *Commun Sport*. 2018;6(1):58–85. doi:10.1177/ 2167479516679411
68. Mark CMC. *The Business of Sports: A Primer for Journalists*. 1st. Routledge; 2008. doi:10.4324/9780203933121
69. Coakley J. *Sport in Society. Issues &*. Controveries.13th ed. McGraw Hill; 2021.