

# Formation Mechanism of Spectator Sport Consumption Behavior: A Case Study of Dalian Football

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## Abstract

Spectator sport consumption has emerged as a new growth area within the service economy and plays an important role in expanding domestic demand and empowering urban development. However, spectator sport consumption in China currently faces the dilemma of “aggregate expansion accompanied by structural imbalance.” Grounded in Self-Determination Theory, this study constructs an integrated analytical framework of “external stimuli–psychological responses–behavioral outcomes.” Taking the football market in Dalian as a representative case, this research employs both interviews and questionnaire surveys to systematically examine the formation mechanism of spectator sport consumption behavior. The findings indicate that spectators’ game-attending behavior results from the joint influence of antecedent variables—such as product attributes, personal interest, and opportunity availability—which operate through psychological mechanisms including perceived value, satisfaction of basic psychological needs, and behavioral intention, with situational perception serving a moderating role. At present, spectator consumption faces several challenges, including high enthusiasm but insufficient sustainability, significant differences in psychological need satisfaction, and multiple constraints hindering behavioral conversion. Accordingly, this study proposes guidance strategies from three dimensions—optimizing the experience structure, strengthening competence experience, and deepening emotional attachment—aiming to provide both theoretical and practical references for promoting the high-quality development of spectator sport consumption.

## Keywords

spectator sport consumption, self-determination theory, behavioral formation mechanism, Dalian football, guidance strategies

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## 1. Introduction

The Report to the 20th National Congress of the Communist Party of China places the recovery and expansion of consumption as a priority task. As an important component of service consumption, sports consumption has become a key driver linking multiple strategic objectives, including stabilizing economic growth, promoting employment, and advancing rural revitalization [1]. However, China’s current sports consumption market exhibits the characteristic of “simultaneous aggregate expansion and structural imbalance.” On the one hand, nationwide fitness initiatives have significantly stimulated participation-based consumption. On the other hand, spectator sport consumption centered on professional competitions has developed relatively slowly, and its potential has not been fully realized. Although per capita sports consumption in many cities has

increased to the range of RMB 3,000–4,000, ticket purchase rates for professional events, league attendance, and the scale of peripheral products remain inconsistent with the economic size of these cities, revealing a structural contradiction of “increased quantity but weak quality.”[2] How to transform spectators’ enthusiasm for watching games into stable and sustained consumption behavior has thus become an urgent issue for both theory and practice.

As the well-known “Football City” of China, Dalian possesses a football market with strong representativeness and research value. Following the dissolution of Dalian Professional F.C. in 2024, Dalian Yingbo Football Club quickly inherited the enthusiasm and support of local fans. During the 2025 season, average home attendance approached 60,000 spectators per match, with cumulative attendance reaching 934,000, repeatedly setting records in the Chinese Super League [3]. Behind this phenomenon lie the combined effects of a deep-rooted football culture, stable emotional identification, and an integrated ecosystem linking culture, sports, tourism, and commerce. The Dalian market therefore provides a natural “laboratory” for examining spectator sport consumption. By analyzing the behavioral pathway through which spectators move from initial interest to sustained participation, broadly applicable strategies for promoting consumption can be distilled.

This study seeks to address the following questions: How is spectator sport consumption behavior formed? What are its core influencing factors and underlying mechanisms? How can such behavior be effectively guided and promoted? To answer these questions, this paper introduces Self-Determination Theory to construct an integrated analytical framework and, combined with empirical research in the Dalian football market, investigates the formation mechanism of spectator consumption behavior, with the aim of providing theoretical foundations and practical implications for policy design and market operations.

## **2. Theoretical Foundations and Analytical Framework**

### **2.1 Self-Determination Theory (SDT)**

Self-Determination Theory (SDT), proposed by Edward L. Deci and Richard M. Ryan, is an important theoretical framework for explaining human behavioral motivation. The theory posits that individuals are inherently endowed with three basic and universal psychological needs—autonomy, competence, and relatedness. The degree to which these needs are satisfied directly influences the internalization level and sustainability of behavioral motivation [4]. Specifically, in the context of sport spectating, the need for autonomy is reflected in spectators’ ability to independently choose match schedules, seating areas, and modes of participation rather than passively accepting arrangements. The need for competence refers to spectators gaining a sense of achievement and control—namely, “understanding the game”—through accumulating knowledge about competitions, comprehending tactical coordination, and accurately predicting match outcomes. The need for relatedness is manifested in social activities such as collective cheering, family viewing, and interactions within fan communities, through which spectators establish emotional bonds and a sense of belonging. SDT emphasizes that when these three basic psychological needs are adequately satisfied during the spectating process, spectators develop stronger intrinsic motivation. Such internally generated driving forces constitute the fundamental psychological mechanism that promotes the transition from one-time attendance to sustained participation and deep involvement.

### **2.2 Analytical Framework for the Formation Mechanism of Spectator Sport Consumption Behavior**

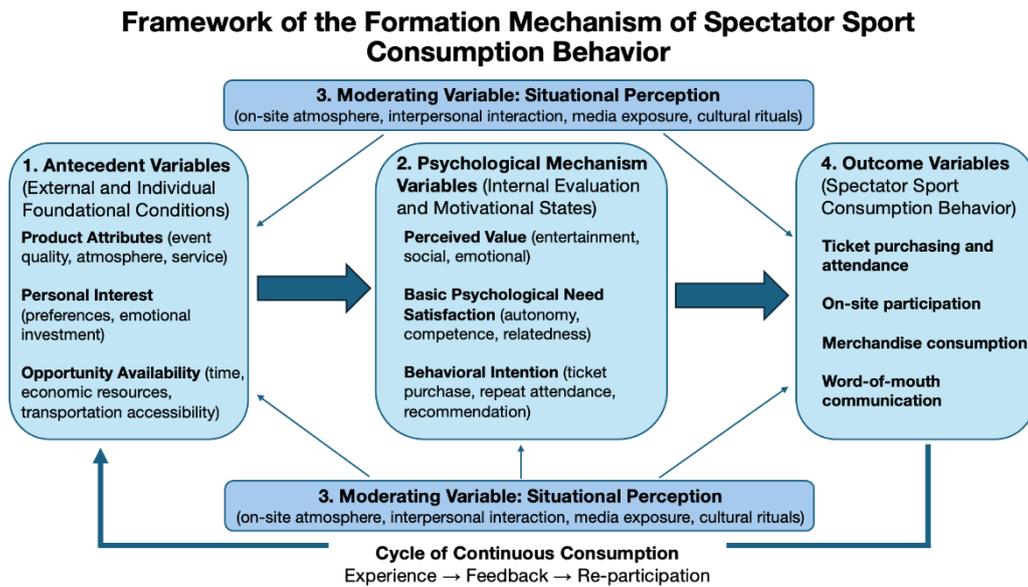
Based on Self-Determination Theory (SDT) and the Theory of Planned Behavior (TPB), this study constructs an integrated analytical framework aimed at systematically revealing the underlying mechanisms of spectator sport consumption behavior. The framework adopts the classic Stimulus–Organism–Response model (S–O–R) model as its fundamental logical structure and conceptualizes spectator sport consumption as a dynamic and multi-stage psychological process in which external environmental stimuli trigger internal psychological processing and ultimately lead to specific behavioral responses. Rather than merely identifying which factors influence consumption, this framework seeks to explain how these factors exert their effects. In other words, it aims to uncover the “black box” between external stimuli and final behaviors—namely, consumers’ internal psychological mechanisms. By incorporating the satisfaction of basic psychological needs

derived from SDT as the core mediating variable and behavioral intention from TPB as the direct antecedent of behavior, the framework effectively integrates macro-environmental factors with micro-level psychological drivers. This integration provides a clear theoretical map for understanding the complete behavioral chain through which spectators move from initial interest to sustained participation.

The framework begins with antecedent variables, namely various stimulus factors (S) acting on consumers. These factors constitute the initial driving forces of behavior formation and can be further categorized into external environmental stimuli and individual internal characteristics. First, product attributes represent the primary touchpoint that triggers consumption interest and serve as the core source of event attractiveness. They encompass event quality (e.g., suspense and entertainment value), on-site atmosphere (e.g., crowd cheering, organizer facilitation, and emotional contagion generated by the competition itself), and service experience (e.g., the comfort of venue facilities and the convenience of supporting services). High-quality product attributes provide stronger sensory stimulation and emotional experiences for spectators, forming the foundation for stimulating viewing intention. Second, personal interest functions as the intrinsic motivational source driving individuals' participation in consumption, reflecting pre-existing emotional connections between spectators and specific sports, teams, or athletes. This motivation stems from fan identity, a passion for sports, and prior positive spectating experiences, and it determines spectators' inherent tendency to pay attention to events. Third, opportunity availability constitutes the practical foundation and objective constraint for realizing spectating behavior. It includes time availability (the sufficiency of leisure time), economic availability (the affordability of ticket prices), and spatial availability (transport convenience and venue accessibility). Together, these three categories of antecedent variables form the initial situational context for spectators' consumption decisions. They operate both independently and interactively, jointly influencing subsequent psychological processing.

Following exposure to external stimuli, consumers enter a complex psychological processing stage, namely the organism (O) component of the framework, which serves as the critical mediating bridge connecting stimuli and behavior. This process follows a progressive logic of "perception–satisfaction–intention." First, spectators develop perceived value regarding their spectating experience, defined as a subjective evaluation of the overall utility of attending sporting events. This evaluation is multidimensional, encompassing not only the pleasure and relaxation generated by the event (entertainment value), but also the enhancement of interpersonal relationships through spectating (social value), the acquisition of emotional resonance (emotional value), and the expression of personal identity and taste (self-expressive value). When perceived value reaches a certain threshold, it triggers a deeper psychological satisfaction mechanism—namely, the satisfaction of basic psychological needs. According to Self-Determination Theory (SDT), spectators assess the extent to which their three basic psychological needs are fulfilled during the spectating process: autonomy (the ability to choose and express freely), competence (the ability to understand the game and experience a sense of achievement), and relatedness (the ability to obtain belongingness and emotional connection). The degree of satisfaction of these needs directly determines the strength of intrinsic motivation and constitutes the core psychological driving force that facilitates the transition from passive viewing to active participation. Once psychological needs are adequately satisfied, spectators develop behavioral intention, which represents the final preparatory stage through which psychological mechanisms translate into actual actions. Such intentions include the willingness to attend for the first time, the willingness to participate repeatedly, and the willingness to recommend the event to others through word-of-mouth communication. Moreover, the entire psychological processing sequence does not occur in isolation but is profoundly influenced by situational perception as a moderating variable. Spectators' real-time perceptions of environmental cues—such as on-site atmosphere, social interactions, and group norms—may significantly strengthen or weaken the effects of antecedent variables on psychological mechanisms and ultimately on behavioral outcomes. Finally, when intrinsic motivation aligns favorably with external situational conditions, psychological activities are externalized into concrete outcome variables (R), namely spectator sport consumption behaviors themselves. These behaviors are manifested in a series of actual actions, including purchasing tickets, attending events in person, engaging deeply in on-site activities, buying peripheral products, and spreading word-of-mouth recommendations. At this point, a complete consumption behavior chain of "external stimuli–psychological responses–behavioral outcomes" is formed, laying the foundation for a new round of consumption cycles.

Figure 1: Framework of the Formation Mechanism of Spectator Sport Consumption Behavior



### 3. Research Findings and Analysis

#### 3.1 Analysis of Influencing Factors of Spectator Sport Consumption Behavior

Overall findings indicate that spectator sport consumption is not driven by a single variable; rather, it is a composite process jointly shaped by event supply, individual differences, resource conditions, and social contexts.

Event quality constitutes the core external stimulus. The attractiveness of the event itself—its competitiveness, suspense, and on-site atmosphere—represents the primary factor in attracting spectators. The high attendance rate of Dalian Yingbo Football Club can largely be attributed to intense competition and the strong sense of ritual created by Dalian Suoyuwan Football Stadium. Empirical evidence shows that positive spectating experiences significantly enhance spectators' repurchase and recommendation intentions [5]. Personal interest serves as the source of intrinsic driving forces. Passion for football and loyalty to local teams constitute the fundamental motivations behind repeated ticket purchases. Dalian's deep-rooted football culture has cultivated a large number of "die-hard fans," who regard spectating as an integral part of daily life, with emotional investment far exceeding that of ordinary entertainment consumption. Opportunity availability provides the guarantee for behavioral realization. Time arrangements, ticket pricing, and transportation convenience are key thresholds that determine whether "wanting to attend" can translate into "being able to attend." Survey results indicate that family spectators show strong demand for parent-child ticket packages and supporting services, while non-local fans prefer "event + tourism" packages, both of which underscore the importance of opportunity availability. Situational perception functions as an amplifier of behavior. Contextual factors—such as on-site atmosphere, community interaction, and urban culture—can substantially strengthen or inhibit the conversion of viewing intentions into actual behavior [6]. The post-match fan chanting tradition at Suoyuwan Stadium, widely praised nationwide, has reinforced spectators' identity and sense of belonging. Consequently, spectating behavior transcends pure consumption and becomes a form of cultural ritual.

#### 3.2 Path Analysis of the Behavioral Formation Mechanism

At the pathway level, the formation of spectator sport consumption behavior involves at least two main lines: direct effects and indirect effects.

##### 3.2.1 Direct Effect Pathway

Product attributes (e.g., key matches and star players), personal interest (e.g., fan identity), and opportunity availability (e.g., leisure time) exert direct promoting effects on spectating behavior. For instance, the key

match between Dalian Yingbo Football Club and Beijing Guoan Football Club directly attracted 61,185 spectators to the stadium.

### **3.2.2 Indirect Effect Pathway (Psychological Mechanism Chain)**

This constitutes the more critical explanatory pathway. External conditions can be stably transformed into deeper consumption behaviors-such as repeated attendance and merchandise purchases-only through a sequential psychological process of: perceived value → basic psychological need satisfaction → behavioral intention. Perceived value serves as the starting point. Spectators evaluate the overall benefits of spectating, including entertainment, social, and emotional gains. When event supply, service experience, and cultural atmosphere meet their expectations, attending matches is perceived as a valuable lifestyle choice. Basic psychological need satisfaction represents the core mechanism. When event organizers provide user-friendly information services, clear guidance, and highly participatory interactive designs, enabling spectators to “understand the game” (competence), “participate autonomously” (autonomy), and “feel socially integrated” (relatedness), intrinsic motivation is activated. Through activities such as TIFO displays and mass singing, Dalian fans experience strong relatedness satisfaction, thereby developing a pronounced sense of belonging. Behavioral intention constitutes the outcome of the psychological process. The satisfaction of psychological needs ultimately translates into intentions such as repeated attendance and word-of-mouth recommendation, which further drive actual consumption behaviors.

### **3.2.3 Moderating Effect of Situational Factors**

Within the analytical framework of spectator sport consumption behavior formation, situational perception plays a distinctive moderating role. It is neither a necessary condition for behavior to occur nor a sufficient condition for behavior to emerge; however, it profoundly alters the strength and direction of relationships among other variables [7]. Qualitative evidence from this study indicates that contextual elements-such as on-site atmosphere, group interaction, and social norms-function like catalysts in a chemical reaction, significantly amplifying or inhibiting the effects of antecedent variables (e.g., product attributes and personal interest) on psychological mechanisms and ultimately on behavioral outcomes. More importantly, the moderating effect of situational perception does not operate uniformly across all stages of the behavioral chain. Instead, under specific conditions-particularly when spectating activities exhibit salient ritualized characteristics-it exerts a uniquely reinforcing influence on the satisfaction of relatedness needs. This, in turn, reshapes spectators’ value judgments and substantially enhances the conversion efficiency from behavioral intention to actual behavior.

## **3.3 Localized Manifestations of the Dalian Case**

### **3.3.1 Cultural Heritage and Urban Identity: The Cultural Foundation of Relatedness Needs**

This profound sense of urban identity provides uniquely favorable cultural conditions for satisfying spectators’ need for relatedness. As suggested by the Psychological Continuum Model (PCM), the psychological connection between individuals and teams develops progressively, evolving from awareness to attachment and ultimately to loyalty [8]. In Dalian, this process often begins in childhood-grandfathers take fathers to matches, fathers bring their children to the stadium, and three generations witness together the team’s triumphs and setbacks. When football becomes a natural component of family conversations, and supporting the hometown team turns into an unquestioned norm, the satisfaction of relatedness needs no longer depends on any single viewing experience but becomes embedded in the fabric of everyday life. More importantly, this urban identity cultivates a distinctive collective psychological mechanism-Basking in Reflected Glory (BIRGing). When Dalian-born players achieve success on the national team or when locally trained youth talents gain national recognition, residents experience a sense of pride expressed as “this is our child from Dalian.” This pride requires neither direct participation nor personal cost, yet it generates psychological belongingness and fulfillment for everyone associated with the city. As one interviewee articulated: “Only in the stands at the Dalian team’s home stadium do I feel a sense of belonging. I am part of the stands, and this stadium and this team are mine.” The word “mine” vividly illustrates how urban identity is internalized into personal identity.

### **3.3.2 Innovation in Consumption Scenarios: Multiple Fulfillment of Autonomy and Social Needs**

If cultural heritage provides the deep-rooted foundation for relatedness needs, then innovation in consumption scenarios creates broad opportunities for the immediate fulfillment of autonomy and social needs. The establishment of themed zones around the Suoyuwan professional football stadium-such as the “Seaside Salon” and “Interactive Market”-along with the introduction of the “Second-Site” LED live-viewing mode, marks a significant transformation of Dalian’s football consumption space from a single-purpose venue into a multifunctional lifestyle space. This transformation first responds to spectators’ need for autonomy. Under the traditional viewing model, spectators had extremely limited choices-either attend or not attend, either participate throughout or be completely absent. In contrast, diversified consumption scenarios grant spectators unprecedented decision-making power. They can flexibly combine their viewing experiences according to their time, energy, and interests: participating in themed activities at the seaside salon before the match, browsing the market for cultural and creative products during halftime, and continuing discussions with friends outside the stadium after the game.

### **3.3.3 Diverse Audience Profiles: Layered Needs and Differentiated Satisfaction Pathways**

The clearly stratified characteristics of Dalian’s spectator groups provide an excellent empirical context for understanding differentiated satisfaction pathways in spectator sport consumption. Different types of spectators enter the stadium with distinct motivations and realize their preferred value propositions through varying forms of participation. This stratification is not fixed but fluid-occasional spectators may become regular attendees, and regular attendees may develop into loyal fans. The influx of non-local supporters was a notable phenomenon during the 2025 season, with more than 100,000 visits generated by out-of-town spectators through “event + tourism” packages. The consumption behavior of this group exhibits a typical pattern of perceived value maximization. They no longer pursue a single match-viewing experience but rather the composite benefit of “one game plus one trip.” As one visitor from another northeastern province planned: “I’ll take the high-speed rail on Friday night, tour the Coastal Road and eat seafood on Saturday, watch the match in the evening, visit Lüshun on Sunday, and then head back in the afternoon.” For them, the match ticket functions as an “anchor” that triggers a complete travel experience. Match attendance and tourism mutually reinforce each other, jointly creating a high-perceived-value consumption experience. This model not only amplifies the comprehensive economic effects of sporting events but also injects new vitality into Dalian as a tourist city. Football thus becomes not merely an emotional attachment for local residents, but also a city brand that attracts external visitors.

## **4. Conclusions and Guiding Strategies**

### **4.1 Research Conclusions**

Grounded in Self-Determination Theory (SDT), this study constructed and empirically validated a formation mechanism of spectator sport consumption behavior. The findings indicate that such behavior results from the joint effects of antecedent variables-including product attributes, personal interests, and opportunity accessibility-which operate through spectators’ psychological mechanisms, namely perceived value, satisfaction of basic psychological needs (autonomy, competence, and relatedness), and behavioral intentions, while being moderated by situational perceptions. At present, spectator sport consumption faces three major challenges. First, although event popularity and viewing enthusiasm remain high, the stability of actual consumption behavior is insufficient. Second, disparities exist in the extent to which spectators’ basic psychological needs are satisfied, which affects the internalization of motivation. Third, opportunity accessibility factors-such as time, cost, and transportation-as well as situational conditions including on-site atmosphere and community interaction, continue to constrain the conversion of viewing intentions into actual consumption behavior.

### **4.2 Recommendations for Guiding Strategies**

In response to the above challenges, this study proposes three guiding strategies aimed at promoting a shift in spectator sport consumption from mere attendance to sustained participation and diversified consumption.

First, event supply and service design should be optimized to enhance spectators' autonomy and sense of gain (i.e., satisfying autonomy needs). Event organizers are encouraged to provide diversified ticketing options-such as single-game tickets, season packages, family tickets, and themed tickets-as well as flexible viewing arrangements, including designated cheering zones or quiet zones, thereby safeguarding spectators' freedom of choice. The entire service process, including ticket purchasing, entry, and on-site guidance, should be streamlined to reduce unnecessary restrictions and procedural complexity, enabling spectators to feel respected and facilitated, and ultimately strengthening their perceived behavioral autonomy.

Second, the presentation of event information and the design of interactive activities should be improved to reinforce spectators' competence experiences (i.e., satisfying competence needs). Detailed team statistics, tactical analyses, and rule explanations should be delivered through stadium screens and official applications to help spectators better understand the game. Interactive activities-such as pre-match knowledge quizzes, in-game voting for best performance, and post-match expert reviews-can encourage participation and allow spectators to demonstrate their expertise, thereby fostering a sense of achievement associated with being knowledgeable fans. These measures not only enhance immersion in the viewing experience but also cultivate ordinary spectators into deeply engaged participants.

Third, on-site atmosphere creation and community building should be leveraged to deepen spectators' emotional attachment (i.e., satisfying relatedness needs). Carefully designed pre-match ceremonies, halftime performances, and post-match interactions can foster a strong sense of collective belonging and ritual experience. Meanwhile, official support should be provided for the development of fan communities-such as supporters' associations and online fan groups-by organizing offline gatherings, public welfare activities, and other social events to strengthen emotional ties among spectators and between spectators, the city, and the team. When match attendance becomes both an emotional anchor and a form of social currency, consumption behavior is more likely to achieve stability and sustainability.

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