

Analyzing the Influence of Internet Usage Behavior on Spectator Sports Consumption Among College Students: An Empirical SEM Study Based on the SOR Model

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Abstract

In light of China's burgeoning sports competition and performance sector, the evident shift towards diverse sports consumption preferences underscores an urgent need to refine the current consumption structure. Notably, the underdeveloped ornamental sports consumption sphere impedes the evolution of this structure. This study, focusing on the pivotal demographic in the sports event consumption market—college students, deploys a questionnaire-based approach to explore patterns in ornamental sports consumption, internet usage behavior, perceived value associated with ornamental sports, and trust towards this mode of consumption. Leveraging the Stimulus-Organism-Response (SOR) model and integrating various theories, we constructed hypothetical models. Utilizing structural equation modeling, we probed the intricate relationships among these variables through path analysis. This empirical investigation specifically scrutinized the impact of college students' internet behavior on their spectator sports consumption, extending to the intermediary roles played by the perceived value and trust related to ornamental sports. Key findings indicate: (1) A direct positive correlation exists between college students' internet behaviors and their affinity for spectator sports. (2) The perceived value of ornamental sports acts as a mediator between students' internet activities and their consumption behaviors. (3) Trust in ornamental sports consumption mediates the relationship between internet usage and consumption patterns.

Keywords: Internet usage behavior, Spectator sport consumption, Perceived value, Consumption trust, SOR theory

1 Introduction

Guided by overarching policy directives, China's spectator sports consumption has witnessed rapid acceleration since approximately 2014. Recently, this trend has transitioned from a focus on volume and scale to an emphasis on quality and value. Taking Shanghai as an example, in 2019, Shanghai held 163 major sports events, with an average of 2.09 million

on-site spectators, of which the 12 most representative sports events brought a total of 3.09 billion yuan of direct consumption and more than 10.2 billion yuan of related industry pull effect consumption. However, the survey data shows that the added value of China's sports competition and performance activities only accounted for 1.1% of the total added value of the sports industry. Presently, China's sports consumption structure reveals a marked imbalance between the consumption of sports goods and sports services. A significant deficit in ornamental sports consumption impedes the robust growth of China's sports service industry and hampers improvements in consumption quality and efficiency. Given the pressing objective of attaining a "20 trillion yuan sports competition and performance industry", there is an immediate need for targeted research into spectator sports consumption to invigorate consumer enthusiasm and expedite the refinement of the sports industry structure.

Unlike traditional consumption, spectator sports consumption is a research topic that spans multiple disciplines [1]. In the realm of sports science, attending live games stands out as a primary form of consumption cherished by enthusiasts and fans alike. As China's average income surges, an expanding segment of the non-sports community is gravitating towards spectator sports consumption. The evolving branding of the sports competition and performance sector is drawing numerous consumers, enticing them to delve into sports and be captivated by its essence. This movement significantly fuels the growth of a sports-centric populace and bolsters the dissemination of sports culture. Sociologically, the allure of spectator sports consumption transcends mere fandom. A deeper incentive lies in the ability of such participation to accentuate a "cultural relaxation mode specific to a class." The act of attending a live game epitomizes a unique expression of cultural identity and serves as both a reflection and reaffirmation of one's individual cultural tastes and preferences. From a psychological point of view, the consumption process is always randomly accompanied by the psychology of showing off, participation in spectator sports consumption symbolizes that individuals have the ability to consume goods with high spiritual enjoyment value, which is conducive to obtaining positive evaluation and positive feedback from others, thus satisfying their inner sense of satisfaction and pride, and this mentality

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does not aim to meet their own actual needs, but generally uses public platforms to display the content of consumption, so as to enjoy the praise of others. This psychology does not aim at satisfying one's own actual needs, but generally uses public platforms to display consumption content so as to enjoy the praise of others. Looking at the present, in the crowd of spectator sports consumers, college students have risen to prominence [2], and have gradually become the main force to participate in watching sports competitions on the spot, and the consumption pattern of the new generation of college students of the post-95 and post-00 generations has personalized choices. And nowadays, the consumption pattern of "Post-95" and "Post-00" new generation college students has the tendency of personalized choice, fashionable choice, and symbolic choice, and they often show their own identity, consumption habits, or economic strength through the symbolic significance of spectator sports consumption in order to obtain identity, which is also what we call "face consumption". However, most of the empirical studies on spectator sports consumption in the academic world take the public groups as the object of analysis [3-5], and very few studies take a specific group as the object of study [6], in this context, it is necessary and essential to conduct empirical studies on spectator sports consumption of college students.

Spectator sports consumption, as a kind of consumption in a non-inertial environment, is greatly associated with the fluency of the information dissemination channels of professional sports events, the authenticity and comprehensiveness of the event content expression, the timeliness of the event information acquisition and the convenience of the event ticket ordering. As of 2022, the total number of Internet users worldwide has exceeded 5 billion, and the number of Chinese Internet users has exceeded 1 billion. The advent and proliferation of the Internet have profoundly reshaped societal communication patterns. With the meteoric rise of the Internet and other new media forms, it is gradually supplanting traditional channels like television and newspapers as the primary source for public information, leisure, and entertainment. Consequently, the influence of online behavior on consumption has become a central research theme for many scholars. Nevertheless, while the bulk of existing literature assesses the Internet's impact on mass sports consumption from a broad perspective, there's a conspicuous scarcity of micro-level investigations into its role in spectator sports consumption, particularly concerning college students.

Building upon prior research, this study collects the participation data of college students' spectator sports consumption through research on the basis of previous studies, takes the Stimulus-Organism-Response (SOR) theoretical model as the research framework, combines the diffusion of innovation theory, the perceived value theory and the uncertainty reduction theory, and uses Structural Equation Modeling (SEM) to verify the influence of college students' Internet usage on their spectator sports consumption, and summarizes the corresponding management inspiration and development suggestions on the basis of which it aims to provide a theoretical basis for future research on the role mechanism between Internet usage and spectator sports consumption and improve the economic efficiency and

social benefits of China's sports competition performance industry. On this basis, we summarize the corresponding management insights and development suggestions, aiming to provide theoretical basis for the future research on the mechanism between Internet usage and spectator sports consumption of college students and to enhance the economic and social benefits of China's sports competition and performance industry. The innovations of this study are: first, by introducing the SOR framework alongside various theories, we construct a hypothetical model mapping college students' Internet usage onto spectator sports consumption. This approach enriches the academic discourse on sports event consumption; second, through the lens of SEM, we delve into the intricate relationships among variables via path analysis, offering a more nuanced understanding of their interconnections.

2 Literature Review and Research Hypotheses

2.1 SOR Theory

The Stimulus-Organism-Response (SOR) framework represents a contemporary model of consumer behavior introduced by environmental psychologists Mehrabian and Russell. Rooted in the foundational Stimulus-Response Theory (SRT) posited by Watson, a pioneering figure in behaviorist psychology, the SOR framework offers an evolved understanding of consumer interactions by inserting an intermediary "organism" component between stimulus and response. This addition reflects the internal processes or states a consumer undergoes before manifesting a particular behavior or response. It is a novel model of consumer behavior, conceived by environmental psychologists Mehrabian and Russell. This model builds upon Watson's foundational "stimulus-response" theory, with Watson being recognized as the progenitor of behaviorist psychology. In the model, S represents the antecedent variable stimulus, including all kinds of situational factors; O represents the mediator variable organism, including emotional and cognitive components; and R represents the outcome variable response, which is divided into two kinds of behaviors, namely, convergent behavior as willingness to purchase, and avoidance behavior as the opposite. Since the SOR theoretical framework focuses on the intrinsic perceptions of the organism (O), after Chang et al. [7] used SOR theory to explore the influence of retail environment on consumer cognition and behavior. Research on SOR theory has been introduced into a number of fields, including research on educational systems, e-commerce, and information systems, to explore and explain users' sustained attention behaviors and consumption behaviors, etc. In recent years, SOR theory has been widely used in studies related to consumer behavioral patterns. College students' multiple Internet use behaviors become important stimuli for their body's cognition and perception, and induce changes in their body's perception of offline viewing, which subsequently generates the idea and behavior of participating in spectator sports consumption. Therefore, this study takes the SOR theory as the research framework and introduces other variables on this

basis to explore in depth the influence mechanism of college students' Internet use behaviors on their spectator sports consumption.

2.2 College Students' Internet Use Behavior and Spectator Sports Consumption

In the established research, scholars at home and abroad basically continue the logical framework of classical consumption theory and analyze consumers' sports consumption behavior from different perspectives. The first is the research on the influencing factors of consumers' spectator sports consumption: for example, the results of the hierarchical analysis by Abdolmaleki et al. [8] indicate that social class is an important part of influencing consumers' participation in sports consumption. Secondly, there is the research on the difference of sports consumption: for example, the results of Mehus show that the level of sports participation of event spectators is positively related to spectator sports consumption, but the level of cultural resources that event spectators have is negatively related to sports consumption [9]. Finally, there is the study of sports consumption loyalty: for example, the study of Funk [10] points out that higher behavioral loyalty to players or teams can stimulate the re-consumption willingness of sports fans of different ages, so that they will keep a high level of attention to players or teams in the long term, and they will continue to engage in spectator sports consumption regardless of their live performances.

Diffusion of innovations theory emphasizes that innovations show an "S" curve trend throughout the diffusion process, i.e., innovators at the early stage try to explore, so the "S" curve rises slowly, reaches a maximum when more than half of the members of the system adopt it, and then rises at a relatively slow growth rate. It rises at a relatively slow rate, and the remaining members, such as the late adopters and the eventual laggards, begin to join the bandwagon, ultimately leading to changes in lifestyles and forms of consumption. In the real situation, the young group of college students, who have the fastest acceptance of the Internet and the highest degree of integration with their daily lives, have improved the conditions of spectator sports consumption of the college group and have actually increased their consumption tendencies. Based on this, the first hypothesis of this study is proposed:

H1: Internet use by the college population has a positive contribution to their consumption of spectator sports.

2.3 College Students' Internet Use Behavior, Perceived Value and Spectator Sports Consumption

Perceived value was proposed by Zeithaml [11] in 1988, which is mainly used to analyze the value judgment and decision-making behavior process of micro subjects on objective things. In recent years, the theory of perceived value has been gradually applied to the research and analysis of users' digital technology use behavior and Internet use behavior and consumer willingness and consumption behavior. Some scholars focus on exploring the connotation of perceived value in new scenarios, such as Kwak et al. [12] exploring the interaction between consumers' Internet use value co-creation behavior and the dimensions of

quality, emotion, price and social value. Another part of scholars' research focuses on perceived value and consumers' willingness to buy and consume. For example, many empirical studies based on data analysis have proved that there is a significant positive correlation between perceived value and willingness to consume, and a large number of scholars have shown that perceived value directly affects consumers' purchasing behavior [13-14].

In summary, Internet usage behaviors do enhance consumers' perceived value of consumption objects to some extent. In the Internet environment, product value is generally expressed in the form of online reviews and scores. Consumers usually look for and check online reviews before making consumption decisions to assess the perceived benefits and perceived losses of this consumption, so positive online reviews will assist consumers in forming a greater degree of perceived value [15]. Based on this, the second hypothesis of this study is proposed:

H2: Internet use in the college population positively contributes to their perceived value

It is a well-established truth in marketing that the perceived value of product quality significantly and positively influences consumers' willingness to buy. The perceived value of quality of sports events is usually reflected in consumers' perception of the quality of the content of sports events. Wenjing Zhang et al. [16] recent studies targeting badminton events have delved into the nexus between consumers' perceived brand value and their intent to purchase event tickets, viewed from the standpoint of event-goers. Across the board, all facets of perceived brand value were found to positively correlate with ticket purchase intentions. Furthermore, these studies identified a mediating role of brand preference that bridges perceived value and the willingness to buy event tickets. In contemporary scholarship, perceived value has emerged as a pivotal determinant influencing sports consumption. However, predominant research has been anchored to the sports lottery sector and revenue generated from ticket sales at sporting events. A more granular investigation dedicated to the nuances of spectator sports participation remains a gap yet to be addressed.

Uncertainty Reduction Theory [17] is mainly used to study the initial interaction process between people before actual communication and exchange. The Uncertainty Reduction Theory posits that initial interpersonal interactions are fraught with uncertainties. To alleviate the apprehensions stemming from this uncertainty, the trust-seeker endeavors to gather pertinent information about the trusted party. This information-gathering is invariably linked with the appraisal of perceived value. As comprehension deepens, the perceived value associated with spectator sports consumption continues to grow for consumers. This deepening understanding attenuates concerns related to uncertainties, subsequently amplifying their consumption inclinations. A vital metric of perceived value is the alignment with consumers' objectives, particularly the pursuit of maximizing self-benefit. This alignment stimulates the emergence of positive emotions through a cognitive evaluation process. Prior research substantiates that a consumer's perceived value catalyzes the onset of positive emotions. Hence, this study conjectures that

bolstered by perceived value and ensuing positive emotions, the inclination of college students towards spectator sports consumption intensifies. Based on this understanding, we propose the following hypotheses:

H3: The perceived value within the college demographic positively correlates with their engagement in spectator sports consumption.

H4: Perceived value serves as a mediator in the relationship between Internet usage and spectator sports consumption among college students.

2.4 College Students' Internet Use Behavior, Consumer Trust and Spectator Sports Consumption

Trust is the willingness of an individual or a group to expect that the behavior of the other party will not harm them without monitoring and controlling the other party [18]. In the field of consumer research, scholars in various fields have borrowed the definition of trust from the relevant conclusions of psychology to promote the depth of research. Generally speaking, consumer trust can also be called "consumer trust" or "customer trust". Consumer trust refers to consumers' recognition and trust in the products or services of a certain enterprise or brand, and consumer trust is consumers' affirmation, recognition and support based on rational analysis.

In the research related to Internet use and consumer trust, the existing studies can be broadly categorized into two main types: theoretical and empirical studies. In the theoretical category, most studies indicate that Internet use can strengthen the level of consumer trust in consumption. The Internet's ease-of-use characteristics can be quickly mastered by consumers and that consumers can use the Internet in a more efficient way. In empirical studies, previous scholars have reached similar conclusions. For example, Mcknight et al. [19] proposed a consumer trust building model in light of the contemporary Internet transaction environment, which introduces trust building influencing factors at the merchant and platform levels, and at the same time takes the results of consumer trust building into account in the model, which has gained general recognition and has been widely applied in the study of Internet use and public consumption willingness.

And there are few existing studies on consumption trust and spectator sports consumption. Some studies have been conducted from the perspective of sports consumption loyalty combined with consumption trust. For example, Wakefield et al. [20] found that fans' belief and passion for watching live sports events will significantly affect their willingness to continue to watch offline games in the future, and gradually deepen fans' loyalty to spectator sports consumption. Carlson et al. [21] found that the degree of brand personality perception is positively correlated with the level of consumers' consumption through SEM path analysis, and the degree of brand personality perception explains the level of fans' spectator and physical consumption, respectively. The explanatory rate of brand personality perception on fans' spectator and physical consumption is 47% and 27% respectively, which may be due to the fact that consumers' perception of brand personality further strengthens their sense of identity and trust, thus making them actively participate in sports consumption. However, Mullin et al. found that even

for consumers with high loyalty, if the performance of the event is poor for a long period of time, leading to a decrease in the degree of recognition and trust of the event, they may still stop paying attention to the sports event, lose their enthusiasm for watching the event, and will not continue to buy peripheral products or recommend others to support the sports event. Based on the contemporary characteristics of mass sports consumption and the importance of consumers' psychological risk expectations, more and more scholars have further explored the influence of antecedent factors on trust mediated by perceived risk, and comprehensively considered the relationship between the simultaneous existence of risk and trust and consumer behavior. As a result, a number of studies have launched specific research by combining perceived value or perceived risk with consumer trust. For example, Szulanski [22] argues that trust and fulfillment reflect the consumer's state of pleasure or disappointment after comparing the perceived effect of a sports service or product with its expected value. If the expectations of sport consumers are not met or exceeded, then the perceived value of the content consumed by sport consumers is rapidly reduced, and therefore the desire for repeat purchases of that type of sport service or product is lowered, and the correlation hierarchy may be lowered as well.

The low cost, openness and flexibility of the Internet circumvents the traditional problem of inefficient information communication between buyers and sellers, allowing information transmission to break through geographical and time constraints and maximizing consumer recognition. According to the existing research, it is found that in the mobile Internet environment, due to its unique virtual, spatial and temporal separation and the use of lagging characteristics, there is a serious information asymmetry in the transaction process, which will lead to a variety of uncertainties, so it is particularly important to establish trust through the Internet online [23]. Information-Processing Hypothesis takes the relationship between the Internet and the social behavior of Internet users as the starting point, pointing out that Internet users can obtain knowledge and various information needed to be corroborated from the network, and continuously deepen their trust in key information, which is then applied to various fields in daily life. It allows college consumers to develop reliable and sincere beliefs about sporting events, which is one of the decisive factors influencing their participation in spectator sports consumption. Taking trust as a bond, it makes the positive interaction between the online behavior of college student groups and sports consumers, and completes the value co-creation through online interaction. Thus, it can be seen that the Internet behavior of the younger generation of college student groups can effectively influence their consumption trust and consumption motivation. Based on this, the following hypotheses are proposed:

H5: The utilization of the Internet by college students augments their trust as consumers.

College students acquire knowledge about consumer entities via the Internet. Upon establishing an initial trust, this trust intensifies through accumulated experiences, driving a propensity to engage in spectator sports consumption. Consumer trust, conceptualized as a psychological construct, mirrors consumers' optimistic anticipations of event

organizers’ intentions. This aligns with virtues like integrity, equity, and sincerity. The Internet’s decentralized nature affords sports event organizers an expansive platform for branding, content dissemination, and attracting potential spectators. Concurrently, it enables college students to familiarize themselves with these organizers by analyzing peer reviews and shared experiences. This foundation in information and knowledge instills a sense of familiarity towards the target entity, fostering trust. Predominantly, this trust evolves from deep cognitive and emotional connections. At the same time, the rational calculation process provided by the Internet is the subjective estimation of the benefits and losses that college students can bring to themselves if the other party cheats, if college students believe that the other party cheats and gains less than their losses, such as economic, image, etc., then college students are inclined to trust the other party, and actively participate in the consumption of spectator sports [24]. Therefore, the following hypothesis is proposed:

H6: College Student Group Consumer Trust Positively Contributes to Their Spectator Sports Consumption.

H7: Consumer trust mediates the relationship between Internet use and spectator sport consumption in the college population.

In summary, this study takes college students’ Internet use behavior as stimulus (S), perceived value and consumption trust as organismic cognition (O), and consumer spectator sports consumption response as reaction (R), and proposes a hypothetical model, as shown in Figure 1.

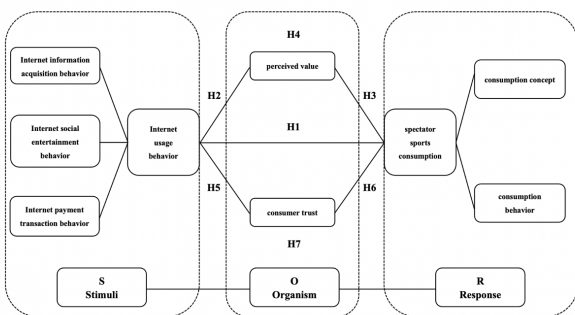


Figure 1. Diagram of the hypothetical model

3 Study Design

3.1 Study Population and Data Sources

Students who have participated in spectator sports consumption in the college student population and potential consumers of spectator sports consumption in the college student population were selected as the subjects of this study. A combination of snowball sampling and random sampling was used to distribute the official questionnaires for this study. According to the needs of the research purpose, 200 questionnaires were distributed on the spot in the vicinity of the stadiums where sports events were held to look for college students who participated in spectator sports consumption, and 200 questionnaires were distributed in the form of the Internet, a total of 400 questionnaires were distributed in the two phases, and after eliminating invalid

samples such as omissions, nonsense, and mistakes, 383 effective samples were obtained, and the validity rate of the questionnaires was 95.75%.

Based on a large number of existing research scales, and taking into account the actual situation of college students’ spectator sports consumption, this study modified and adjusted the relevant latent variable indicators to form the final measurement scale. In this study, reference was made to the research and related scales of scholars Lera-López for college students’ consumption of spectator sports [25]; Steffen and Ellison for college students’ Internet usage behavior [26-27]; Kim and Holbrook for scholars’ research and related scales for perceived value of consumption of spectator sports [28-29]; and Lee for scholars’ research and related scales for trust in the consumption of spectator sports. Reference was made to the study and related scales of Lee [30] scholars.

3.2 Analytic Strategy and Reliability Tests

Table 1. Scale reliability test table

Dimension (math.)	Subject	CITC	Cronbach's after item deletion Alpha	Cronbach's Alpha
IA	IA1	0.655	0.8	0.828
	IA2	0.709	0.743	
	IA3	0.701	0.748	
SE	SE1	0.703	0.724	0.82
	SE2	0.659	0.783	
	SE3	0.682	0.754	
PT	PT1	0.827	0.884	0.914
	PT2	0.756	0.9	
	PT3	0.752	0.901	
	PT4	0.783	0.894	
	PT5	0.786	0.893	
PV	PV1	0.746	0.868	0.893
	PV2	0.762	0.864	
	PV3	0.724	0.873	
	PV4	0.727	0.872	
	PV5	0.73	0.871	
CT	CT1	0.765	0.87	0.897
	CT2	0.774	0.867	
	CT3	0.804	0.856	
	CT4	0.744	0.878	
CC	CC1	0.814	0.892	0.918
	CC2	0.826	0.888	
	CC3	0.826	0.888	
	CC4	0.778	0.904	
CB	CB1	0.753	0.855	0.883
	CB2	0.816	0.795	
	CB3	0.753	0.851	

In this study, the internal consistency method was used to test the reliability of the questionnaire using the Cronbach’s alpha coefficient value based on SPSS 23.0 software. The Cronbach’s Alpha coefficients of the seven variables in the design of this study: internet information acquisition behavior, internet social entertainment behavior, internet payment and transaction behavior, perceived value, consumption trust, spectator sports consumption concept, and spectator sports consumption behavior are 0.828, 0.820, 0.914, 0.893, 0.897, 0.918 and 0.883, all of which are greater

than the 0.7 critical value (see Table 1 for details), and the CITC of each variable is greater than the criterion of 0.5, indicating that the measurement question items also meet the requirements of the study.

In terms of the structural validity of the questionnaire, this study is based on the SPSS23.0 software, and the structural validity of the questionnaire was examined by the KMO value and Bartlett’s sphere test and using exploratory factor analysis. The results of the analysis (see Table 2 for details) indicate that the KMO value of the questionnaire data is 0.922, and the Bartlett’s sphere test P=0.000, which is less than 0.01, indicating that the data of questionnaire variables can be subjected to the next step of exploratory factor analysis. Through principal component analysis, a total of seven factors with eigenroots greater than 1 were extracted using maximum variance rotation, with a cumulative explained variance of 76.183%. In the rotated component matrix, the factor loadings of each measurement question item were greater than 0.5, and the cross loadings were less than 0.4, and each question item fell into the corresponding factor, indicating that the scale had good structural validity.

Table 2. KMO and Bartlett’s test table

Kaiser-Meyer-Olkin metric of sampling adequacy	0.922
Bartlett’s test of sphericity	approximate chi-square (math.) 6900.074
	df 351
	Sig. .000

4 Findings

4.1 Descriptive Statistical Analysis

Table 3. Descriptive analysis table of the basic information of the research subjects

Causality	Form	Quorum	Percentage
Distinguishing between the sexes	male	190	49.6
	women	193	50.4
School of study	Physical Education	188	49.1
	Comprehensive Colleges and Universities	195	50.9
Whether you are a fan of a particular team or player	clogged	84	21.9
	be	299	78.1
Whether or not they have participated in spectator sport consumption	clogged	63	16.4
	be	320	83.6
Have a fitness or physical activity habit	clogged	148	38.6
	be	235	61.4

Table 3 shows the descriptive statistical results of the research samples of this study. First of all, from the viewpoint of the basic information of the sample reflected by the control variables, the 383 valid samples have a balanced proportion of male and female samples in terms of gender composition, with 190 males accounting for 49.6% and 193 females accounting for 50.4%; in terms of the types of institutions

attended, 195 college students studying in comprehensive colleges and universities accounted for 50.9%, and 188 college students studying in sports colleges and universities accounted for 49.1%; 78.1% of the college students in the research sample are fans of a certain team or player; 83.6% of the college students have participated in spectator sports consumption; 61.4% of the college students have fitness or physical exercise habits. On the whole, the proportion of the sample data in this study is relatively reasonable, and has a certain degree of data representativeness.

4.2 Validation Factor Analysis

4.2.1 Validation Factor Model Fit

Table 3 The questionnaire and variables of this study had 7 dimensions and contained a total of 27 measurement questions, and the validated factor analysis was executed using amos 23.0, as shown in Figure 2.

Validated factor model fit showed that the model of this study CMIN/DF = 1.470, which is less than the standard of less than 3. GFI = 0.922, AGFI = 0.903, NFI = 0.937, TLI = 0.976, IFI = 0.979, and CFI = 0.979 all reached the standard of more than 0.9, and RMR = 0.047 < 0.08, RMSEA=0.035 <0.08, each fitting index meets the general research standard, so the model in this study has a good fit.

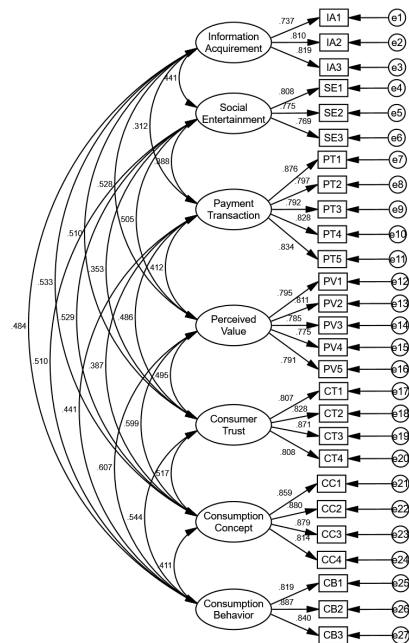


Figure 2. Validation factor analysis diagram

4.2.2 Convergent Validity

In general, the component reliabilities (CR) were all greater than 0.7 and the average variance extracted (AVE) was greater than 0.5, indicating good convergent validity for each variable. As can be seen in Table 4, the standardized factor loadings of each measure for each variable in this study are all greater than 0.6 or more, which proves that the extraction of the measures within the factors is excellent, and that the scale convergent validity and compositional reliability are both high.

Table 4. Convergence validity test table

Variant	Subject	Factor load	CR	AVE
Information Acquisition	IA1	0.737		
	IA2	0.81	0.832	0.623
	IA3	0.819		
Social Entertainment	SE1	0.808		
	SE2	0.775	0.827	0.615
	SE3	0.769		
Payment Transaction	PT1	0.876		
	PT2	0.797		
	PT3	0.792	0.915	0.682
	PT4	0.828		
	PT5	0.834		
Perceived Value	PV1	0.795		
	PV2	0.811		
	PV3	0.785	0.893	0.626
	PV4	0.775		
	PV5	0.791		
Consumer Trust	CT1	0.807		
	CT2	0.828		
	CT3	0.871	0.898	0.687
	CT4	0.808		
Consumption Concept	CC1	0.859		
	CC2	0.88		
	CC3	0.879	0.918	0.737
	CC4	0.814		
Consumption Behavior	CB1	0.819		
	CB2	0.887	0.886	0.721
	CB3	0.84		

4.3 Distinguishing Validity

The present study used the more rigorous AVE method to assess the discriminant validity, where the AVE open root sign of each factor had to be greater than the correlation coefficient of each paired variable to indicate that there was discriminant validity between the factors. The AVE open root sign of each factor in this study is greater than the standardized correlation coefficient off the diagonal, so this study still has good discriminant validity. See Table 5 for details.

Table 5. Distinguishing validity scale

	IA	SE	PT	PV	CT	CC	CB
IA	0.789						
SE	.368**	0.784					
PT	.269**	.347**	0.826				
PV	.457**	.439**	.369**	0.791			
CT	.440**	.304**	.449**	.437**	0.829		
CC	.469**	.462**	.352**	.543**	.465**	0.858	
CB	.416**	.449**	.401**	.546**	.488**	.369**	0.849

4.4 Structural Equation Modeling Analysis

4.4.1 Model Construction

This study involves a total of seven latent variables, of which college students’ Internet information search behavior, social entertainment behavior, and payment and transaction behavior are exogenous latent variables, and perceived value, consumption trust, college students’ concept of spectator

sports consumption and college students’ spectator sports consumption behavior are endogenous latent variables, and there are a total of 27 observed variables involved in the seven variables. In accordance with the setting of the research hypotheses, a model was constructed to verify the hypotheses, and AMOS 23.0 was utilized to execute the calculations, and the maximum likelihood method was used for estimation, and the specific structural equation model setting is shown in Figure 3.

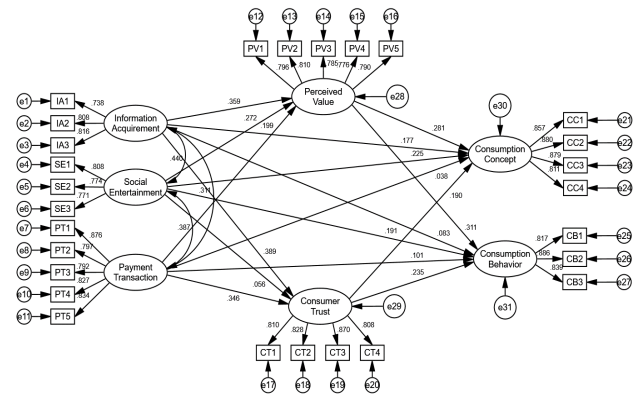


Figure 3. Structural equation modeling setup

4.4.2 Model Evaluation

From the following Table 6, it can be seen that CMIN/DF is 1.515 < 3, GFI, AGFI, NFI, TLI, IFI, CFI all reach the standard of 0.9 or above, RMR= 0.054 < 0.08, RMSEA= 0.037 < 0.08, and all the fitting indexes are in line with the general standard of the study, which proves that the model of the influence of college students’ Internet use behavior on their spectator sports consumption model constructed in this study fits the sample data relatively well, and the overall explanatory power of the model is generally high.

Table 6. Structural equation model fit table

Model fit indicators	Optimal criterion	Statistical value	Fit
CMIN	--	462.055	--
DF	--	305	--
CMIN/DF	<3	1.515	fine
RMR	<0.08	0.054	fine
GFI	>0.9	0.920	fine
AGFI	>0.9	0.901	fine
NFI	>0.9	0.935	fine
IFI	>0.9	0.977	fine
TLI	>0.9	0.973	fine
CFI	>0.9	0.977	fine
RMSEA	<0.08	0.037	fine

4.5 Hypothesis Testing

4.5.1 Overall Path Factor

According to the results of data analysis in Table 7, overall, the hypotheses H1, H2, H3, H5 and H6 of this study are valid. Internet use of college student groups has a significant positive promotion effect on their spectator sports consumption, perceived value and consumption trust.

Table 7. Table of path coefficients for structural equations

Trails		Standardized coefficient	Non-standardized coefficient	S.E.	C.R.	P
Perceived Value	< Information Acquisition	0.359	0.325	0.055	5.912	***
Perceived Value	< Social Entertainment	0.272	0.288	0.065	4.447	***
Perceived Value	< Payment Transaction	0.199	0.165	0.044	3.776	***
Consumer Trust	< Information Acquisition	0.389	0.391	0.062	6.297	***
Consumer Trust	< Social Entertainment	0.056	0.066	0.07	0.933	0.351
Consumer Trust	< Payment Transaction	0.346	0.318	0.05	6.346	***
Consumption Concept	< Information Acquisition	0.177	0.19	0.069	2.735	0.006
Consumption Concept	< Social Entertainment	0.225	0.283	0.074	3.838	***
Consumption Concept	< Payment Transaction	0.038	0.037	0.053	0.704	0.481
Consumption Concept	< Perceived Value	0.281	0.334	0.073	4.556	***
Consumption Concept	< Consumer Trust	0.19	0.202	0.063	3.211	0.001
Consumption Behavior	< Information Acquisition	0.083	0.088	0.07	1.259	0.208
Consumption Behavior	< Social Entertainment	0.191	0.237	0.074	3.188	0.001
Consumption Behavior	< Payment Transaction	0.101	0.098	0.054	1.835	0.066
Consumption Behavior	< Perceived Value	0.311	0.364	0.075	4.865	***
Consumption Behavior	< Consumer Trust	0.235	0.247	0.064	3.842	***

4.5.2 Intermediary Testing

This study will further test the mediating role of perceived value and consumption trust between college students’ Internet use behavior and their spectator sports consumption, and this study adopts Bootstrapping method to verify the mediating effect, specifically, the samples are re-sampled and run 5000 times in AMOS23.0 using Bootstrap method, which yields the Bias- Corrected and Percentile level values at 95% confidence level to test the mediation effect, the mediation test results show that the hypotheses H4 and H7 of this study are valid, and both perceived value and consumption trust have a mediating role between Internet use and spectator sports consumption of college student groups, and the specific effect values are shown in Table 8.

Table 8. Mediated effects test table

Trails	Standardization efficiency value	Bias-Corrected 95% CI		Percentile 95% CI	
		Lower	Upper	Lower	Upper
IA_CC total effect	0.352	0.229	0.484	0.23	0.485
IA_PV_CC Indirect effects	0.101	0.055	0.163	0.05	0.156
IA_CT_CC Indirect effects	0.074	0.025	0.144	0.019	0.136
IA_CC direct effect	0.177	0.062	0.302	0.067	0.307
IA_CB total effect	0.286	0.16	0.405	0.157	0.402
IA_PV_CB Indirect effects	0.112	0.056	0.184	0.052	0.178
IA_CT_CB Indirect effects	0.091	0.037	0.175	0.033	0.167
IA_CB direct effect	0.083	-0.062	0.221	-0.063	0.219
SE_CC total effect	0.312	0.17	0.46	0.16	0.448
SE_PV_CC Indirect effects	0.076	0.037	0.144	0.035	0.138
SE_CT_CC Indirect effects	0.011	-0.011	0.047	-0.015	0.042
SE_CC direct effect	0.225	0.073	0.387	0.065	0.378
SE_CB total effect	0.288	0.16	0.423	0.163	0.429
SE_PV_CB Indirect effects	0.085	0.04	0.148	0.038	0.145
SE_CT_CB Indirect effects	0.013	-0.015	0.049	-0.019	0.045
SE_CB direct effect	0.191	0.066	0.318	0.07	0.322
PT_CC total effect	0.16	0.055	0.273	0.053	0.27
PT_PV_CC Indirect effect	0.056	0.021	0.108	0.019	0.104
PT_CT_CC Indirect effect	0.066	0.019	0.126	0.017	0.122

PT_CC direct effect	0.038	-0.068	0.147	-0.069	0.146
PT_CB total effect	0.245	0.143	0.348	0.14	0.346
PT_PV_CB Indirect effect	0.062	0.027	0.117	0.024	0.109
PT_CT_CB indirect effect	0.081	0.031	0.155	0.03	0.15
PT_CB direct effect	0.101	-0.021	0.229	-0.023	0.227

5 Discussion and Analysis

5.1 The Impact of College Students’ Internet Use Behavior on Their Spectator Sport Consumption

The frequency and intensity of internet usage have a growing influence on college students’ spectator sports consumption, indicating an escalating marginal effect. In the realm of college students’ internet behaviors, both information acquisition and social entertainment activities online positively influence their perceptions of spectator sports consumption. However, only the social entertainment aspect significantly affects their actual spectator sports consumption. This can be attributed to the two primary motives for college students’ internet usage: information gathering and social entertainment. Both play a pivotal role in shaping their views on sports consumption. As digital natives, college students exhibit a pronounced inclination towards novel experiences. Frequent encounters with information about spectator sports online not only deepens their understanding and interest in the domain but also diminishes the perceived risks associated with it.

Moreover, the internet serves as a prominent platform for social interactions among college students, allowing them to fulfill their social needs, showcase their personalities, and engage in entertainment. Through online discussions with peers or feedback from friends who have attended live matches, students develop a clearer perception of spectator sports. Their innate tendencies to seek novelty, excitement, and brand affiliation, combined with ample leisure time, make them prime candidates for spectator sports consumption.

Furthermore, today’s college students are passionate about crafting their online personas. Activities such as exercising, attending live sports events, and documenting these experiences through photos and videos have become markers of a healthy and sporty lifestyle. The tag of a “sports enthusiast” or “game spectator” has garnered positive connotations. Consequently, under such influences, an increasing number of students are drawn to participate in spectator sports events.

5.2 The Mediating Role of Perceived Value

In this study, perceived value denotes the assessment by college students on the utility of spectator sports consumption relative to their incurred costs, once they’ve grasped the genuine experience or service offerings of such consumption. The findings reveal that perceived value serves as a significant mediator between college students’ internet behaviors - specifically information acquisition, social entertainment, and payment transactions - and their perceptions and actions regarding spectator sports consumption. This aligns with the insights of prior research [31].

Before engaging in spectator sports consumption, college students tend to engage in rational decision-making, driven by a comprehensive grasp of relevant information

concerning live events. However, there are instances where these students may not practice rational consumption in the spectator sports domain. Such lapses could arise from a lack of in-depth knowledge about the services offered during live viewings or an inability to accurately gauge the quality, price, and overall value of these services. These gaps in knowledge can diminish their benefits and dampen their enthusiasm towards spectator sports.

Yet, in today's digital age, college students can seamlessly access intricate details about spectator sports consumption through their mobile devices. Be it by browsing web pages, leveraging social media platforms for peer reviews, or partaking in forum discussions to understand the authentic service offerings—the internet has simplified this information-gathering process. Additionally, the ease of online ticket purchasing and secure payment methods has addressed many concerns students might harbor.

Ultimately, the internet facilitates authentic information dissemination, shares genuine experiences, and communicates actual feedback. This aids college students in acquainting themselves with spectator sports consumption, enabling them to form informed judgments on its perceived value. Consequently, their zeal for participating in spectator sports consumption is heightened.

5.3 The Mediating Role of Consumer Trust

Consumer trust, in the context of this study, is conceptualized as a psychological process arising from the interplay of numerous factors in the social relationship that exists between college students and the sports event providers. The study's results indicate that consumer trust acts as a significant mediator between the college students' Internet information acquisition and payment transaction behaviors and their attitudes and actions towards spectator sports consumption. Interestingly, this trust does not mediate the relationship between the students' Internet social entertainment behaviors and their spectator sports consumption patterns.

The competitive and performance industry in China is still in its formative stages. As a consequence, a slew of issues like transaction fraud, breaches in user privacy, and other infringements of consumer rights have surfaced intermittently. College students, characterized in this study as an “economically independent” group, are particularly susceptible to these threats. Any experience or even the perception of harm or threat to their interests can induce skepticism regarding the safety and reliability of their consumption choices. If their trust is breached, it doesn't just erode their loyalty but can also impact the perception of potential consumers, leading to an overall negative ripple effect.

The theory of diffusion of innovations underscores the pivotal roles both mass media and interpersonal relationships play as communication channels. In this digital age, the mobile Internet has emerged as another crucial medium for the dissemination of innovative ideas and practices. When students navigate the web, curating and assimilating diverse information, they fortify their awareness and trust in spectator sports consumption. Engaging in dialogues with peers, sharing experiences and perspectives, further

consolidates a collective acceptance and trust in spectator sports consumption within this demographic, amplifying its allure.

However, there's a clear distinction between behaviors oriented around information gathering and transaction execution and those rooted in social entertainment on the Internet. The latter, being informal and primarily recreational, doesn't necessarily bolster trust in the same way as the former. Given the hedonistic and self-expressive nature of social entertainment online, students don't derive trust from such activities. This is because the informal and leisurely nature of these interactions doesn't necessarily invoke the same level of discerning, rational evaluation as the other behaviors. As a result, it doesn't bolster their confidence in spectator sports consumption or motivate participation.

6 Conclusion

This research focuses on college students, delving into their spectator sports consumption patterns, Internet use habits, perceived value of spectator sports consumption, and their trust levels in the same. Utilizing a rigorous questionnaire approach, data from 383 screened samples were statistically examined. The study employed structural equation modeling to analyze the influence of college students' Internet usage on their spectator sports consumption. The following conclusions are drawn: (1) College students' Internet usage behavior has a positive influence on their spectator sports consumption. (2) Perceived value plays a mediating role between college students' Internet usage behavior and their spectator sports consumption. (3) Consumer trust mediates the relationship between college students' Internet use behavior and their spectator sports consumption.

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