

The Effect of Perceived Value on College Students' Purchasing Behavior in Live Streaming

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Abstract

Webcast shopping realizes the transition from static pictures to dynamic videos, increases consumers' immersive experience and product authenticity, and creates an economy through exclusive discounts. Innovative presentation mode is entertaining, and real-time interaction enhances emotional connection and identity, which, to varying degrees, will have an impact on college students' live-streaming purchasing behavior. Based on the SOR model, we study how the live broadcast features act on consumers' purchase intention through 3 types of perceived value, and give validation to the research hypotheses through a questionnaire survey. The results of the study show that the economy, authenticity, entertainment, interactivity, and identity of live broadcasting will not only promote the live broadcasting purchase behavior of college students, but also positively affect their product, emotional, and social perceived value. Higher entertainment of live-streaming rooms provides emotional perceived value, attracting consumers to enter and stay. The full range of commodity displays strengthens authenticity and immersive shopping experience, producing product and emotional value. Anchors' patience and timely interaction build customer trust, satisfying their social needs. These factors stimulate the final purchase behavior through an intermediate role of perceived value. While facing these stimuli, it's wiser for college students to leave a buffer time for their live broadcasting room consumption to reduce emotionally triggered irrational consumption.

Keywords: college students' live-streaming shopping, webcast characteristics, product perceived value, purchasing behavior

1. Introduction

Since Eroglu et al. (2001) first introduced perceived value into online shopping research, perceived value has been widely used in online consumption to study the impact of external environmental factors on consumers' shopping characteristics and habits. With the development of live-streaming these days, the shopping mode has changed widely faster, and online live-streaming sales have played a much more important role in China and even the world sales proportion. Research on the role of characteristics of live streaming to live-streaming consumption has thus become more important.

Purchasing willingness is the possibility of buying something after a basic knowledge of products under a certain consuming environment, serving as a dominant factor in consumers' final purchasing behaviors. Besides the subjective factor of customers' personality, objective factors like sales environment, emotional interaction, and true and visual show of products play equally crucial roles in purchasing decisions. The exciting and enthusiastic atmosphere created by the live broadcasting room, coupled with the unique and exclusive products, with its low price, stimulate the shopping desire of many consumers, and then occasionally with the countdown marketing tools to create a kind of preferential opportunity not to be lost when the sense of urgency, improving sales and stimulating irrational consumer behavior. In this process, perceived value and perceived trust are widely viewed as the main two influential intermediary factors leading to the final purchasing behavior. Abundant related research has widely testified the intermediate role of perceived truth and perceived usefulness.

Research on the perceived value is rich and detailed, while specific areas of the perceived value are not so abundant. Established studies have almost always viewed perceived value as a whole, ignoring the different effects of its particular type. Therefore, based on related national and foreign research, this research will subdivide the perceived value into three dimensions, the product perceived value, the emotional perceived value,

and the social perceived value, aiming at distinguishing between different types of perceived value.

College students, a group who are susceptible to external stimuli to generate consumption behavior, are easily stimulated by the interesting or tense atmosphere created by the live broadcasting room, thus generating consumption behavior that is not rational enough. This study will choose college students as the research subjects to investigate the stimulating effect of different characteristics of live broadcasting rooms on their final purchasing behavior through the mediating role of three perceived values. This study constructed a SOR model to investigate the paths through which the five characteristics of live streaming influence college students' live-streaming purchasing through three types of perceived values and explores the mediating role of perceived values in stimulating their final purchasing behavior.

The goal of this research is to figure out the attention and valuing extent differences of each three dimensions of perceived value for college students to find out their focusing points in live-streaming purchasing decisions. The results can produce a better understanding of college students' shopping habits and behaviors in live streaming and the impact of live streaming activities on them, which can not only provide suggestions for their rational purchasing habits but also derive improvement for the future development and improvement of live-streaming sales.

2. Literature Review

2.1 Research on Perceived Value

Based on the SOR model, there have been a lot of theoretical and empirical studies to test the role of perceived value in purchasing decisions. Robert and Woodruff (1997) state that perceived value depends on the expected value versus the actual worth. Eroglu et al. (2001) first introduced perceived value into online shopping research, verifying through empirical research that the outer shopping environment especially the warm and relaxing atmosphere affects shopping behavior. Bai and Liao (2001) examined the research on perceived value on customer satisfaction firstly in China, starting the research by figuring out the definition of perceived value and its role played in customer consumption behavior inboard.

There are mainly two theories of the definition of perceived value in academia, compensation theory and trade-off theory. First, in compensation theory proposed by Zeithaml (1988) states that perceived value depends on the difference between the "gains" and "losses", which is the portion of benefits received that exceeds the costs incurred as compensation. There are four meanings of perceived value given in his study: 1) Value is a low price, suggesting that the definition of value depends on the monetary price to be paid to obtain a particular product, emphasizing cost; 2) Value is the need that the customer can satisfy in a product or service, i.e., the benefits to be derived from the good, emphasizing benefit and product quality; 3) Value is the quality of what the customer can get for what he or she pays, which views value as a trade-off between the costs he or she pays and the benefits he or she receives, emphasizing value for money; and 4) Value is the totality of what the customer gets for all he or she pays, i.e., taking into account all his or her payoffs, such as transaction costs such as time and money, as well as all the benefits he or she receives. Second, in trade-off theory proposed by Cravens (1988) holds that perceived value is a trade-off between quality and price, the quality of a valuable product should be commensurate with its price.

With the study of perceived value, one also begins to delve into its different dimensions. Jillian (1988) mentions that a customer's shopping is a combination of rationality and emotion, considering the perceived value of quality, emotion, price, and social, and she believes that emotional value is more important. Liu (2008) divides it into functional, emotional, and social perceived values. The study of Li et al. (2017) concluded that product, service, and social perceived value played significant roles in customers' online purchase decisions. Sweeney et al. (2001) divide perceived value into quality, price, emotion, and social value. Similarly, Li et al. (2017) explored product, service, and social perceived value in online purchasing decisions.

More research on online shopping has extensively combined the new features of live streaming and introduced more theories. Yan et al. (2021) used the characteristics of live broadcasting as stimuli to study the impact of perceived value in impulse buying. Based on the SOR theory, Zhang et al. (2021) introduced the heart flow theory and verified that the authenticity, interactivity, and entertainment of live streaming can stimulate consumers' continuous purchases from a psychological point of view. Based on the virtual nature, Zhao et al. (2014) concluded that online product display and interaction can promote the formation of virtual tactile sensation and trigger impulsive purchasing. Through the study of shopping festivals, Wang et al. (2018) point out that the price discounts of e-commerce shopping can make consumers feel that they get what they pay for after weighing them, which significantly and positively influences purchases through the product's perceived value. Wang et al. (2021) construct a new model that verifies that perceived value in social media use can positively

influence users' social attachment through identity and belongingness. Based on the analysis of static data on online shopping, Lee constructed a new online purchase decision model from product, service, and social perceived value. Wu et al. (2018) point out that perceived experiential value (e.g., fun, emotion), as well as relationship quality (e.g., interactivity and trust), have a significant positive impact on customers in live streaming shopping in China. Singh, Sonali et al. (2021) investigated in the Indian context that convenience, monetary, emotional, and social value affect consumers' continued willingness to use streaming services.

2.2 Research on Live-streaming Consumption Behavior

Fishbein et al. (1977) define willingness to buy as the probability that a consumer will choose to buy a product under the combined influence of subjective attitudes and external circumstances. Consumers make purchasing decisions relying on the relevant information they collect, including consumer experience, brand awareness, recommendations, word-of-mouth, and other suggestions. Different consumers may adopt different decision-making strategies. Simon (1955) believes that the individual's ability to process information is limited, and constrained by the limited cognitive ability and available information. Online consumers also conform to limited rationality, deciding their shopping behavior based on their cognitive habits and weighing the external information they acquire. The significant feature of live-streaming compared to ordinary online shopping is the immersive experience, also known as the sense of presence, which affects consumers' online purchasing by providing real consumer experiences and rich real-time visualization information and building trust. It is the higher authenticity that provides rich and effective information that drives the final consumer decision.

Westbrook (1987) mentions that rational purchases are driven by logical reasoning and practical considerations. Customers who make rational decisions focus on cost and value analysis, product features and specifications, brand reputation and credibility, and consumer reviews and recommendations. They prioritize functionality and long-term benefits. However, with the immense emotional value provided by live sales, some psychological factors may play a role in consumer behavior far beyond the product itself, leading to consumers' irrational consumption, such as crowd-sourced consumption. Greenleaf and Lehmann's (1995) empirical study demonstrated that consumers have a significant tendency to follow the crowd in their online product choices, and are prone to refer to other consumers' behaviors and word-of-mouth opinions.

College students are in a special age stage, and their purchasing behavior and psychology are often irrational, which makes it easy to produce impulsive consumption in the atmosphere created by the broadcast room. Rook and Fisher (1995) defined impulsive consumption as "a consumer's tendency to buy instinctively, without thinking, immediately, and actively." According to Ding Meiling (2018), consumers are likely to produce impulsive consumption behavior under the "Netflix + Live + E-commerce" model. Consumers are stimulated by the outside world and their emotional response, emotionally attracted by the goods and eager to buy the product immediately, an impromptu, spontaneous, unconscious unplanned shopping behavior.

3. Theoretical Foundations and Research Hypotheses

3.1 The Stimulus-Organism-Response Theory (SOR)

The SOR model, also known as the Stimulus-Organism-Response (SOR) theory, refers to the process in which some specific external stimuli induce an organism to produce a specific response. It was a development of the Stimulus Response (SR) theory, which suggests that feelings and behaviors are caused by the external environment. However, the SR model does not take into account the "organism" or person responding to the stimulus. It has been observed that the response can be different because a person's different feelings and emotions play fairly important roles in final responses, thus the SR theory is incomplete. Then based on stimulus-response (S-R) theory, behaviorist psychologists Mehrabian and Russell (1976) first proposed the SOR theory, a theoretical framework based on the three dimensions of Stimulus, Organism, and Response, which suggested that the "O" or organism has an active and intermediate function. Donovan and Rossiter (1982) were the first to apply the S-O-R theoretical model to the analysis of retail activity. The model aims to explain the interplay between emotion and coping mechanisms, emphasizing that the individual's subjective interpretation of stimuli plays an important role in the emotion and coping process. Later, the body's stimulus-response formula became a way of understanding complex human behavior. In short, SOR states that there is a stimulus that stimulates a response based on the internal emotions or behavior of an organism. The internal processing of stimuli may be conscious or unconscious. It also triggers different emotions in people with different personalities, which leads to different reactions. Reactions may happen internally, like an elevated heart rate, or externally, like crying. Then it was widely used in studies of consumer online shopping, examining the reaction of customers' online shopping outcomes (pleasure or avoidance) caused by different external environments of online stores or live-streaming rooms such as atmosphere and behaviors.

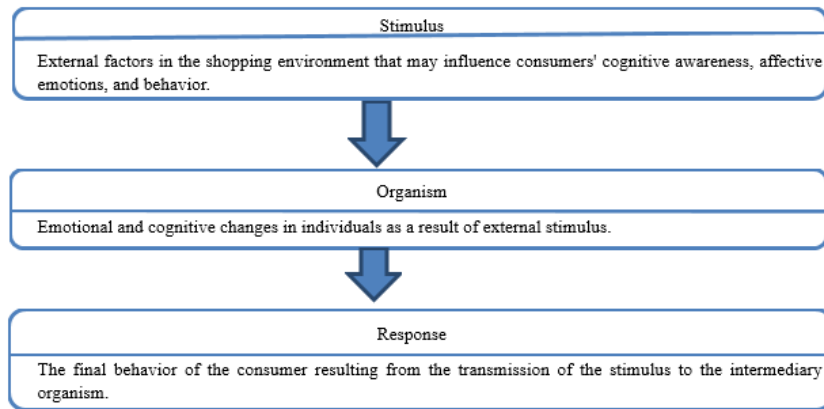


Figure 1. Model diagram of the SOR theory

3.2 Hypotheses Development

3.2.1 Live-streaming Characteristics(Stimulus)

Live online shopping, due to its various new features, such as visibility and interaction, enables consumers to have an immersive experience. Through the virtual environment it creates, consumers can have a stronger sense of experience and a feeling of offline shopping, but it does not need to spend the time energy, and other costs of offline shopping. Its convenience and fast won the favor of consumers. First of all, the consumption of broadcast rooms takes advantage of the characteristics of time-limited preferential treatment and pursues to sell a large number of commodities at a slightly lower price to obtain a larger amount of income. It will create a tense atmosphere through the way of discount countdown, triggering consumers to place orders as soon as possible, he will reduce the price through the way of direct broadcast group purchase, creating preferential prices that can only be obtained by direct broadcast purchase, and will be accompanied by some giveaways products. Thus because of the economy of direct broadcast shopping, a large number of consumers will buy. As the main source of income of college students is living expenses, which are fixed and limited, they often pursue good quality and cheap products, so the economic commodities can meet the shopping needs of college students.

H1a. The economy has a significant positive effect on product perceived value.

H1b. The economy has a significant positive effect on emotional perceived value.

H1c. The economy has a significant positive effect on social perceived value.

H1d. The economy has a significant positive effect on live-streaming purchasing behavior.

Authenticity refers to the extent to which the information consumers are exposed to is genuine. In the context of online shopping, product images may undergo certain enhancements to stimulate consumer desire, often leading to concerns about whether the actual goods match their representations. However, in live shopping experiences, real-time video presentations better reflect the authenticity of products. Firstly, videos surpass images in showcasing the true condition of a product and are less prone to manipulation or deception. Additionally, consumers can interact with live anchors during live broadcasts for further observation of products from different angles and scrutiny of specific details they care about, ensuring enhanced authenticity. This real-time display tailored specifically for individual viewers fosters trust in both live products and anchors alike, making it easier for consumers to make satisfactory purchases.

H2a. Authenticity has a significant positive effect on product perceived value.

H2b. Authenticity has a significant positive effect on emotional perceived value.

H2c. Authenticity has a significant positive effect on social perceived value.

H2d. Authenticity has a significant positive effect on live-streaming purchasing behavior.

Entertainment refers to the emotional pleasure and happy mood that consumers gain in the process of watching live broadcasts, and pays more attention to emotional harvest than products themselves. Under the current environment of intensifying live competition, more anchors are innovating in interesting ways to attract more consumers into the live broadcast room to watch. They may change the way of broadcast, unique clothing and original behavior, humorous words, etc., to attract consumers' eyes and enter the broadcast room to watch. This process also meets the needs of consumers to relax their mood to a certain extent, and at the same time, when

consumers feel happy, they are likely to be affected by emotions and impulse consumption. In a relaxed and happy live broadcast atmosphere, college students may have a good impression of the brand and the host, and college students are considered to be an irrational group, and they may also have shopping behaviors due to their relaxed and happy mood.

H3a. Entertainment has a significant positive effect on product perceived value.

H3b. Entertainment has a significant positive effect on emotional perceived value.

H3c. Entertainment has a significant positive effect on social perceived value.

H3d. Entertainment has a significant positive effect on live-streaming purchasing behavior.

Interactivity refers to the two-way interaction between consumers and anchors, which means that the buyer and seller have established a communication method to exchange the required information. In the process of network broadcast, consumers can have direct communication with the anchor by sending a bullet screen. When introducing the products they are interested in, consumers can directly ask for the information they care about through the bullet screen and ask the anchor to present more comprehensive and detailed details. In addition, it is possible to obtain more comprehensive information through the communication between other consumers and anchors in the bullet screen, and at the same time, in the interaction, they may buy some products that are not needed at first because they have a deeper understanding of a product. Consumers will also generate a feeling in which everyone is interested in the goods in this real-time communication, which can better stimulate the desire to buy. In this process, consumers can not only have a more comprehensive understanding of the product but also gain emotional feedback. The behavior of interacting with others and watching live broadcasts also has a social effect, and the perceived value of the product, emotion, perceived value, and social perceived value are all satisfied at the same time. College students are a group that can easily establish trust and good relationships with others, so under the role of patient interaction of anchors, college students may shop because of the trust relationship established between them.

H4a. Interactivity has a significant positive effect on product perceived value.

H4b. Interactivity has a significant positive effect on emotional perceived value.

H4c. Interactivity has a significant positive effect on social perceived value.

H4d. Interactivity has a significant positive effect on live-streaming purchasing behavior.

In today's increasingly normal live broadcast, mass live broadcast has become more and more a normal way of sales, many ordinary people can become anchors. Also because more and more ordinary people are watching live broadcasts, accounting for a large proportion, anchors may pursue a more Civilian-style display way. When inviting many stars to testify, although it is first tried to attract consumers for the fame of the stars, it is generally through a way of endearing stars to ordinary people to stimulate consumers' love and consumption. Anchors usually build emotional bonds with consumers through their professionalism and reliability, and build trust through positive responses and emotional cultivation, thus promoting consumption. Anchors interact with consumers to narrow the distance between consumers, make consumers feel a kind of familiar feeling, and make consumers feel a sense of attention and social identity, to meet the emotional needs of consumers. College students are a more enthusiastic and lively group, they have rich emotions and pay more attention to their emotional needs, and this sense of identity is exactly what they need. They may also take the initiative to spread the positive information of the live broadcast or anchor to others because they like a certain anchor, and this sense of identity plays a powerful role in their final purchase behaviors.

H5a. Sense of identity has a significant positive effect on product perceived value.

H5b. Sense of identity has a significant positive effect on emotional perceived value.

H5c. Sense of identity has a significant positive effect on social perceived value.

H5d. Sense of identity has a significant positive effect on live-streaming purchasing behavior.

3.2.2 Roles of Perceived Values(Organism)

According to Monroe and Oxenfeldt (1980), when purchasing goods, customers will consider both the benefits and costs of the goods, and choose the products with higher perceived value from the perspective of the transferable value represented by the difference between the two. The perceived value of products refers to the fact that the goods purchased by consumers should meet the standard of matching quality and price, so that consumers can feel that the price paid for the purchase of products is worthwhile, reflecting a trade-off between the perceived benefits of consumers in products or services and the perceived pay through the payment of prices.

Price is one of the decisive factors in the perceived value of a product, and it is also a very important factor affecting the purchase intention. Usually, consumers will prefer the goods at a relatively low price, but when the price of a product is too low, the purchase risk of consumers will be increased, and the uncertainty of consumers on the quality of the product will be increased. The commodity purchased in the live-streaming room is economical, its price is relatively low and affordable, and its price discount enables the same quality of goods to obtain higher perceived value. At the same time, the live-streaming products are often accompanied by giveaway products, and the accompanying giveaway goods can also improve the perceived value of the product. When the price reduction increases consumers' concerns about safety, the authentic display in the live-streaming room can effectively reduce such concerns, helping customers purchase products with quality and price matching, and effectively improving the product's perceived value. In addition, through timely and accurate interactive replies, anchors can also ensure that the quality of goods is better displayed and guaranteed, and can help consumers buy more favorite and appropriate goods, effectively improving the product's perceived value.

H6a. Product perceived value has a significant positive effect on purchasing behavior.

H6b: Product perceived value plays an intermediary role between economy and purchasing behavior.

H6c: Product perceived value plays an intermediary role between authenticity and purchasing behavior.

H6d: Product perceived value plays an intermediary role between entertainment and purchasing behavior.

H6e: Product perceived value plays an intermediary role between interactivity and purchasing behavior.

H6f: Product perceived value plays an intermediary role between the sense of identity and purchasing behavior.

Emotional value refers to how the product or service appeals to the customer on an emotional level. First of all, the entertainment of the live-streaming room has already provided customers with certain emotional value, so that customers can feel the emotional perceived value even if they do not consume. Moreover, the high degree of interactivity and the immersive shopping atmosphere of the live broadcast can provide rich emotional value. Anchors' cordial greetings and patient answers make consumers feel cordial and warm, making consumers not only increase their trust in anchors' live products but also get emotional satisfaction. Many anchors will take the initiative to care about the state of consumers and communicate with them with an approachable attitude, which can effectively solve the depressed mood, disperse the loneliness in the hearts of some consumers, and create a good and friendly social atmosphere. The bond of trust established and the sense of identity established by the sincere caring attitude displayed will effectively enhance the emotional perceived value.

H7a. Emotional perceived value has a significant positive effect on purchasing behavior.

H7b: Emotional perceived value plays an intermediary role between economy and purchasing behavior.

H7c: Emotional perceived value plays an intermediary role between authenticity and purchasing behavior.

H7d: Emotional perceived value plays an intermediary role between entertainment and purchasing behavior.

H7e: Emotional perceived value plays an intermediary role between interactivity and purchasing behavior.

H7f: Emotional perceived value plays an intermediary role between the sense of identity and purchasing behavior.

Patient and friendly anchors can establish a good relationship with customers, while establishing a sense of trust, but also enhance each other's sense of identity and belonging so that consumers feel that anchors are very kind and familiar, and social perceived value has been established. In the process of interacting with consumers, consumers can feel that their opinions are well respected and that they are treated friendly, which makes consumers' self-esteem and social needs at a higher level well satisfied. At the same time, it can also effectively communicate and exchange with other consumers in the bullet screen, and enhance communication with the outside world while exchanging experiences and information with each other. In these processes, the social perceived value is well satisfied. Then in this process, the live-streaming room may gradually become a way for some people to communicate with the outside world, when looking at the products you are interested in, sometimes you will find other people with the same interest or behavioral habits, and this can also become a way to show your style and a way to socialize. According to Kantamneni and Coulson (1996), customer-perceived value includes social value, experience value, functional value, and market value. Among them, social value is defined as the meaning or value of the product to society and the influence of the relationship between the individual and the society, which has a certain subjectivity because it is produced by the customer's perception of the value of the product through subjective thought. It is not a value inherent in the product or service itself, but a subjective judgment of the customer on the impact of the product on its development and society. In the mode of online shopping, the online interaction and timely feedback of anchors affect the subjective social value

judgment of customers and can sometimes produce a large range of influence. In many cases, the individual performance of the anchor can already affect the consumers' impression of the live-streamed products and even the brand of the products, producing a wide range of social impact. Online communication with other customers in the live-streaming room becomes an important source of information for consumers to understand product quality and service, sometimes becoming a way of social connection as well. The targeted and effective interaction between each other can effectively enhance the social perceived value.

H8a. The social perceived value has a significant positive effect on purchasing behavior.

H8b: The social perceived value plays an intermediary role between economy and purchasing behavior.

H8c: The social perceived value plays an intermediary role between authenticity and purchasing behavior.

H8d: The social perceived value plays an intermediary role between entertainment and purchasing behavior.

H8e: The social perceived value plays an intermediary role between interactivity and purchasing behavior.

H8f: The social perceived value plays an intermediary role between sense of identity and purchasing behavior.

3.3 The Model of This Research

According to the assumptions made, this study formed a research model with five characteristics of live-streaming sales as stimulus, three perceived values as mediators, and purchasing behaviors as final reaction results, as shown in Figure 2.

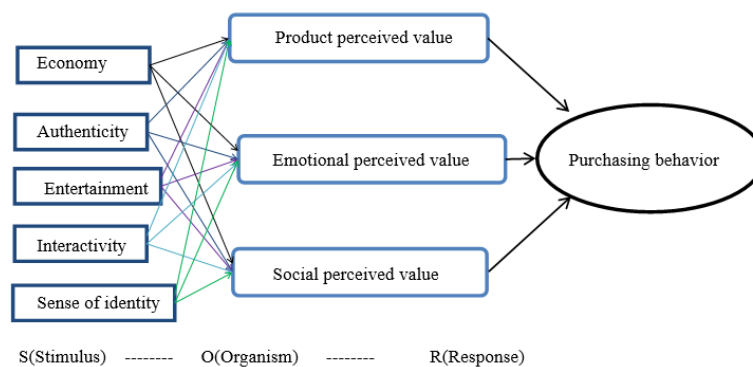


Figure 2. Research conceptual model

4. Research Method

4.1 Questionnaire Design

The questionnaire mainly includes two parts: basic information and questionnaire scale. The survey part of the questionnaire investigates the impact of different characteristics of live broadcasting on college students' purchasing behaviors, including nine variables: economy, authenticity, interactivity, entertainment, sense of identity, product perceived value, emotional perceived value, social perceived value, and purchasing behavior. In the questionnaire design stage, searching relevant literature, using the questionnaire designed by well-known scholars at home and abroad as the benchmark, and adjusting according to the research theme to make the questions contextual and concise. A questionnaire survey on a 5-point Likert scale is used to study the impact of perceived value on college students in their live-streaming purchasing behavior.

The survey was carried out by scanning the QR code online or clicking the link to fill in. In the questionnaire, questions such as "your monthly live-streaming room consumption amount" are used to identify the survey objects to ensure the validity of the questionnaire data. In the stage of questionnaire distribution, the questionnaire was mainly distributed in the WeChat group using the questionnaire star, and the survey objects were college students, nearly 35% of them were students at Guangdong University of Foreign Studies, and the rest came from other universities. The reason is that college students are a vital part of watching live broadcasts and buying products. They are easy to accept new things and are easily influenced by the key opinion leaders of Internet celebrities in live-streaming rooms. Excluding invalid questionnaires, there were 238 valid questionnaires. In terms of gender, although women account for 61.34%, according to existing studies, women also account for a higher proportion of online shopping consumers, indicating that this gender ratio will not interfere with the accuracy and credibility of the research conclusions to some extent. The collected primary questionnaire data were then statistically analyzed using SPSS 26.0.

4.2 Scale Reliability and Validity

To ensure that the questionnaire has good reliability and validity of the questionnaire, the scales in this paper scales in this paper are adopted from mature national and international national and international scales, and adjusted to the specific situation. The questions are measured on a five-point Likert scale. The questions are measured on a five-point Likert scale. To ensure the reliability and validity of the questionnaire, all scales in this document have been adopted from well-established national and international scales and adjusted to the specific situation, and the questions are measured on a five-point Likert scale.

Economy refers to the scale of Hsieh et al. (2017) on the relationship between price and product quality, with two items, and Cronbach's coefficient (Cronbach's α) is 0.889. Authenticity refers to the scale proposed by Beverland et al. (2008) and refers to Zhang Baosheng's (2021) Chinese treatment to make it more in line with the Chinese context, with two items and the Cronbach's α is 0.807. Entertainment refers to the entertainment scale of Chen et al. (2018), with 2 items and a Cronbach's α of 0.844. Interactivity refers to Guohua Wu et al.'s (2006) scale on interactivity, with 2 items and a Cronbach's alpha of 0.849. Sense of identity refers to Bhattachary's (2003) scale on consumers' social identity and consumption behavior when shopping, with a Cronbach's alpha of 0.862. Product perceived value refers to Xiuxia Yang et al. (2021) scale of perceived value provided by the product itself, with a Cronbach's alpha of 0.769. Emotional perceived value refers to Sara H. Hsieh's (2017) scale on emotional value provided by shopping, with a Cronbach's alpha of 0.873. Social perception mechanism refers to Maosheng Yang et al. (2021) on the perceived value of the connection with the outside world and the social attachment that shopping can generate, with a Cronbach's alpha of 0.912. The willingness and behavior of purchasing refers to the scale of Mingxiao Dan et al. (2018) on willingness to shop, with a total of four items, and a Cronbach's alpha of 0.899. All of the Cronbach's alpha of the variables is greater than 0.7, indicating that the variables have good internal consistency and stability (Table 1).

Table 1. Cronbach's alpha

		Cronbach's alpha
Economy	I feel like the sale on the live streaming is a great deal. I feel that the products and services on the live streaming are worth every penny!	0.889
Authenticity	The anchor showed the item from several angles. The anchor facilitated my deeper understanding of the item during the introduction of the item.	0.807
Entertainment	Watching a live stream of purchases keeps me entertained. Watching a live stream and buying relaxes me.	0.844
Interactivity	I can communicate directly about products of interest. Webcast anchors can respond to the questions I asked in a quick and timely manner.	0.849
Sense of identity	I sometimes get a sense of familiarity with anchors I would like to spread some positive messages about live streaming and anchors to those around me	0.862
Product perceived value	The quality of the items purchased in the live room was excellent. Great prices on items purchased in the live room.	0.769
Emotional perceived value	When I was watching the live streaming, I did not realize the time had elapsed. It's fun to interact with anchors or other consumers through pop-ups. I feel good when watching live streaming and interacting with anchors or other consumers.	0.873
Social perceived value	Live shopping is important to me (e.g. getting recognized and noticed on-air, etc.). I like live shopping. I think live shopping reflects my personality and style. I would recommend the products I purchased in live streaming to those around me.	0.912
Purchasing behavior	Live streaming has helped my buying behavior Live streaming has a big impact on my buying decisions Watching live streams has stimulated my buying desire	0.899

4.3 Reliability and validity test

The SPSS26.0 program was used to perform the KMO and Bartlett's sphericity tests on the scale and determine whether it was suitable for factor analysis. The test results are shown in Table 2, the KMO value is 0.966, large 0.5, high correlation, and passed Bartlett's sphericity test of significance, which is suitable for factor analysis.

Table 2. KMO

KMO and Bartlett's sphericity tests		
KMO value		.966
	Approximate chi-square	5038.288
	free degree	300
Bartlett's sphericity tests	significance	.000

4. Results and Analysis

5.1 Descriptive Statistics

In this research, Spss26.0 was used to analyze the descriptive statistics of the relevant variables, and the correlations between the variables are shown in Table 3. The results show that there is a significant positive correlation between economy, authenticity, entertainment, interactivity, sense of identity and product perceived value, emotional perceived value, and social perceived value; and there is a significant positive correlation between the three types of perceived value and purchase behavior.

Table 3. Correlation

Correlation		Economy	Authenticity	Entertainment	Interac-tivity	Sense of identity	Product of perceived value	Emotional perceived value	Social perceived value	Purcha-sing behavior
Economy	Pearson correlation	1	.747**	.694**	.745**	.679**	.746**	.687**	.647**	.658**
	Sig.		.000	.000	.000	.000	.000	.000	.000	.000
Authenticity	Pearson correlation	.747**	1	.689**	.722**	.618**	.746**	.617**	.583**	.627**
	Sig.	.000		.000	.000	.000	.000	.000	.000	.000
Entertainment	Pearson correlation	.694**	.689**	1	.732**	.802**	.726**	.790**	.764**	.697**
	Sig.	.000	.000		.000	.000	.000	.000	.000	.000
Interactivity	Pearson correlation	.745**	.722**	.732**	1	.726**	.776**	.713**	.663**	.675**
	Sig.	.000	.000	.000		.000	.000	.000	.000	.000
Sense of identity	Pearson correlation	.679**	.618**	.802**	.726**	1	.769**	.813**	.813**	.720**
	Sig.	.000	.000	.000	.000		.000	.000	.000	.000
Product perceived value	Pearson correlation	.746**	.746**	.726**	.776**	.769**	1	.734**	.728**	.702**
	Sig.	.000	.000	.000	.000	.000		.000	.000	.000
Emotional perceived value	Pearson correlation	.687**	.617**	.790**	.713**	.813**	.734**	1	.802**	.757**
	Sig.	.000	.000	.000	.000	.000	.000		.000	.000

Social perceived value	Pearson correlation	.647**	.583**	.764**	.663**	.813**	.728**	.802**	1	.835**
	Sig.	.000	.000	.000	.000	.000	.000	.000		.000
Purchasing behavior	Pearson correlation	.658**	.627**	.697**	.675**	.720**	.702**	.757**	.835**	1
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000

Note. **. At level 0.01 (single tail), the correlation is significant.

5.2 Hypothesis Testing

5.2.1 R Square

In this research we used spss26.0 to perform a multiple linear regression on the relevant variables, r-square = 0.727 (table 4), the regression equation fits well, which means that the independent variables of product perceived value, emotional perceived value, and social perceived value can explain the dependent variable of purchase behavior.

Table 4. R square

Model summary b					
Model	R	R square	Adjusted R square	Error in the standard estimation	Debin Watson
1	.852a	.727	.723	.45952	1.852

Notes. a. Predictor variables: (constant), product, emotional, and social perceived value.

b. Dependent variable: purchase behavior.

The significance $P=0.008<0.05$ for product perceived value, $P=0.003<0.05$ for emotional perceived value, and $P=0.000<0.05$ for social perceived value indicates that all three types of perceived value can significantly influence college students' live broadcasting purchase behavior. The influence coefficients of all three of them are positive, which positively affects the purchase behavior, and the more three types of perceived value that live broadcasting can provide for college students' customers, the more it can promote and stimulate college students' live streaming consumption behavior.

5.2.2 Coefficientsa

Table 5. Coefficientsa

Coefficientsa								
Model		Unstandardized coefficients		Standardized coefficients	t	significance	Collinearity statistics	
		B	Standard error	Beta			allowance	VIF
		1	(constant)	.541				
	Product perceived value	.156	.058	.143	2.666	.008	.407	2.457
	Emotional perceived value	.168	.057	.183	2.970	.003	.308	3.242
	Social perceived value	.556	.058	.584	9.585	.000	.314	3.182

Note. A. Dependent variable: purchase behavior.

5.3 Analysis and Discussion

5.3.1 Positive Effect

According to the linear regression results of independent variables and dependent variables, economy, and

authenticity can most positively affect the perceived value of products and lead to purchase behavior. The positive influence of entertainment on affective perceived value is the most significant, and the influence on the other two kinds of perceived value is also significant. The positive effects of interactivity on product perceived value and affective perceived value are significant. The positive effect of a sense of identity on emotional perceived value and social perceived value is particularly significant. Thus, hypothesis H1a, H1b, H1c, H1d, H2a, H2b, H2c, H2d, H3a, H3b, H3c, H3d, H4a, H4b, H4c, H4d, H5a, H5b, H5c, H5d are verified.

In addition, the results show that all three kinds of perceived value can significantly positively affect purchasing behavior. Among them, social perceived value has the most significant impact, followed by emotional perceived value, and finally product perceived value. Hence, hypothesis H6a, H7a, H8a are verified.

5.3.2 Direct Effect Test

Spss26.0 was used to test the direct effect by multiple linear regression, and the research results are shown in Table 6, Table 7, and Table 8. The results of Table 6 showed that the economy positively impacts product perception reliability ($\beta=0.645$, $p<0.001$), and hypothesis H1a was verified. Authenticity positively affected product perception and trustworthiness ($\beta=0.634$, $p<0.001$), and hypothesis H2a was verified. Entertainment positively affected product perception and trustworthiness ($\beta=0.627$, $p<0.001$), and hypothesis H3a was verified. Interactivity positively affected product perception and trustworthiness ($\beta=0.6332$, $p<0.001$), and hypothesis H4a was verified. Sense of identity positively affected product perception and trustworthiness ($\beta=0.618$, $p<0.001$), and hypothesis H5a was verified. Among them, the economy has the most positive influence on product perceived value.

Table 6. Analysis of the direct effect of live streaming characteristics on the product perceived value

Variable	Product perceived value					
	M1	M2	M3	M4	M5	M6
Gender	-0.129	0.077	-0.056	-0.117	-0.017	-0.156**
Monthly disposable income	0.045	0.019	-0.017	0.008	0.014	0.045
Average monthly live broadcast consumption amount	0.144***	0.039	0.077***	0.044*	0.059*	0.011
Economy		0.645***				
Authenticity			0.634***			
Entertainment				0.627***		
Interactivity					0.633***	
Sense of identity						0.618***
R square	0.098	0.568	0.582	0.537	0.618	0.604
Δ R square	0.098	0.471	0.484	0.439	0.521	0.506
F	8.43***	76.703***	80.996***	67.542***	94.4***	88.683***

Notes. *** means significant at 0.001 level; M2~M6 represents the relationship model of the influence of independent variables, such as economy, authenticity, entertainment, interactivity, and sense of identity, on the product perceived value of intermediate variables.

The results of Table 7 showed that the economy positively impacts emotional perceived value ($\beta=0.701$, $p<0.001$), and hypothesis H1b was verified. Authenticity positively affected emotional perceived value ($\beta=0.608$, $p<0.001$), and hypothesis H2b was verified. Entertainment positively affected emotional perceived value ($\beta=0.811$, $p<0.001$), and hypothesis H3b was verified. Interactivity positively affected emotional perceived value ($\beta=0.682$, $p<0.001$), and hypothesis H4b was verified. Sense of identity positively affected emotional perceived value ($\beta=0.768$, $p<0.001$), and hypothesis H5b was verified. Among them, entertainment has the most positive influence on emotional perceived value.

Table 7. Analysis of the direct effect of live streaming characteristics on the emotional perceived value

Variable	Emotional perceived value					
	M7	M8	M9	M10	M11	M12
Gender	0.004	0.227*	0.074	0.02	0.125	-0.029
Monthly disposable income	0.06	0.032	0.001	0.012	0.027	0.06
Average monthly live broadcast consumption amount	0.175***	0.061*	0.11***	0.046	0.083**	0.01
Economy		0.701***				
Authenticity			0.608***			
Entertainment				0.811***		
Interactivity					0.682***	
Sense of identity						0.768***
R square	0.11	0.505	0.427	0.632	0.54	0.665
△R square	0.11	0.395	0.317	0.522	0.431	0.556
F	9.596***	59.392***	43.328***	99.891***	68.489***	115.695***

Notes. *** means significant at 0.001 level; M8~M12 represents the relationship model of the influence of independent variables, such as economy, authenticity, entertainment, interactivity and sense of identity, on the emotional perceived value of intermediate variables.

The results of Table 8 showed that the economy positively impacts the social perceived value ($\beta=0.596, p<0.001$), and hypothesis H1c was verified. Authenticity positively affects the social perceived value ($\beta=0.532, p<0.001$), and hypothesis H2c was verified. Entertainment positively affects the social perceived value ($\beta=0.713, p<0.001$), and hypothesis H3c was verified. Interactivity positively affects the social perceived value ($\beta=0.582, p<0.001$), and hypothesis H4c was verified. Sense of identity positively affects the social perceived value ($\beta=0.688, p<0.001$), and hypothesis H5c was verified. Among them, entertainment has the most positive influence on the social perceived value.

Table 8. Analysis of the direct effect of live streaming characteristics on the social perceived value

Variable	Social perceived value					
	M13	M14	M15	M16	M17	M18
Gender	0.003	0.193*	0.065	0.017	0.106	-0.026
Monthly disposable income	-0.004	-0.028	-0.056	-0.046	-0.032	-0.004
Average monthly live broadcast consumption amount	0.235***	0.138***	0.178***	0.122***	0.157***	0.087***
Economy		0.596***				
Authenticity			0.532***			
Entertainment				0.713***		
Interactivity					0.582***	
Sense of identity						0.688***
R square	0.204	0.511	0.465	0.636	0.54	0.683
△R square	0.204	0.307	0.26	0.432	0.336	0.479
F	20.051***	60.925***	50.61***	101.987***	68.381***	125.615***

Notes. *** means significant at 0.001 level; M14~M18 represents the relationship model of the influence of independent variables, such as economy, authenticity, entertainment, interactivity and sense of identity, on the social perceived value of intermediate variables.

5.3.3 Intermediate Effect Test

The results of Table 9 showed that product perceived value positively influenced purchasing behavior ($\beta=0.713, p<0.001$), assuming that H6a is verified. Emotional perceived value positively influenced purchasing behavior ($\beta=0.655, p<0.001$), assuming that H7a is verified. The social perceived value positively influenced purchasing

behavior ($\beta=0.799$, $p<0.001$), assuming that H8a is verified. Among them, Social perceived value has the most positive influence on purchasing behavior. Also, the economy positively influenced purchasing behavior ($\beta=0.601$, $p<0.001$), assuming that H1d is verified. Authenticity positively influenced purchasing behavior ($\beta=0.563$, $p<0.001$), assuming that H2d is verified. Entertainment positively influenced purchasing behavior ($\beta=0.63$, $p<0.001$), assuming that H3d is verified. Interactivity positively influenced purchasing behavior ($\beta=0.581$, $p<0.001$), assuming that H4d is verified. Sense of identity positively influenced purchasing behavior ($\beta=0.592$, $p<0.001$), assuming that H5d is verified.

Table 9. Results of hierarchical regression between live streaming characteristics and purchasing behavior

Variable	Purchasing behavior												
	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28			
Gender	-0.009	0.083	-0.012	-0.012	0.182	0.146	0.07	0.053	0.056	0.084			
Monthly disposable income	0.029	-0.002	-0.01	0.033	0.005	-0.004	-0.01	0.024	-0.025	-0.017			
Average monthly live broadcast consumption amount	0.183***	0.08**	0.069**	-0.005	0.085**	0.067**	0.055*	-0.007	0.123***	0.084***			
Economy					0.601***	0.295***	0.255***	0.202***					
Authenticity									0.563***	0.24***			
Entertainment													
Interactivity													
Sense of identity													
R square		0.713***				0.474***				0.51***			
ΔR square			0.655***				0.493***						
F				0.799***				0.668***					
Variable	0.137	0.524	0.589	0.699	0.481	0.563	0.624	0.723	0.459	0.551			
Gender	0.137	0.386	0.452	0.561	0.481	0.082	0.143	0.241	0.459	0.092			
Monthly disposable income	12.409***	64.02***	83.587***	135.099***	54.06***	59.828***	76.961***	120.913***	49.45***	56.873***			
M29	M30	M31	M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42
0.018	0.012	0.003	0.054	-0.006	-0.009	0.094	0.101	0.035	0.024	-0.034	0.028	-0.021	-0.016
-0.026	0.012	-0.008	-0.011	-0.014	0.025	0.001	-0.005	-0.011	0.023	0.03	0.012	0.002	0.032
0.068**	0.003	0.083**	0.064**	0.061**	-0.002	0.105***	0.08**	0.066**	0.003	0.056*	0.051*	0.051*	-0.006
0.256***	0.205***												
		0.63***	0.357***	0.24***	0.133*								
						0.581***	0.308***	0.26***	0.201***				
										0.592***	0.346***	0.239***	0.107*
			0.436***				0.432***				0.399***		
0.505***				0.481***				0.47***				0.46***	
	0.673***				0.698***				0.653***				0.706***
0.632	0.727	0.511	0.585	0.612	0.706	0.507	0.567	0.628	0.724	0.529	0.582	0.613	0.704
0.173	0.268	0.511	0.074	0.101	0.196	0.507	0.06	0.12	0.217	0.529	0.053	0.084	0.174
79.756***	123.749***	60.833***	65.409***	73.118***	111.614***	60.006***	60.876	78.226***	121.947***	65.521	64.719***	73.611***	110.248***

Notes. *** means significant at 0.001 level; M19~M22 denote the relationship model of the influence of the mediating variables product perceived value, emotional perceived value, and social perceived value on the dependent variable purchasing behavior; M23~M26 denote the model of the mediating variable's mediating effect between the independent variable economy and the dependent variable purchasing behavior; M27~M30 denote the model of the mediating variable's mediating effect between the independent variable authenticity and the dependent variable purchasing behavior; M31~ M34 denote the mediating effect model of the mediating variable between the independent variable entertainment and the dependent variable purchase intention; M35~M38 denote the mediating effect model of the mediating variable between the independent variable interactivity and the dependent variable purchase intention; and M39~M42 denote the mediating effect model of the mediating variable between the independent variable identification and the dependent variable purchase intention.

Multiple linear regression of SPSS26.0 was used to test the mediating effect of the hypothesis, and the research results are shown in Table 10. The results showed that the positive influence of the economy on purchasing

behavior decreased when the product perceived value was added ($\beta = 0.295$, $p < 0.001$). The positive effect of authenticity on purchasing behavior decreased ($\beta = 0.24$, $p < 0.001$); The positive effect of entertainment on purchasing behavior decreased ($\beta = 0.357$, $p < 0.001$); The positive effect of interactivity on purchasing behavior decreased ($\beta = 0.308$, $p < 0.001$); The positive effect of identity on purchasing behavior was decreased ($\beta = 0.346$, $p < 0.001$). Therefore, the perceived value of products plays a role as a partial intermediary between the characteristics of online live broadcasting of e-commerce networks and the purchasing behaviors of college students in live broadcasting rooms, and H6b, H6c, H6d, H6e, and H6f are assumed to be verified.

The results showed that the positive influence of the economy on purchasing behavior decreased when the emotional perceived value was added ($\beta = 0.255$, $p < 0.001$). The positive effect of authenticity on purchasing behavior decreased ($\beta = 0.256$, $p < 0.001$); The positive effect of entertainment on purchasing behavior decreased ($\beta = 0.24$, $p < 0.001$); The positive effect of interactivity on purchasing behavior decreased ($\beta = 0.26$, $p < 0.001$); The positive effect of identity on purchasing behavior was decreased ($\beta = 0.239$, $p < 0.001$). Therefore, the emotional perceived value plays a role as a partial intermediary between the characteristics of online live broadcasting of e-commerce networks and the purchasing behaviors of college students in live broadcasting rooms, and H7b, H7c, H7d, H7e, and H7f are assumed to be verified.

The results showed that the positive influence of the economy on purchasing behavior decreased when the social perceived value was added ($\beta = 0.202$, $p < 0.001$). The positive effect of authenticity on purchasing behavior decreased ($\beta = 0.205$, $p < 0.001$); The positive effect of entertainment on purchasing behavior decreased ($\beta = 0.133$, $p < 0.001$); The positive effect of interactivity on purchasing behavior decreased ($\beta = 0.201$, $p < 0.001$); The positive effect of identity on purchasing behavior was decreased ($\beta = 0.107$, $p < 0.1$). Therefore, the social perceived value plays a role as a partial intermediary between the characteristics of online live broadcasting and the purchasing behaviors of college students in live broadcasting rooms, and H8b, H8c, H8d, H8e, and H8f are assumed to be verified.

Table 10. Indirect effect test results

Intermediate path	Indirect effect value	Boot Standard error	Boot CI Lower limit	Boot C Upper limit
Economy - Product perceived value - Purchasing behavior	0.3061	0.0549	0.1878	0.4029
Economy - Emotional perceived value - Purchasing behavior	0.3455	0.0571	0.2331	0.456
Economy - Social perceived Value - Purchasing behavior	0.3986	0.0511	0.2936	0.495
Authenticity - Product perceived value - Purchasing behavior	0.323	0.0627	0.1953	0.4407
Authenticity - Emotional perceived value - Purchasing behavior	0.3069	0.0544	0.2055	0.4195
Authenticity - Social perceived Value - Purchasing behavior	0.3585	0.0484	0.2609	0.4518
Entertainment - Product perceived value - Purchasing behavior	0.2736	0.0519	0.1691	0.3728
Entertainment - Emotional perceived Value - Purchasing behavior	0.3901	0.071	0.2573	0.5326
Entertainment - Social perceived Value - Purchasing behavior	0.4971	0.0575	0.3809	0.6065
Interactivity - Product perceived value - Purchasing behavior	0.2734	0.0652	0.1442	0.3997
Interactivity - emotional perceived value - Purchasing behavior	0.3207	0.0473	0.2284	0.415
Interactivity - Social perceived Value - Purchasing behavior	0.3799	0.044	0.2874	0.4621
Identity - Product perceived value - Purchasing behavior	0.2462	0.0614	0.1199	0.3661
Identity - Emotional perceived Value - Purchasing behavior	0.3532	0.0585	0.2384	0.4711
Identity - Social Perceived Value - Purchasing behavior	0.4857	0.0531	0.3785	0.5839

The Process program of SPSS26.0 was used to test the data by self-help method. A sample of 5,000 times was set, and the confidence interval was set at a 95% level to further test the mediating role of product perceived value, emotional perceived value, and social perceived value among live broadcast characteristics and purchase behavior. The test results are shown in Table 10. The results show that the indirect effect value of the economy affecting purchasing behavior through product perceived value is 0.3061, and the asymmetric interval is [0.1878, 0.4029]. The indirect effect value of authenticity on purchasing behavior through product perceived value is 0.323, and the asymmetric interval is [0.1953, 0.4407]. The indirect effect value of entertainment on purchasing behavior through product perceived value is 0.2736, and the asymmetric interval is [0.1691, 0.3728]. The indirect effect of interactivity on purchasing behavior through product perceived value is 0.2734, and the asymmetric interval is [0.1442, 0.3997]. The indirect effect value of the sense of identity on purchasing behavior through product perceived value is 0.2462, and the asymmetric interval is [0.1199, 0.3661]. The asymmetric intervals do not contain 0, and the hypotheses H6b, H6c, H6d, H6e, and H6f are further verified.

The results show that the indirect effect value of the economy affecting purchasing behavior through emotional perceived value is 0.3455, and the asymmetric interval is [0.2331, 0.456]. The indirect effect value of authenticity on purchasing behavior through emotional perceived value is 0.3069, and the asymmetric interval is [0.2055, 0.4196]. The indirect effect value of entertainment on purchasing behavior through emotional perceived value is 0.3901, and the asymmetric interval is [0.2573, 0.5326]. The indirect effect of interactivity on purchasing behavior through emotional perceived value is 0.3207, and the asymmetric interval is [0.2284, 0.415]. The indirect effect value of the sense of identity on purchasing behavior through emotional perceived value is 0.3532, and the asymmetric interval is [0.2384, 0.4711]. The asymmetric intervals do not contain 0, and the hypotheses H7b, H7c, H7d, H7e, and H7f are further verified.

The results show that the indirect effect value of the economy affecting purchasing behavior through social perceived value is 0.3986, and the asymmetric interval is [0.2936, 0.495]. The indirect effect value of authenticity on purchasing behavior through social perceived value is 0.3585, and the asymmetric interval is [0.2609, 0.4518]. The indirect effect value of entertainment on purchasing behavior through social perceived value is 0.4971, and the asymmetric interval is [0.3809, 0.6065]. The indirect effect of interactivity on purchasing behavior through social perceived value is 0.3799, and the asymmetric interval is [0.2874, 0.4621]. The indirect effect value of the sense of identity on purchasing behavior through social perceived value is 0.4857, and the asymmetric interval is [0.3785, 0.5839]. The asymmetric intervals do not contain 0, and the hypotheses H7b, H7c, H7d, H7e and H7f are further verified.

4. Conclusion

The results of our research indicate that live-streaming sales can stimulate college students' consumption with greater entertainment. However, this can be problematic, as the greater focus on emotional and social perceived value rather than the product value suggests that college students may engage in irrational shopping in the fun, relaxed, and friendly atmosphere of the live-streaming room. They may pay less attention to the quality of the product itself because of the pursuit of emotional satisfaction and needs, finally buy some products that they do not need at all or products that do not match their original target requirements, which is not conducive to the formation of healthy online consumption and rational consumer behavior habits.

Our research also finds that anchors can attract and retain consumers through funny content and forms, active care, real-time interaction, low-price sales, limited buying, real-time product display, etc., to complete the transmission of the role of perceived value on college students' final purchasing behavior. Compared with traditional online store sales, live-streaming sales have an immersive atmosphere and experience, which can better present the goods to the audience, make corresponding introductions to the products, and the anchor and other viewers can conduct on-site trials and share the experience of use, producing a more reliable understand the advantages and disadvantages of the products and the applicable conditions. In this process, trust is enhanced and risks are avoided. For one thing, the cheerful and relaxed shopping atmosphere, real-time targeted interaction, and social identity of communicating with others in the live broadcast all strengthen the emotional communication between anchors and consumers, and between consumers and other consumers, narrow the psychological distance, and effectively enhances consumers' trust, then improve the purchase willingness of college students. On the other, live streaming reduces traditional online shopping risk of film processing, which is a deviation between the picture and the real thing through its real-time product display, reducing the risk of buying falsely advertised goods.

Our research has some limitations. Firstly, the sample size is not large enough and its representativeness is limited because nearly 35% of the respondents are students of Guangdong University of Foreign Studies. In

addition, this study only briefly analyzes the path of influence of each factor, but these factors may work jointly and produce synergistic effects to different kinds of value, so the specific synergistic or inhibitory effects remain to be further studied. At the same time, consumer behavior is not only affected by the external environment but also by individual personality, income, geography consumption habits, and other subjective factors to a large extent, with a certain degree of variability, which will also have a certain impact on the results of the study. Therefore, in addition to the five factors listed in this study, other features of live-streaming sales also play a crucial role in live-streaming purchasing and are subject to further research and analysis.

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Obtained.

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The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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