

A STUDY ON THE RELATIONSHIP BETWEEN LIVE STREAMER CHARACTERISTICS AND CONSUMER PURCHASE INTENTION IN THE FOOD LIVESTREAMING SCENARIOS*

Wei Zhao

Ph.D. Business Administration Chinese Graduate School,
Panyapiwat Institute of Management, Thailand

Corresponding Author's Email: weizhao@gmail.com

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Abstract

This study aimed to: 1) explore the relationship between food live streamer characteristics and consumer purchase intention; 2) examine the mediating role of flow experience between live streamer characteristics and purchase intention; and 3) investigate the moderating effect of impulsive buying tendency on the relationship between flow experience and purchase intention. This study employed a quantitative research method using questionnaire surveys. Data were collected from 353 consumers who had experience watching food e-commerce livestreaming. SPSS and AMOS software were used for reliability testing, validity testing, descriptive analysis, correlation analysis, regression analysis, and bootstrap analysis.

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The research results revealed that:

1. Food live streamer characteristics, including professionalism, interactivity, presentation, credibility, and entertainment value, significantly positively influence consumer purchase intention.
2. Flow experience plays a significant mediating role between food live streamer characteristics and purchase intention.
3. Impulsive buying tendency significantly moderates the relationship between flow experience and purchase intention.

This study enriches the theoretical perspective of e-commerce livestreaming and provides practical implications for improving livestreaming quality and promoting the sustainable development of the food livestreaming industry.

Keywords: Food Live Streaming Characteristics, S-O-R Theory, Flow Experience, Impulsive Buying Tendency, Purchase Intention

Introduction

With the rapid development of internet technology, e-commerce livestreaming has become an important marketing model that significantly promotes product sales and consumer engagement (Liu et al., 2022). In particular, food livestreaming attracts consumers through real-time interaction and product demonstrations, effectively stimulating purchase intention.

However, consumers in livestreaming environments are easily influenced by emotions and streamer behavior, leading to impulsive purchasing decisions. Therefore, exploring how food live streamer characteristics influence consumer purchase intention has important theoretical and practical significance.

The rapid advancement of digital technologies and the widespread adoption of social media platforms have significantly transformed consumer purchasing behaviors and marketing strategies worldwide. Among emerging

digital marketing approaches, livestreaming commerce has become one of the most influential channels for promoting products and services. Livestreaming commerce combines real-time video broadcasting, social interaction, entertainment, and online shopping into a single platform, enabling consumers to interact directly with sellers and influencers while making purchasing decisions (Wongkitrungrueng & Assarut, 2020). This innovative marketing model has experienced remarkable growth, particularly in the food industry, where visual presentation, product demonstration, and immediate interaction are crucial factors influencing consumer perceptions and purchase decisions.

The food industry has increasingly adopted livestreaming as a marketing tool because food products are highly experiential in nature. Consumers often rely on visual cues, product descriptions, and recommendations before making purchasing decisions. Through livestreaming, streamers can demonstrate food preparation processes, showcase product quality, explain nutritional benefits, and engage with viewers in real time, thereby reducing uncertainty and enhancing consumer confidence (Sun et al., 2019). Consequently, food livestreaming has become an effective medium for influencing consumers' attitudes and encouraging purchase intentions.

A critical factor contributing to the success of livestreaming commerce is the role of the livestreamer. Livestreamers serve not only as product promoters but also as opinion leaders who influence audience perceptions and behaviors. Previous studies have suggested that livestreamer characteristics, such as attractiveness, expertise, trustworthiness, communication skills, and interactivity, significantly affect consumers' perceptions and behavioral intentions (Sokolova & Kefi, 2020; Hou et al., 2023). When consumers perceive livestreamers as knowledgeable, credible, and engaging, they are more likely to trust product information and develop stronger purchase intentions.

Theoretical perspectives, including Source Credibility Theory and the Stimulus–Organism–Response (S–O–R) framework, provide explanations for how

livestreamer characteristics influence consumer behavior. Source Credibility Theory argues that the effectiveness of persuasive communication depends largely on the communicator's expertise and trustworthiness (Hovland & Weiss, 1951). Similarly, the S-O-R framework suggests that external stimuli, such as livestreamer characteristics and livestream environments, affect consumers' internal psychological states, which subsequently influence behavioral responses, including purchase intentions (Mehrabian & Russell, 1974). Therefore, understanding the characteristics of livestreamers is essential for explaining consumer purchasing behavior in food livestreaming scenarios.

Although previous research has examined livestreaming commerce in various industries, studies focusing specifically on food livestreaming remain relatively limited. Food products differ from other product categories because consumers often consider sensory attributes, freshness, safety, taste, and quality before purchasing. These unique characteristics may alter the influence of livestreamer attributes on consumer decision-making processes. Furthermore, the increasing popularity of food-related livestreaming content across platforms such as TikTok, Facebook Live, YouTube Live, and Instagram Live highlights the need for empirical research investigating the relationship between livestreamer characteristics and consumer purchase intentions in food-related contexts.

Additionally, consumer trust has become a major concern in online food purchasing environments. Since consumers cannot physically inspect food products during online transactions, they often depend on information provided by livestreamers. Consequently, the credibility and professionalism of livestreamers may significantly influence consumers' willingness to purchase food products through livestreaming channels (Chen & Lin, 2018). Understanding these relationships can provide valuable insights for marketers, food businesses, content creators, and platform operators seeking to enhance marketing effectiveness and improve consumer engagement.

The significance of this study lies in both its theoretical and practical contributions. Theoretically, the study extends existing literature on livestreaming commerce by examining how specific livestreamer characteristics influence consumer purchase intention within the unique context of food livestreaming. The findings can contribute to the development of consumer behavior theories related to digital marketing, influencer marketing, and social commerce. Practically, the results can assist food businesses in selecting suitable livestreamers, developing effective livestream marketing strategies, and enhancing consumer trust and purchase intentions. Moreover, the study may provide guidelines for livestreamers seeking to improve their communication effectiveness and establish stronger relationships with audiences, ultimately contributing to the sustainable growth of food livestreaming commerce.

Therefore, investigating the relationship between livestreamer characteristics and consumer purchase intention in food livestreaming scenarios is both timely and important. The findings are expected to generate valuable knowledge for academics, practitioners, and policymakers involved in the rapidly evolving digital commerce ecosystem.

Objectives

1. Explore the relationship between Live Streamer Characteristics and Consumer Purchase Intention.
2. Explore the mediating mechanism of psychological immersion between Live streamer characteristics and purchasing behavior.
3. Explore the moderating effect of impulsive buying on the relationship between flow experience and purchase intention.

Literature Review

This study based on the Stimulus-Organism-Response (S-O-R) Theory, flow theory, and social presence theory, explores how Food Live streamer

characteristics influence consumer purchase intention and its psychological mechanisms. The professionalism, interactivity, and presentation skills of the streamer serve as stimulus variables, stimulating consumers' emotional and cognitive responses, thereby influencing their purchasing decisions (Mehrabian & Russell, 1974). Ming.M (2021) points out that in e-commerce live streaming, the streamer's performance is a significant external factor influencing consumer purchasing behavior.

Flow Experience, the pleasure and immersion an individual experiences while focused on an activity, directly affects consumers' Purchase Intention (Csikszentmihalyi, 1975). When watching Food Live streaming, the streamer's characteristics enhance their Flow Experience by providing clear goals, timely feedback, and a balance of challenge and skill, making consumers more focused and enjoying the shopping process (Csikszentmihalyi, 2014). Chen T. (2024)'s research indicates that the quality of interaction in livestreaming has a significant positive promoting effect on consumers' purchase intention, and flow experience is the key mediating mechanism connecting the two.

Social presence theory emphasizes the social interaction and sense of presence that consumers experience in livestreaming. Social presence can enhance consumers' sense of participation and trust by strengthening the connection between consumers and the streamer and other viewers (Zhang J.Q, 2022). This strengthened social presence not only improves consumers' emotional identification but also helps to improve flow experience levels, thereby promoting purchase intention (Xie Y. et al., 2021). In summary, this study aims to reveal how Food Live streamer Characteristics Influence Consumer Purchase Intention through psychological mechanisms, and the moderating role of Impulsive Buying Tendency in this process. Through the analysis within this theoretical framework, this research will provide a new

perspective for understanding consumers' irrational decision-making behavior in e-commerce livestreaming environments.

Food Live Streamer

E-commerce livestreaming breaks down the time and space limitations of traditional offline shopping, significantly improving the convenience and efficiency of consumers' shopping experience. In food and beverage livestreaming, the live streamer is not only a representative of the brand and product but also a key link connecting the product and the consumer. Through frequent online interaction and professional answers, the host can significantly improve the overall quality of the livestream and consumers' purchase intention (Chen R.F, 2020). Simultaneously, the live streamer's information delivery and interactive behavior in marketing influence consumers' trust levels, thereby affecting their purchasing decisions (Liu L.C et al., 2024). Based on this, this article defines a Food Live Streamer as: a specific type of online host who aims to promote and sell food products by delivering product information to consumers on e-commerce livestreaming platforms through explanations, experiences, and tastings. Food Live Streamers, with their professionalism, interactivity, and presentation skills, play an indispensable core role in enhancing consumer trust, reshaping the shopping experience, and driving food product sales.

Food E-commerce Live Streamer Characteristics Dimension

With the rapid development of e-commerce livestreaming, food live streamer characteristics have become important factors influencing consumer purchase intention. Existing studies mainly focus on single streamer characteristics and lack a comprehensive multidimensional perspective (Liu L.C et al., 2024). Therefore, this study examines five core dimensions of food live streamer characteristics: professionalism, interactivity, presentation, credibility, and entertainment value. These characteristics can enhance consumer trust,

participation, immersive experience, and emotional engagement, thereby influencing consumer purchase intention and flow experience.

Methodology

This study is quantitative research, employing a questionnaire survey methodology. Based on existing, well-established measurement scales and considering the specific needs, scales were designed to measure five dimensions of Food Live streamer characteristics (Professionalism, entertainment value, credibility, interactivity, and presentation), Impulsive Buying Tendency, Flow Experience, and Purchase Intention. Prior to the formal survey, a small-scale pre-survey was conducted, and the questionnaire was further refined through group discussions and expert suggestions. Finally, the questionnaire was distributed online to users watching Food e-commerce livestreaming through social media platforms (such as WeChat, QQ, and Star Questionnaire) to collect valid sample data. Data analysis methods utilized SPSS and AMOS software to process and analyze the questionnaire data, primarily covering reliability and validity testing, descriptive statistical analysis, correlation testing, and regression analysis.

Research Design

This study employed a quantitative research design using questionnaire surveys to investigate the relationship between food live streamer characteristics and consumer purchase intention in e-commerce livestreaming scenarios.

Population and Sample

The target population of this study consisted of consumers who had experience watching food e-commerce livestreaming. A total of 600 questionnaires were distributed online through social media platforms such as WeChat, QQ, and Star Questionnaire. After excluding invalid responses based on

completeness, response time, and logical consistency, 353 valid questionnaires were retained for data analysis.

Data Collection

Before the formal survey, a pilot test was conducted to improve the clarity and validity of the questionnaire items through expert suggestions and group discussions. The formal questionnaires were distributed online, and respondents voluntarily participated anonymously.

Data Analysis

SPSS and AMOS software were used for data analysis. The analytical methods included descriptive statistical analysis, reliability testing, validity testing, correlation analysis, hierarchical regression analysis, and bootstrap analysis to examine the mediating and moderating effects proposed in the research model.

Research Results

The following hypotheses are proposed:

H1: Food Live streamer characteristics positively influence Consumer Purchase Intention.

H1a: Food Live streamer' professionalism positively influences consumer purchase intention.

H1b: Food Live streamer interactivity positively influences consumer purchase intention.

H1c: Food Live streamer presentation positively influences consumer purchase intention.

H1d: Food Live streamer credibility positively influences consumer purchase intention.

H1e: Food Live streamer entertainment value, positively influences consumer purchase intention.

H2: Food Live streamer Characteristics positively influences consumer Flow Experience.

H2a: Food Live streamer Professionalism positively influences consumer Flow Experience.

H2b: Food Live streamer interactivity positively influences consumer Flow Experience.

H2c: Food Live streamer presentation positively influences consumer Flow Experience.

H2d: Food Live streamer credibility positively influences consumer Flow Experience.

H2e: Food Live streamer entertainment value positively influences consumer Flow Experience.

H3: Consumer Flow Experience positively influences Purchase Intention.

H4: Consumer Flow Experience mediates the relationship between Food Live streamer characteristics and Purchase Intention.

H4a: Consumer Flow Experience mediates the relationship between Food Live streamer Professionalism and Purchase Intention.

H4b: Consumer Flow Experience mediates the relationship between Food Live streamer interactivity and Purchase Intention.

H4c: Consumer Flow Experience mediates the relationship between Food Live streamer presentation and Purchase Intention.

H4d: Consumer Flow Experience mediates the relationship between Food Live streamer credibility and Purchase Intention.

H4e: Consumer Flow Experience mediates the relationship between Food Live streamer entertainment value and Purchase Intention.

H5: Consumer impulsive buying tensive moderates the relationship between flow experience and purchase intention.

Demography Analysis

600 questionnaires were distributed. Based on criteria such as questionnaire completeness, response time, logical consistency, and response pattern, 353 valid samples were ultimately obtained. This sample serves as the foundational data for subsequent empirical analysis and model testing, demonstrating good research applicability.

Table 1 shows that the respondents were predominantly male (52.70%) and female (47.30%), indicating a relatively balanced gender ratio. In terms of age structure, the 25-34 age group had the highest proportion (38.8%), followed by the 35-44 age group (22.1%), while the proportion of respondents aged 55 and above was relatively high (16.70%). Regarding education level, most respondents had a bachelor's degree or higher, with a bachelor's degree being the most prevalent (62.03%), followed by an associate's degree (30.31%), while the proportion of respondents with a high school diploma or lower was relatively low (2.83%).

In terms of occupation, educators accounted for the highest proportion at 30.59%, followed by freelancers (22.10%) and corporate employees (19.83%). Students and government/public sector employees accounted for 4.82% and 5.94%, respectively. Regarding income, monthly disposable income was mainly concentrated in the 5001–8000-yuan range, accounting for 44.48%, followed by the 3001–5000-yuan range at 18.7%. The high-income group (above 14001 yuan) had a low proportion at only 0.85%. The frequency and proportion statistics for each income range passed consistency checks, and the income distribution of the sample is consistent with the characteristics of the target survey group.

Regarding Food Live streaming viewing behavior, 23.23% of respondents frequently watched Food Live streaming, 35.69% watched it occasionally, and 11.33% had never watched Food Live streaming. Furthermore, 55.80% of respondents indicated they had purchased products recommended by Food

Live streaming, demonstrating that Food Live streaming scenarios can influence consumer purchasing behavior to some extent.

Table 1 Demography Analysis

Items	Contents	Frequency	Percentage (%)	Cumulative percentage (%)
Gender	Male	186	52.70	52.70
	Female	167	47.30	100.0
Age	Under 18	17	4.80	4.80
	18-24	16	4.50	9.30
	25-34	137	38.80	48.20
	35-44	78	22.10	70.30
	45-54	46	13.00	83.30
	55 and above	59	16.70	100.0
	High school and below	10	2.83	2.83
	Junior college	107	30.31	33.14
Education Level	Undergraduate	219	62.03	95.18
	Postgraduate and above	17	4.81	100.0
	Student	17	4.82	4.82
	Educators	108	30.59	35.41
Job occupation	Company Employees	70	19.83	55.24
	Freelancers	78	22.10	77.33
	Government/Public Sector	21	5.94	83.29
	Retirees	59	16.71	100.0
	Under 3000 yuan	14	3.97	3.97

Items	Contents	Frequency	Percentage (%)	Cumulative percentage (%)
Monthly disposable income	3001-5000 yuan	66	18.70	22.66
	5001-8000 yuan	157	44.48	67.14
	8001-12000 yuan	73	20.68	87.82
	12001-14000 yuan	40	11.33	99.15
	More than 14,001 yuan	3	0.85	100.0
Do you frequently watch Food Live streaming?	Often	82	23.23	23.23
	Occasionally	126	35.69	58.92
	Few	105	29.75	88.67
Have you ever purchased any products recommended by Food Live streaming?	Never	40	11.33	100.0
	Yes	197	55.80	55.80
	No	156	44.20	100.0

Data source: Compiled from statistical results

Descriptive analysis

Table 2 shows that the response range for all measurement items fell within 1–5 points, with no out-of-bounds values, indicating good questionnaire quality. In terms of overall central tendency, the average score for each item ranged from 2.89 to 3.65, with most items exceeding the scale's maximum score of 3. This indicates that respondents generally had a positive evaluation of the various dimensions of Food Live streaming. Regarding dispersion, the standard deviation ranged from 0.92 to 1.21, and the coefficient of variation ranged from 25.88% to 40.20%, avoiding both excessive homogenization and extreme fluctuations, providing a stable basis for subsequent relationship analysis.

The normality test results showed that the absolute values of skewness for all items were below 0.76, and the absolute values of kurtosis were below 0.83, far below the strict critical threshold of 2, indicating that the data distribution exhibited good normality. This result meets the basic requirements for data distribution in stratified regression analysis, laying a solid statistical foundation for the validity and stability of variable relationship testing and path coefficient estimation.

Table 2 Descriptive statistics table (N=353)

Variable	Min	Max	Mean	Standard deviation	Skewness	Kudo	coefficient of variation(CV)
Professionalism1	1	5	3.01	1.21	-0.026	-0.823	40.20%
Professionalism2	1	5	3.02	1.207	0.011	-0.778	39.97%
Professionalism3	1	5	3.05	1.14	-0.031	-0.541	37.38%
Professionalism4	1	5	3.26	1.16	-0.405	-0.677	35.58%
interactivity1	1	5	2.92	1.019	0.241	-0.557	34.90%
interactivity2	1	5	2.96	1.086	0.012	-0.501	36.69%
interactivity3	1	5	2.9	1.129	0.106	-0.692	38.93%
interactivity4	1	5	2.89	1.092	0.004	-0.565	37.79%
presentation1	1	5	3.57	1.015	-0.584	0.027	28.43%
presentation2	1	5	3.4	1.067	-0.371	-0.447	31.38%
presentation3	1	5	3.37	1.05	-0.433	-0.164	31.16%
presentation4	1	5	3.4	1.083	-0.522	-0.192	31.85%
credibility1	1	5	3.1	1.16	-0.227	-0.601	37.42%
credibility2	1	5	3.42	0.96	-0.757	0.507	28.07%
credibility3	1	5	3.25	0.99	-0.317	0.167	30.46%
credibility4	1	5	3.51	0.957	-0.32	0.078	27.26%
entertainment value1	1	5	3.36	0.95	-0.261	-0.282	28.27%
entertainment value2	1	5	3.65	1.056	-0.396	-0.387	28.93%

Variable	Min	Max	Mean	Standard deviation	Skewness	Kudo	coefficient of variation(CV)
entertainment value3	1	5	3.52	1.045	-0.327	-0.278	29.69%
entertainment value4	1	5	3.21	1.09	-0.239	-0.315	33.96%
Flow Experience1	1	5	3.39	1.071	-0.523	-0.25	31.59%
Flow Experience2	1	5	3.3	1.097	-0.507	-0.198	33.24%
Flow Experience3	1	5	3.33	1.092	-0.148	-0.761	32.79%
Flow Experience4	1	5	3.21	1.096	-0.332	-0.454	34.14%
Impulsive Buying Tendency1	1	5	3.53	1.036	-0.296	-0.339	29.35%
Impulsive Buying Tendency2	1	5	3.52	1.009	-0.259	-0.192	28.66%
Impulsive Buying Tendency3	1	5	3.36	1.13	-0.219	-0.58	33.63%
Impulsive Buying Tendency4	1	5	3.38	1.076	-0.45	-0.156	31.83%
Purchase Intention1	1	5	3.36	1.194	-0.337	-0.816	35.54%
Purchase Intention2	1	5	3.24	1.189	-0.31	-0.829	36.70%
Purchase Intention3	1	5	3.5	1.000	-0.501	0.053	28.57%

Variable	Min	Max	Mean	Standard deviation	Skewness	Kudo	coefficient of variation(CV)
Purchase Intention4	1	5	3.57	0.924	-0.259	-0.107	25.88%

Data source: Compiled from statistical results

Reliability & validity testing³

All dimensions of the questionnaire had Cronbach's Alpha coefficients greater than 0.7, ranging from 0.764 to 0.931, with a total reliability of 0.921. Meanwhile, the CITC (Correlation Between Adjusted Items and Totals) was greater than 0.4, and the Cronbach's Alpha coefficients after removing items were all lower than the Cronbach's Alpha coefficients of the dimensions, further demonstrating the reasonable design of the questionnaire items and their good reliability.

The communality values for all research items were greater than 0.6, and the factor loading coefficients for most items were greater than 0.7, with only Flow Experience 4 having a factor loading coefficient of 0.615 (close to 0.7), indicating that the information from the research items could be effectively extracted, with good extraction results. The variance explained by the first component was 10.74% (<40%), indicating a relatively small explanation and initially suggesting no significant risk of homology bias in the sample. Finally, the cumulative variance explained after rotation was 74.21% (>50%), meaning that the information from the research items could be effectively extracted.

Correlation analysis

The results showed that professionalism was positively correlated with interactivity (0.378), presentation (0.248), credibility (0.249), entertainment value (0.243), flow experience (0.304), impulsive buying intention (0.147), and purchase intention (0.373), indicating that professionalism was positively correlated with the other dimensions.

The correlation coefficients between interactivity and presentation are 0.345, credibility and credibility are 0.259, entertainment value and entertainment value are 0.289, flow experience and interactivity are 0.245, impulsive buying tensor and interactivity are 0.239, and purchase intention and interactivity are 0.353, indicating that interactivity is positively correlated with the other dimensions.

The correlation coefficients between presentation and credibility are 0.278, entertainment value and presentation value are 0.178, flow experience and presentation are 0.189, impulsive buying tensor and presentation are 0.132, and purchase intention and presentation are 0.253, indicating that presentation is positively correlated with the other dimensions.

The correlation coefficients between Credibility and entertainment value are 0.134, 0.174, 0.213, and 0.301, indicating a positive correlation between Credibility and the other dimensions.

The correlation coefficients between entertainment value and flow experience are 0.206, 0.228, and 0.230, indicating a positive correlation between entertainment value and the other three variables.

The correlation coefficients between flow experience and impulsive buying tense are 0.186 and 0.143, indicating a positive correlation between flow experience and the other two variables.

The correlation coefficient between Impulsive Buying Tendency and Purchase Intention is 0.263, indicating a significant positive correlation between them.

The correlation coefficients among the main variables do not exceed 0.70, indicating that while there is some correlation among the variables, it is not highly correlated, and there is no serious multicollinearity problem. This meets the prerequisites for hierarchical regression analysis modeling, and the relationships between the variables can be further verified through path analysis and hypothesis testing.

Main effects analysis

Table 3 shows the analysis results of Model 2 after controlling for the influence of the education level variable, with the independent variables Professionalism, Interactivity, Presentation, Credibility, Entertainment Value, and the dependent variable Purchase Intention included in the regression equation. The data shows that Model 2, after controlling for education level, incorporates all Live Streamer Characteristics-related variables into the regression model. The results show a significant improvement in the overall explanatory power of the model (adjusted $R^2 = 0.222$, $F = 19.285$, $p < 0.001$), indicating that Live Streamer Characteristics variables have a strong explanatory power for Purchase Intention. Specifically, Professionalism ($\beta = 0.223$, $p < 0.001$), interactivity ($\beta = 0.171$, $p < 0.001$), presentation ($\beta = 0.072$, $p < 0.001$), credibility ($\beta = 0.166$, $p < 0.001$), and entertainment value ($\beta = 0.088$, $p < 0.001$) all have a significant positive influence on Purchase Intention. Therefore, Hypothesis H1 and its sub-hypotheses are supported.

Model 4 shows that Professionalism has a significant positive influence on Flow Experience (path coefficient = 0.201, $p < 0.001$). In Model 4, the adjusted R^2 increases from 0.027 to 0.125, and $\Delta R^2 = 0.111$, indicating a significant increase in the proportion of this variable that can be explained. The F-value of 8.867 is significant ($p < 0.001$), indicating that the regression equation is effective. Interactivity has a significant positive influence on Flow Experience (path coefficient = 0.090, $p < 0.001$). In Model 4, the adjusted R^2 increased from 0.027 to 0.125, indicating that the proportion explained by this variable significantly increased. The F-value of 8.867 is significant ($p < 0.001$), indicating that the regression equation is effective. Presentation has a significant positive influence on Flow Experience (path coefficient = 0.057, $p < 0.001$). In Model 4, the adjusted R^2 increased from 0.027 to 0.125, indicating that the proportion explained by this variable significantly increased. The F-value of 8.867 is

significant ($p < 0.001$), indicating that the regression equation is effective. Therefore, hypothesis H2 is valid.

Model 5 shows that Flow Experience has a significant positive influence on Purchase Intention ($\beta = 0.121$, $p < 0.001$). The adjusted R^2 in Model 5 increased from 0.020 to 0.032, indicating a significant increase in the explainable proportion of each variable. The F-value of 5.145 is significant ($p < 0.001$), indicating that the regression equation is effective.

Model 6 shows that, under the combined effects of Professionalism, Interactivity, Presentation, Credibility, and Entertainment Value, Flow Experience still has a significant positive influence on Purchase Intention ($\beta = 0.037$, $p < 0.001$). The adjusted R^2 in Model 6 increased from 0.222 to 0.223, indicating a significant increase in the explainable proportion of each variable. The F-value of 15.330 is significant ($p < 0.001$), indicating that the regression equation is effective. This demonstrates that, under the influence of Live Streamer Characteristics, Flow Experience has a positive influence on Purchase Intention. Therefore, hypothesis H3 is valid.

Table 3 Path coefficient table for hierarchical regression analysis

Viable	Purchase Intention		Flow Experience		Purchase Intention			
	M1	M2	M3	M4	M5	M6	M7	M8
Education level	0.152** *	0.027***	0.171***	0.083** *	0.132** *	0.030***	0.020***	0.020***
Professionalism		0.223***		0.201** *		0.230***	0.232***	0.232***
interactivity		0.171***		0.090** *		0.174**	0.156**	0.156**
presentation		0.072***		0.057** *		0.074***	0.075***	0.073***

Viable	Purchase Intention		Flow Experience		Purchase Intention			
	M1	M2	M3	M4	M5	M6	M7	M8
Model								
= credibility		0.166***		0.058** *		0.168***	0.149***	0.149***
entertainment value		0.088***		0.102**		0.092*	0.071*	0.070**
Flow Experience					0.121** *	0.037***	0.050	0.054
Impulsive Buying Tendency							0.140	0.141
Flow Experience*Impulsive Buying Tendency								0.017**
R ²	0.023	0.236	0.029	0.140	0.037	0.237	0.255	0.257
Adjust R ²	0.020	0.222	0.027	0.125	0.032	0.223	0.235	0.238
ΔR ²	0.023	0.213	0.029	0.111	0.014	0.001	0.018	0.003
F Value	8.330**	19.285** *	10.587* *	8.867** *	5.145** *	15.330** *	13.037** *	14.688** *

Note: *p < 0.05, **p < 0.01, ***p < 0.001

Mediation effect analysis

Table 3 presents the mediating effect analysis results. When Professionalism, Interactivity, Presentation, Credibility, Entertainment Value, and Flow Experience were included in the regression model, Flow Experience showed a significant positive effect on Purchase Intention ($\beta=0.037$, $p<0.001$). The regression model was significant ($F=15.330$, $p<0.001$), indicating that Flow Experience plays a mediating role between Food Live Streamer Characteristics

and Purchase Intention. Therefore, Hypothesis H4 was supported.

This study further used hierarchical regression analysis to examine the moderating effect of Impulsive Buying Tendency. The variables were mean-centered before creating the interaction term to reduce multicollinearity. The results showed that the interaction term had a significant positive effect on Purchase Intention ($\beta=0.017$, $p<0.01$). The regression model was significant ($F=14.688$, $p<0.001$), indicating that Impulsive Buying Tendency strengthens the positive relationship between Flow Experience and Purchase Intention. Therefore, Hypothesis H5 was supported.

To further examine the moderating effect, a simple slope analysis was conducted. The results showed that the effect of Flow Experience on Purchase Intention was stronger in the high Impulsive Buying Tendency group ($\beta=0.149$, $p<0.001$) than in the low Impulsive Buying Tendency group ($\beta=0.093$, $p<0.01$). Figure 1 further demonstrates that consumers with higher Impulsive Buying Tendency showed a steeper positive relationship between Flow Experience and Purchase Intention.

Table 4 Simple slope analysis table of moderating effect

Adjustment variable level	Simple slope (β)	t Value	P Value	95% Confidence interval
High Impulsive Buying Tendency (+1SD)	0.149	4.523	***	[0.085, 0.213]
Low Impulsive Buying Tendency (-1SD)	0.093	2.817	**	[0.025, 0.161]

Note: *** $p<0.001$, ** $p<0.01$, * $p<0.05$

In conclusion, the moderating effect of this study is significant, and H5 is valid.

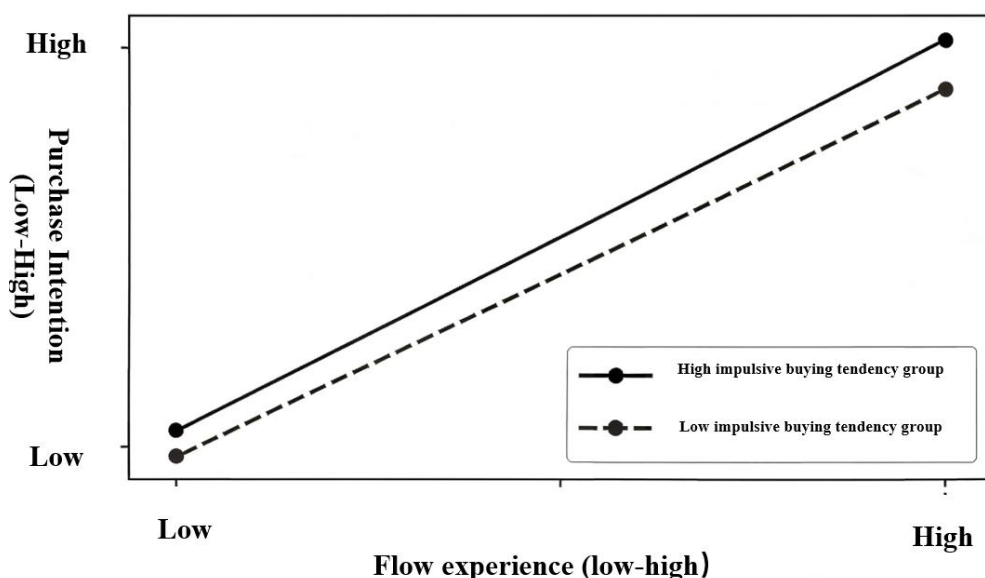


Figure 1 Effect diagram of impulsive buying tensor on the relationship between flow experience and purchase intention.

Discussion

This study examines the influence of food live streamer characteristics on consumer purchase intention based on the S-O-R theory and flow theory. Professionalism, interactivity, presentation, credibility, and entertainment value were selected as independent variables, purchase intention as the dependent variable, flow experience as the mediating variable, and impulsive buying tendency as the moderating variable. Questionnaire data were analyzed using SPSS and AMOS.

The results show that food live streamer characteristics significantly positively influence consumers' flow experience and purchase intention. Flow experience mediates the relationship between live streamer characteristics and purchase intention, while impulsive buying tendency significantly moderates the

relationship between flow experience and purchase intention. Specifically, professionalism enhances trust, interactivity improves engagement, presentation strengthens sensory stimulation, credibility reduces perceived risk, and entertainment value creates a positive shopping atmosphere, thereby promoting purchase intention.

These findings support the applicability of S-O-R theory in food e-commerce livestreaming and enrich research on livestreaming characteristics and consumer psychological responses.

Discussion of Research Objectives

Objective 1 aimed to explore the relationship between food live streamer characteristics and consumer purchase intention. The empirical results demonstrated that professionalism, interactivity, presentation, credibility, and entertainment value all significantly positively affected consumer purchase intention. Therefore, Objective 1 was achieved.

Objective 2 aimed to examine the mediating role of flow experience between live streamer characteristics and purchase intention. The bootstrap analysis confirmed that flow experience significantly mediated the relationship between food live streamer characteristics and consumer purchase intention. Therefore, Objective 2 was supported.

Objective 3 aimed to investigate the moderating role of impulsive buying tendency between flow experience and purchase intention. The regression results showed that impulsive buying tendency significantly moderated the relationship between flow experience and purchase intention. Therefore, Objective 3 was achieved.

Research limitations

The sample area and demography structure are relatively concentrated, but representativeness remains limited. The survey sample mainly comes from some cities and users familiar with e-commerce livestreaming, making it difficult to comprehensively cover consumer groups from different regions, platforms, or

cultural backgrounds. Different consumers may have significant differences in their cognitive responses, participation behaviors, and psychological experiences when faced with live streamer characteristics. For example, older users may place more emphasis on the credibility of the streamer, while younger users may prefer entertainment value or interaction. The limitations of the sample structure may affect the generalizability and external validity of the research results. Therefore, it is recommended that future studies further expand the scope of the sample distribution and increase platform diversity and user heterogeneity.

Conclusion

Empirical analysis shows that five key characteristics of food streamers—professionalism, interactivity, presentation, credibility, and entertainment value—significantly and positively influence consumers' flow experience and purchase intention. Flow experience plays a crucial mediating role between live streamer characteristics and purchase intention, confirming that streamer traits can drive purchase decisions by stimulating consumer immersion and focus. Furthermore, an individual's impulsive buying intention plays a significant positive moderating role in the conversion of flow experience into purchase intention. The research further extends to the platform level, confirming that personalized recommendations can indirectly enhance purchase intention by increasing user stickiness. In summary, this article reveals the psychological and behavioral mechanisms of livestreaming consumption behavior from three aspects: direct, mediating, and moderating effects, providing in-depth theoretical insights and practical implications for e-commerce platforms and livestreaming operations.

Recommendations

Based on the findings of this study, several recommendations are proposed for food e-commerce livestreaming practitioners.

First, food live streamers should strengthen their professional knowledge and product explanation abilities to improve consumers' trust and purchase intention. Accurate product information and professional demonstrations can effectively reduce consumers' uncertainty during the purchasing process.

Second, livestreaming platforms and streamers should enhance interactivity and entertainment value during livestreaming sessions. Real-time communication, audience engagement, and entertaining presentation styles can improve consumers' flow experience and increase their willingness to purchase products.

Third, food live streamers should improve presentation strategies through visual display, tasting demonstrations, and immersive livestreaming environments to strengthen consumers' emotional engagement and shopping experience.

Finally, livestreaming platforms should pay attention to consumers' impulsive buying tendencies and establish more rational consumption guidance mechanisms to promote the healthy and sustainable development of the food e-commerce livestreaming industry.

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