

A Statistical Study on Online Consumption of College Students During the "Double Eleven" Shopping Festival

Chuheng Lei ^{1,*}, Ziqi Hu ¹

¹ Beijing City University, Beijing 100020, China

*Corresponding Author

Chuheng Lei

1956049130@qq.com

Received: 10 November 2025 /Accepted: 30 November 2025 /Published online: 5 December 2025

Abstract

In recent years, with the rapid development of the internet, the "Double Eleven" shopping festival has become a pivotal consumption node in China's e-commerce market. As an emerging force in online shopping, college students exhibit unique consumption behaviors worthy of in-depth research. This study focuses on students from Beijing City University, employing questionnaire surveys to analyze their online consumption behaviors and influencing factors during the 2023 "Double Eleven" period. The findings reveal a polarized distribution of consumption amounts among college students, with significant gender differences. Female students, more susceptible to promotional atmospheres and social influences, generally spend more than their male counterparts, favoring socially oriented products such as cosmetics and apparel. In contrast, male students lean toward utilitarian consumption, focusing on functional goods like electronics and gaming products. Additionally, grade-level differences indicate that freshmen exhibit higher spending peaks, likely due to initial lifestyle establishment or weaker financial prudence, while upperclassmen show more rational consumption patterns, possibly influenced by academic pressures or increased savings awareness.

Keywords: Double Eleven; Online Consumption; College Students; Gender Differences; Consumption Behavior; Influencing Factors

1. Introduction

The rapid expansion of the e-commerce sector has intensified competition among online shopping platforms, prompting companies to adopt increasingly diverse and sophisticated marketing tactics. As online shopping continues to gain popularity among consumers (Fang, 2020), festival-oriented marketing has emerged as a highly visible and effective strategy. A representative case is the creation of the "Singles' Day" shopping festival, during which platforms leverage the symbolic date of November 11 to stimulate consumption. Over time, this initiative

has evolved into the hallmark “Double Eleven” shopping surge, widely recognized as one of the most iconic examples of event-based digital marketing (Wang, 2023).

China’s e-commerce market has maintained steady growth, with record-breaking sales repeatedly observed during the Double Eleven festival. Major platforms such as Tmall and JD.com continue to drive unprecedented transaction volumes, highlighting the strong spending power of Chinese consumers. During this nationwide promotional period, university students make meaningful contributions both by increasing consumption and by indirectly boosting the logistics industry through the sharp rise in parcel volumes (Xiao, 2020). Data from 2023 indicate significant volatility in the Double Eleven popularity index throughout the monitoring period, peaking notably on November 11. This trend underscores Double Eleven as not only a major annual shopping event for consumers but also a fierce competitive arena for merchants.

Against the backdrop of China’s economic transformation, domestic demand now represents a fundamental driver of growth. The Double Eleven festival, as an effective mechanism for stimulating internal consumption, thus carries meaningful economic influence. Research into consumer behavior during this period offers valuable insights into market confidence and expectations under current economic conditions. Although university students’ spending is constrained by limited financial resources, their long-term potential for e-commerce engagement is substantial. The younger demographic is increasingly becoming the dominant force in online consumption, and the 2023 China E-Commerce “Double Eleven” Consumption Big Data Monitoring Report shows that the festival has further solidified online shopping habits among Chinese netizens, with domestic products attracting heightened interest from young consumers. As college students are in a crucial stage of forming stable consumption values, exploring their purchasing behavior carries particular academic and practical significance.

Analyzing college students’ online consumption during Double Eleven provides dual value. For businesses, understanding this demographic supports targeted product development and refined marketing strategies. For e-commerce platforms, insights into preferences and pain points help enhance service quality—such as improving logistics efficiency and optimizing the shopping experience—to elevate user satisfaction. Survey data show that more than 70% of consumers prioritize uncomplicated return procedures, emphasizing the importance of enhancing after-sales services.

Unlike existing studies that predominantly examine broader consumer groups, such as young professionals, the present research focuses specifically on college students—a semi-independent and socially active population characterized by limited financial discretion and strong susceptibility to social influence. Examining their purchasing behavior in the context of the highly competitive Double Eleven environment enables the identification of both promotional and social pressures that shape decision-making. This approach aims to provide a multidimensional understanding of college students’ online consumption patterns and offers a valuable reference for future academic research and practice.

2. Research Design and Methodology

2.1. Survey Subjects and Methods

This study investigates the online shopping behaviors of college students in Beijing during "Double Eleven" through questionnaires. A total of 243 responses were collected, with 200 deemed valid after rigorous screening. The analysis identifies significant influences such as promotional pressures, social atmosphere, financial semi-independence, and product preferences.

2.2. Questionnaire Design

When designing a questionnaire, ensure that the questions are simple and clear. For example, when asking about the amount of online consumption during the "Double Eleven" shopping festival, directly ask "What was your online consumption amount during the" Double Eleven "shopping festival in 2023, and list the specific option range" to avoid using vague or ambiguous expressions, such as "How much did you spend on the" Double Eleven "shopping festival, including possible refunds and other complex situations".

2.3. Data Collection

(1) Multi-channel distribution to ensure diverse samples

In order to cover different types of student groups as much as possible, questionnaires are distributed through various channels. In addition to the school's official forum and class group, the school's social media accounts, student union official accounts, etc. can also be used to publish questionnaire links, increasing sample diversity and reducing sample bias caused by a single channel.

(2) Controlled response time to minimize biases

Set a reasonable questionnaire collection time to avoid being too long or too short. Excessive time may lead to some respondents being influenced by external factors and changing their answers, or experiencing repeated responses; If the time is too short, it may not be possible to collect enough samples. For example, set the questionnaire collection time to about two weeks and remind students who have not answered near the deadline.

2.4. Data Cleaning

(1) Handling missing and outlier values

After collecting the data, first check if there are any missing values in the data. For missing values, appropriate methods can be used for handling. If there are few missing values, consider deleting the corresponding samples; If there are many missing values, they can be filled in using methods such as mean and median. For outliers, such as situations where the consumption amount is too high or too low, they can be identified through methods such as box plots. If the outlier is caused by data entry errors, the interviewee can be contacted for verification; If it is a true extreme value, it can be decided whether to retain it based on the research purpose.

(2) Eliminating duplicate submissions

Check whether there are repeated questionnaires. You can use the recording function of the questionnaire system, or determine whether it is a duplicate questionnaire according to key information (such as IP address, answer time, etc.). If a duplicate questionnaire is found, only one valid questionnaire will be retained to ensure the independence of the data.

3. Descriptive Statistical Analysis

3.1. Overall Distribution of Consumption Amounts

The shopping amount is mainly concentrated in two ranges: below 200 yuan and 1000-2000 yuan, 47 and 51 people respectively. The number of consumers who spent more than 2000 yuan was the least, which was 23. Consumer behavior shows a certain degree of polarization. Some people tend to spend less money, perhaps buying daily necessities or small commodities, while others have higher consumption power, and may buy relatively high priced goods such as electronic products and clothing. There is less high consumption, and only a few people spend more than 2000 yuan, which reflects that the proportion of college students with high consumption ability is relatively small, or they are more cautious about the consumption of ultra high priced goods.

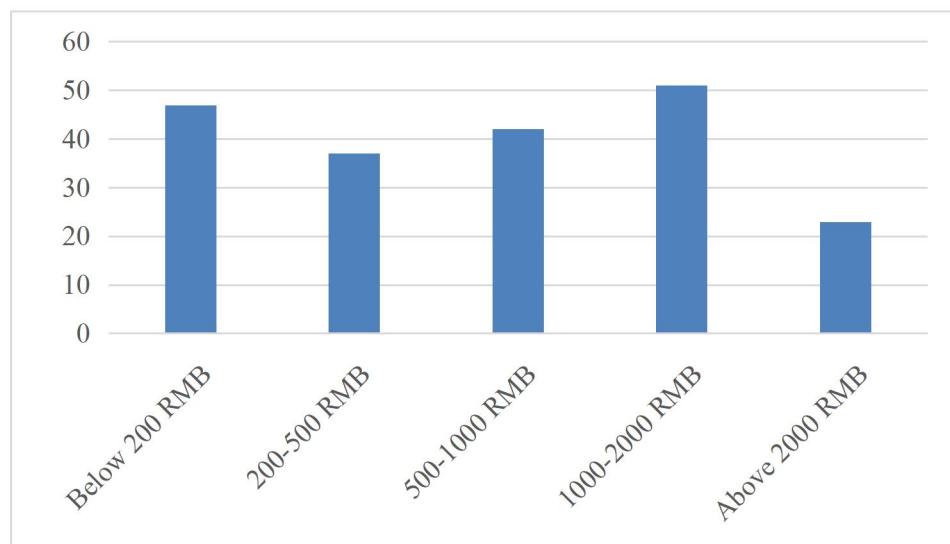


Figure 1. Distribution of shopping amounts during the Double Eleven shopping festival

3.2. Gender and Grade-Level Comparisons

Within the range below 200 yuan, the number of male consumers in this range is significantly more than that of female consumers. In the range of 200-500 yuan and 500-1000 yuan, the number of male and female students is relatively close, and there is no significant difference. In the range of 1000-2000 yuan, the number of male consumers in this range is higher than that of female consumers. The number of male students who spend more than 2000 yuan in this range is significantly lower than that of female students.

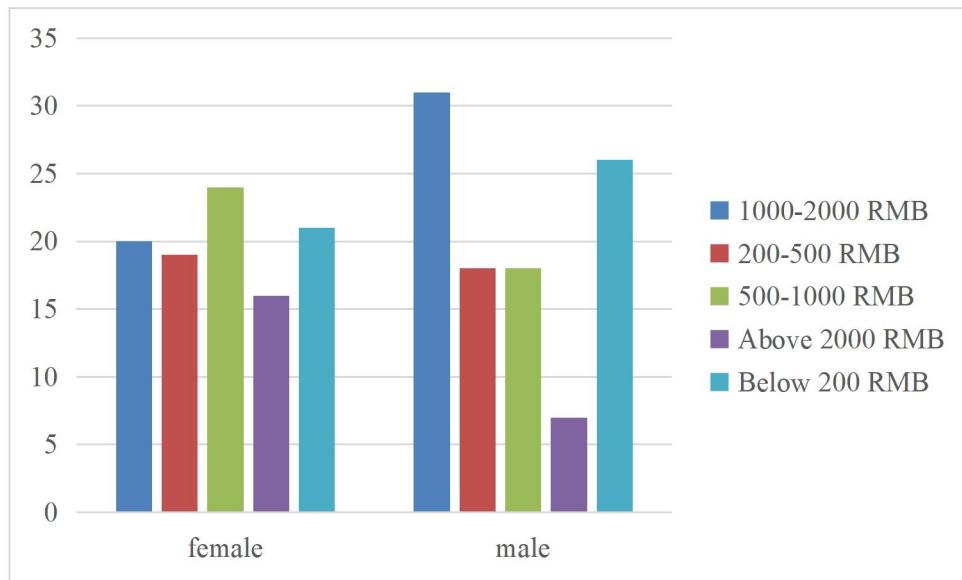


Figure 2. Comparison of shopping amount distribution between students of different genders during the Double Eleven shopping festival

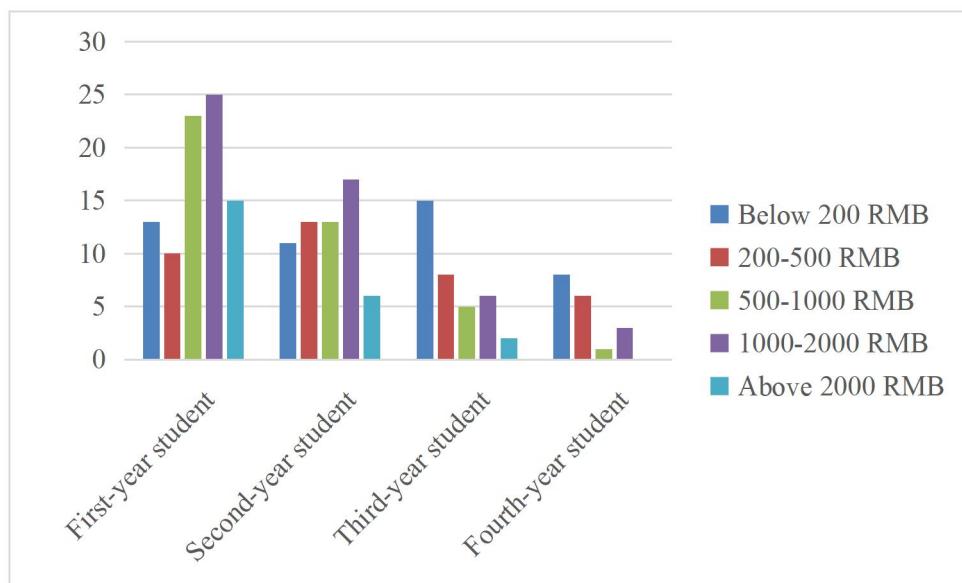


Figure 3. Distribution of online consumption amount among students of different grades during the Double Eleven shopping festival

On the whole, the expenditure categories of "less than 200 yuan" and "1000-2000 yuan" are the most common, which is consistent with the general observation of consumption behavior, showing a certain polarization. Some students prefer low amount of purchase, while others are engaged in high-value consumption, such as electronic products, clothing, etc. The proportion of Frenchmen's expenditure of "less than 200 yuan" and "1000-2000 yuan" is relatively high. Compared with other grades, the expenditure of "2000 yuan and above" has reached an obvious peak. This shows that they first bought some high-value things, perhaps to establish a basic college life, or in the early stage of their college career, their sense of financial prudence was not very developed. The distribution of Sophomores' expenditure categories is more balanced, "1000-2000 yuan" is still prominent, which can reflect that students gradually adapt to daily life, indicating that the consumption during this period is more stable and diversified. The "2000 yuan and above" expenditure of junior students has dropped significantly, and the overall expenditure

level has changed to lower. Due to the increase of academic pressure, internship opportunities, or as graduation approaches, students are more conscious of trying to save money. Senior students continue to maintain the overall downward trend, especially in high-value categories. This is because students are ready for employment or continue to study, leading to more concise consumption habits and priority savings.

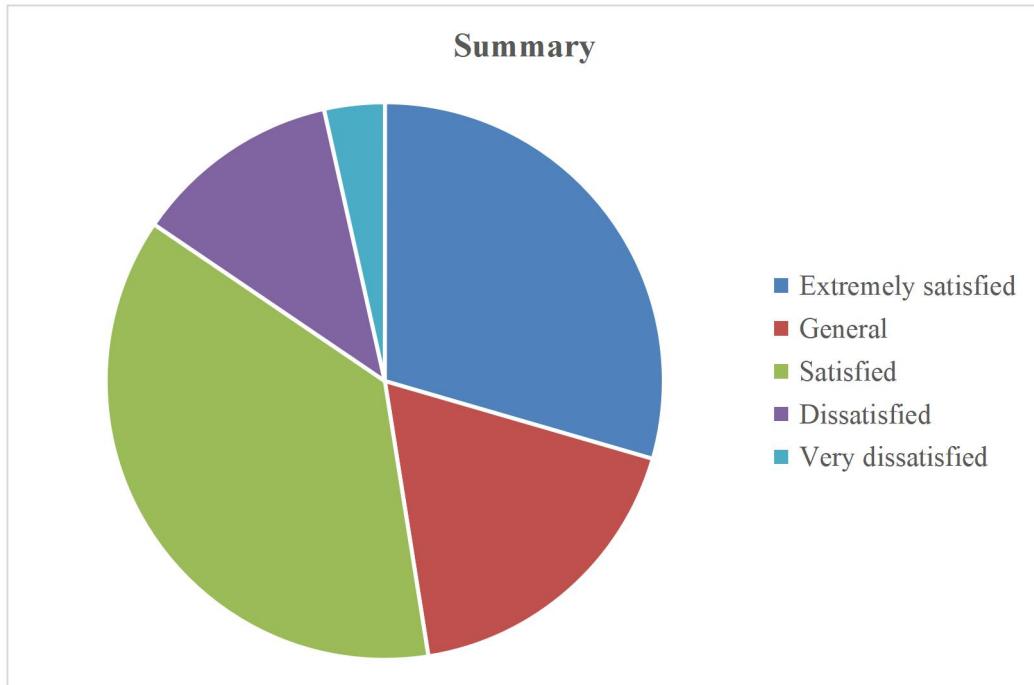


Figure 4. Distribution chart of students' satisfaction with the shopping experience of "double 11"

Among the surveyed respondents, 59 reported being "very satisfied" (blue), 74 "satisfied" (red), 36 "neutral" (green), 24 "dissatisfied" (purple), and 7 "very dissatisfied" (light blue). Overall, college students demonstrate a predominantly positive attitude toward the Double Eleven shopping experience. The number of students selecting "satisfied" and "very satisfied" totals 133, which far exceeds the 67 respondents who chose "neutral," "dissatisfied," or "very dissatisfied."

This result indicates that, as an annual shopping festival, Double Eleven—with its substantial discounts, abundant product choices, and high level of convenience—effectively caters to college students' pursuit of cost-effectiveness and fashion trends. Nonetheless, a portion of students still express neutrality or dissatisfaction. Given their limited purchasing power and high price sensitivity, some college students may experience negative emotions due to factors such as misleading advertising, slow logistics, product quality inconsistency, difficulties in returns or exchanges, or impulsive overconsumption.

Therefore, while continuously promoting sales growth, e-commerce platforms should also place stronger emphasis on improving service quality and safeguarding consumer rights and interests. Only by doing so can platforms enhance overall user satisfaction and ensure that groups including college students enjoy a more reliable and enjoyable shopping experience.

4. Gender Differences in Average Online Consumption

4.1. Forecast

Based on the existing literature and my observation and research, I predict that there is a difference in the average online consumption of male and female students in this school during the "double 11" period. Male students' consumption may tend to be in the lower amount range, while female students may occupy a dominant position in the higher amount range, which shows that different genders have different consumption tendencies in the "double 11" Shopping Festival.

4.2. Calculate

Based on the preliminary analysis of the survey data, it was found that in the 0-100 RMB range, males accounted for 56% of this interval, while females accounted for 44%. In contrast, in the 500-1000 RMB range, females accounted for 80%, and males only 20%. Therefore, this study hypothesizes that there may be gender differences in online spending among students at this university during the "Double Eleven" period, characterized by low-spending convergence—where 83.3% of the samples were concentrated below 500 RMB—and high-spending gender skewing, with females accounting for 83.3% and males 16.7% in expenditures above 500 RMB.

To draw definitive conclusions, further hypothesis testing with a significance level of 0.05 is required to determine whether there is a statistically significant difference in the average online spending between male and female students during the "Double Eleven" period.

The hypotheses are formulated as follows:

H_0 : There is no significant difference in the average online spending between male and female students during the "Double Eleven" period ($\mu_1=\mu_2$)

H_1 : There is a significant difference in the average online spending between male and female students during the "Double Eleven" period ($\mu_1\neq\mu_2$)

At the significance level of 0.05, there is a significant difference in the average online consumption between boys and girls during the "double eleven" period.

Table 1. Test Results

Source of difference	SS	df	MS	F	P-value	F crit
Intergroup	799062.0655	1	799062.0655	7.185530823	0.008964027	3.963472051
Within group	8673936.922	198	111204.3195			
total	9472998.988	79				

$P_{value}=0.008964<0.05$, Reject the null hypothesis

4.3. Analysis of the Causes of Differences in Consumption Between Male and Female Students in the University

4.3.1. Impulse vs. Rationality

(1) Emotional Drivers and Social Influence in Female Consumers

Female university students are more susceptible to promotional atmospheres and social media influences during the "Double Eleven" period, exhibiting stronger impulsive purchasing tendencies. Social marketing strategies such as live-streaming sales, product recommendations ("grass planting"), and social media sharing (e.g., posting orders on WeChat Moments) demonstrate higher penetration among female consumers. Many perceive "Double Eleven" as a social activity or a channel for emotional fulfillment, often making purchasing decisions intertwined with affective experiences—such as the thrill of "grabbing a bargain" or the desire to participate in group purchases and share discounts with friends. This heightened sense of social presence can lead to irrational consumption, where purchases exceed actual needs or budgets. For instance, even when owning similar products, women may still place orders due to perceived "great deals" triggered by steep discounts or limited-time offers. Anticipated regret is hypothesized to significantly influence impulsive online purchasing behavior. Furthermore, such behavior is significantly associated with price promotions, visual-textual presentations, peer reviews, and consumers' inherent impulsive traits (Lin, 2021).

(2) Pragmatism and Goal-Oriented Behavior in Male Consumers

In contrast, male university students tend to adopt a more pragmatic and goal-oriented approach during "Double Eleven." Their purchasing decisions are often based on clearly defined needs, focusing on products that serve specific functions or enhance lifestyle efficiency, such as tech accessories or gaming credits. Men are generally less influenced by social marketing tactics like viral product endorsements ("grass planting") and exhibit lower social engagement in shopping. Their consumption behavior is primarily driven by individual needs, resulting in more rational spending and a relatively lower incidence of impulse purchases. Consequently, their overall expenditure tends to be comparatively modest.

4.3.2 Stockpiling vs. Immediate Use

(1) The "Annual Stock-Up Season" Mentality Among Female Consumers

For many female university students, "Double Eleven" is not merely a shopping festival but is perceived as an essential "annual stock-up season." They often seize this opportunity to purchase bulk quantities of daily necessities, cosmetics, skincare products, and apparel to take advantage of the year's deepest discounts. This stockpiling mentality leads them to consolidate typically dispersed consumption needs into a single, concentrated spending spree during "Double Eleven," resulting in a significant surge in per-transaction expenditure. To rationalize higher spending, women may engage in "mental accounting" adjustments—for instance, reallocating portions of their budgets originally designated for dining, entertainment, or other daily expenses toward shopping.

(2) The "Buy-as-Needed" Habit Among Male Consumers

Male university students typically exhibit a "buy-as-needed" consumption pattern. They generally avoid deliberate stockpiling and make purchases primarily when actual needs arise. Consequently, even during "Double Eleven" promotions, the absence of immediate purchasing demands prevents them from engaging in bulk buying. Moreover, males tend to adhere strictly to "earmarked budgeting," maintaining clear distinctions between different spending categories. They are less likely to reallocate funds from other budgets for shopping purposes, which inherently limits their total expenditure during the "Double Eleven" period.

(3) Attitude towards excessive consumption

Women's Acceptance of "Buy Now, Pay Later". Amid the promotional atmosphere of events like "Double 11" (Singles' Day), female college students generally show higher acceptance of advanced consumption models, such as installment payments and platforms like Huabei (Ant Group's credit service). The various installment payment options provided by e-commerce platforms and financial institutions reduce the pressure of making large one-time payments, making it easier for them to purchase high-priced goods. This "buy now, pay later" model stimulates women's purchasing desire to some extent, encouraging them to buy products beyond their current financial means, thereby driving up overall spending. What appears to be a discount can subtly steer consumers into making more unnecessary expenditures (Zhang, 2020).

Men's Cautious Attitude Toward Advanced Consumption . In contrast, male college students tend to adopt a more cautious stance toward excessive consumption. They often prioritize financial stability, avoiding additional debt—even with installment plans, they may think twice before committing. This risk-averse mindset leads men to spend within their means when facing high-value purchases, which to some extent restrains the growth of their consumption expenditure.

4.4. Difference in Consumption Positioning and Habits

4.4.1. Consumption Structure & Category Preferences

There exist cognitive and psychological divergences in online shopping between male and female consumers, which lead to distinct behavioral characteristics. This variation necessitates market segmentation by gender and the implementation of tailored marketing strategies for each group (Bao, 2017).

Female: Beauty, Apparel, and Socially-Driven Goods .During shopping festivals like "Double 11," female college students predominantly spend on cosmetics, skincare, fashion apparel, and accessories. These categories typically feature high unit prices, strong social appeal, rapid product turnover, and high susceptibility to trends and peer influence. Women actively pursue fashion trends, using such purchases to enhance self-image and fulfill social needs. Additionally, these goods are easily promoted through livestream sales and group-buying discounts, further driving higher per-transaction spending.

Male: Tech, Gaming, and Functional Goods. Male students, conversely, prioritize electronics, game top-ups, sports gear, and other utilitarian products. These items are often low-frequency but high-value (or low-cost) purchases with longer replacement cycles. Their

buying decisions are primarily based on product performance, practicality, and personal interests, with minimal influence from emotional factors. Consequently, their consumption is more focused, with lower frequency and volume compared to females, ultimately reducing overall expenditure.

4.4.2. Shopping Scenarios & Channel Preferences

Female: Immersive and Discovery-Oriented Shopping. Female students favor diversified platforms (e.g., Taobao, JD, Pinduoduo) and content-driven e-commerce (e.g., Xiaohongshu, Douyin). They enjoy browsing, engaging with livestreams, and savoring the "window-shopping" experience online. This habit increases serendipitous purchases and elevates total spending.

Male: Goal-Directed and Efficiency-First. Male shoppers exhibit targeted behavior: they search for specific products, compare specs/prices, and checkout swiftly. They avoid prolonged browsing or interactive sales formats (e.g., livestreams), leading to more restrained and rational spending during sales events.

4.4.3. Budgeting & Financial Planning

Female: Flexible Allocation and Emotional Spending. Though most undergraduates are semi-financially independent, female students often allocate budgets more fluidly. They may dedicate a larger share of disposable income to shopping, even dipping into savings or using credit. For many, shopping itself is a source of enjoyment, justifying budget flexibility.

Male: Male students tend to enforce stricter budget controls, segmenting funds into fixed categories. Even during steep discounts, they rarely exceed predetermined limits. This self-regulation contributes to lower overall expenditure.

Selecting high-quality sources for online store inventory to enhance the cost-effectiveness of products. The cost-performance ratio of goods is a core factor valued by customers and also a channel for online stores to generate profits (Zong, 2019). Online merchants can leverage the peer effect to optimize their marketing strategies and enhance sales performance through well-designed social interactions (Zhou, 2024).

5. Conclusion

This study investigates the online consumption behavior of students at a university in Beijing during the "Double Eleven" shopping festival and its influencing factors. Through empirical analysis, it reveals differences in expenditure distribution between students of different genders and academic years, as well as their satisfaction with the shopping experience. The findings indicate that the student population generally holds a positive attitude toward the "Double 11" shopping festival, primarily due to its substantial discounts, diverse product selections, and convenient shopping processes. However, dissatisfaction among some students suggests that e-commerce platforms need to continuously improve logistics, after-sales services, and the authenticity of promotional activities.

Regarding gender differences, female university students generally spent more than their male counterparts during "Double 11." This is mainly attributed to their higher susceptibility to promotional atmospheres and social media influences, exhibiting stronger impulsive consumption tendencies and an "annual stockpiling" mentality. They also show greater acceptance of advanced consumption models such as installment payments. Their consumption focus centers on socially oriented products like cosmetics and apparel, with a preference for diversified shopping scenarios. In contrast, male students lean toward pragmatism and purpose-driven consumption, making purchasing decisions based on clear needs and maintaining a cautious stance toward advanced spending. Their consumption categories are concentrated on functional products such as digital devices and gaming, with an emphasis on efficiency and budget control.

In terms of academic year differences, the study finds that first-year students exhibit higher proportions of expenditures in the "below 200 RMB" and "1,000–2,000 RMB" ranges, with the "2,000 RMB and above" category reaching its peak. This may stem from their initial need to establish a basic living environment in college or a lack of financial prudence. Second-year students demonstrate more balanced consumption patterns, reflecting stability and diversification in spending. Meanwhile, third- and fourth-year students show a declining trend in expenditure levels, particularly in high-value categories, which may be related to academic pressures, internship commitments, job preparation, or increased savings awareness.

Author Contributions:

Conceptualization, C.L. and Z.H.; methodology, C.L. and Z.H.; software, C.L. and Z.H.; validation, C.L. and Z.H.; formal analysis, C.L. and Z.H.; investigation, C.L. and Z.H.; resources, C.L. and Z.H.; data curation, C.L. and Z.H.; writing—original draft preparation, C.L. and Z.H.; writing—review and editing, C.L. and Z.H.; visualization, C.L. and Z.H.; supervision, C.L. and Z.H.; project administration, C.L. and Z.H.; funding acquisition, C.L. and Z.H. All authors have read and agreed to the published version of the manuscript.

Funding:

This research received no external funding.

Institutional Review Board Statement:

Not applicable.

Informed Consent Statement:

Not applicable.

Data Availability Statement:

Not applicable.

Conflict of Interest:

The authors declare no conflict of interest.

References:

Bao, Y. (2017). Gender differences in online shopping characteristics of consumers. *Market Modernization*, (13), 12–13.

Fang, J., Song, L., & Liu, S. (2020). Analysis of college students' "Double Eleven" online shopping behavior and its influencing factors. *Modern Business*, (01), 32–35.

Lin, N. (2021). A study on the correlation between consumer anticipated regret and impulsive online shopping in the context of normalized e-commerce shopping festivals. *Journal of Commercial Economics*, (16), 73–76.

Shen, Y. (2019). Applications of textual big data analysis in economics and finance: A literature review. *China Economic Quarterly*, 18(4), 1153–1186.

Wang, X. (2023). Analysis of the "Double Eleven" shopping frenzy phenomenon. *Co-Operative Economy & Science*, (15), 75–77.

Xiao, Q., Wei, S., & Xiao, J. (2020). A survey on the "Double Eleven" online shopping behavior of contemporary college students. *Foreign Economic Relations & Trade*, (09), 68–71.

Zhang, M., & Wang, L. (2020). Analysis of the impact of "Double Eleven" marketing on college students' consumption. *Marketing Review*, (25), 27–29.

Zhou, X., Li, T., & Xi, M. (2024). The impact of peer effects on consumer behavior in the digital economy: Evidence from the "Double Eleven" shopping festival. *Journal of Hainan University (Humanities & Social Sciences)*. Advance online publication. Retrieved November 18, 2025.

Zhu, Y., & Pan, J. (2015). A survey of college students' online shopping behavior and research on its influencing factors. *Technology and Innovation Management*, 36(05), 535–538, 552.

Zong, P. (2019). Analysis of the characteristics and influencing factors of Chinese consumers' online shopping behavior. *Journal of Commercial Economics*, (06), 1-12.

License: Copyright (c) 2025 Chuheng Lei, Ziqi Hu (Author).

All articles published in this journal are licensed under the Creative Commons Attribution 4.0 International License (CC BY 4.0). This license permits unrestricted use, distribution, and reproduction in any medium, provided the original author(s) and source are properly credited. Authors retain copyright of their work, and readers are free to copy, share, adapt, and build upon the material for any purpose, including commercial use, as long as appropriate attribution is given.